



Grant agreement nr. ECHO/SUB/2015/713849/PREV32



# **Integrating CBA in the Development of Standards for Flood Protection & Safety**

## **Report on the views of the end users' and stakeholders'**

***Draft***

<b>Deliverable number</b>	B3
<b>Delivery date</b>	31/10/2016
<b>Status</b>	FINAL
<b>Author(s)</b>	CICS.NOVA



**EUROPEAN COMMISSION  
DG-ECHO  
CIVIL PROTECTION UNIT**





## CONTENTS

## CHAPTER 1

### 1.1 Overview

The FLOOD CBA#2 project aims integrate Cost-Benefit Analysis (CBA) into the decision making process for the selection of the appropriate and most efficient Flood Protection Standards in flood prone areas.

One of the goals of the project is to develop flexible stakeholders' network, ensuring the involvement and engagement of key actors from the private and public sector in the activities of the project, as well as to collect and facilitate the exchange of information among them. In this context, the *Report on the views of the end users' and stakeholders'* provides a unique opportunity to gather stakeholders' different views and perspectives with regards to the decision-making process that is implemented in their regions for the selection of the appropriate standards of defence against flooding.

Moreover, this report helps to understand different realities in the countries involved in the FLOOD-CBA 2 consortium, learning good practice and identifying major problems and needs.

## CHAPTER 2

The information presented in this chapter has been directly obtained from stakeholders involved in the FLOOD-CBA 2 project in the participating countries. The data was collected through the distribution of Questionnaire B3 (*Stakeholders' Questionnaire for the consultation process*) developed under Task B Building Stakeholders' Capacity, Action B3: Assessment of End Users' and Stakeholders' views and needs. Part of this information was gathered in Oxford, during a workshop with stakeholders and end-users, in what relates with their views of criteria and approaches to mitigate flood risk.

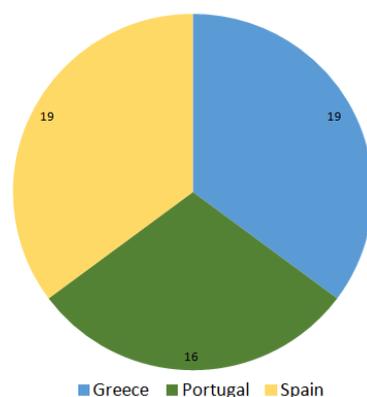
The information presented in this report is divided in 4 points:

- Stakeholders' characteristics;
- Stakeholders' involvement in the elaboration and/or implementation of flood risk management plans;
- Stakeholders' awareness of methods used in flood risk management;
- Controversial issues and/or aspects that need further clarification.

### 2.1 Stakeholders Characterization

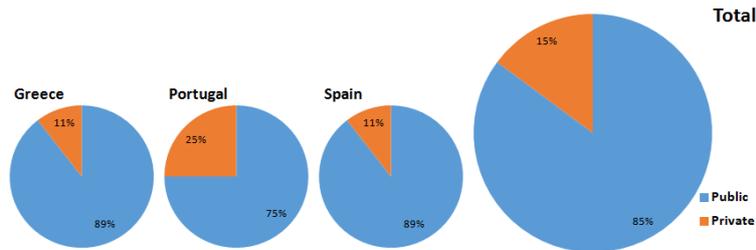
During the consultation process, 54 questionnaires were applied in the 3 countries involved in the project (Fig. 1), Greece (19 questionnaires), Portugal (16 ) and Spain (19). In the UK, the consultation process relay on a workshop with several stakeholders and end-users. This workshop allowed gathering similar information, but not directly comparable with the information collected in the other three countries.

**Figure 1.** Number of questionnaires



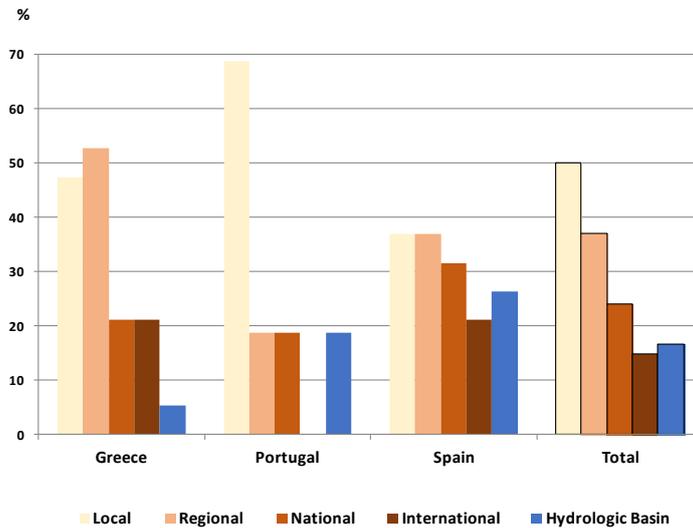
The institutions surveyed are mainly public entities, 85%, in the three countries. Portugal is the country where private stakeholders represent a higher proportion (25%) of the questionnaires (Fig. 2).

Figure 2. Institution Type



Of all stakeholders surveyed, 50% mention that their involvement with flood risk management is mainly at local level (Fig. 3). However, the regional level is also relevant, especially among the Greek stakeholders.

Figure 3. Stakeholders' level of work

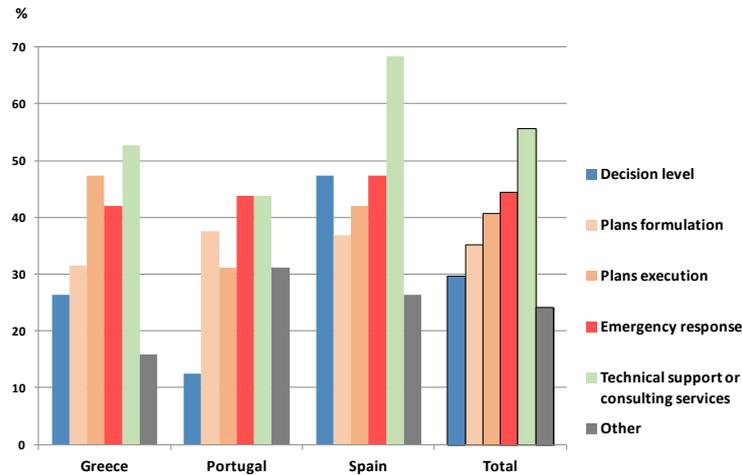


## 2.2 Stakeholders' involvement in the elaboration and/or implementation of flood risk management plans

The involvement of Stakeholders in flood risk management refers frequently to different domains. When asked about the way they are involved in flood risk management plans, the stakeholders usually mention more than one type of involvement.

The stakeholders indicate that they are mainly involved in technical support or consulting services. However, plans formulation, plans execution and emergency response also have a significant weight in the activities of the 54 stakeholders. Also important to highlight is the result of Spain in what concerns the involvement in Technical support or Consulting services, that reaches almost 70%.

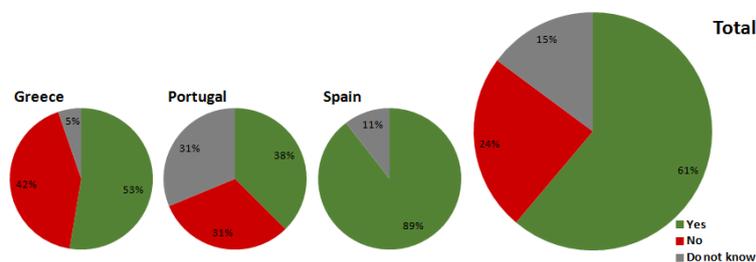
**Figure 4. Stakeholders' involvement in flood risk management**



### 2.3 Stakeholders' awareness of flood risk management

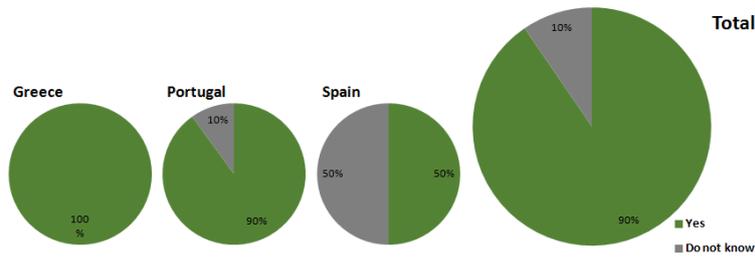
In what concerns the Stakeholders' Knowledge on the existence of National/Regional Flood Risk Management Plan for their countries/regions, 15% of all stakeholders doesn't know if such a plan exist or not (Fig. 5). This is especially significant for the Portuguese case, 31% doesn't know or don't answer to this question.

**Figure 5. Stakeholders' Knowledge on National/Regional Flood Risk Management Plan**



However, those that say that there isn't a National/Regional Flood Risk Management Plan (or do not know if the plan exists), are convinced of the need for such a plan (Fig. 6). Only two Spanish respondents answer to this question, which explains the 50% that do not know if a Flood Risk Management Plan is needed.

**Figure 6.** Stakeholders' Awareness of need of Flood Risk Management Plan



Cost-Benefit Analysis and Multi-Criteria Analysis are the two methods that most of the stakeholders know (Fig. 7). However a significant weight of respondents (28%) do not know any of these methods used in flood risk management.

**Figure 7.** Stakeholders' Awareness of Methods Used in Flood Risk Management

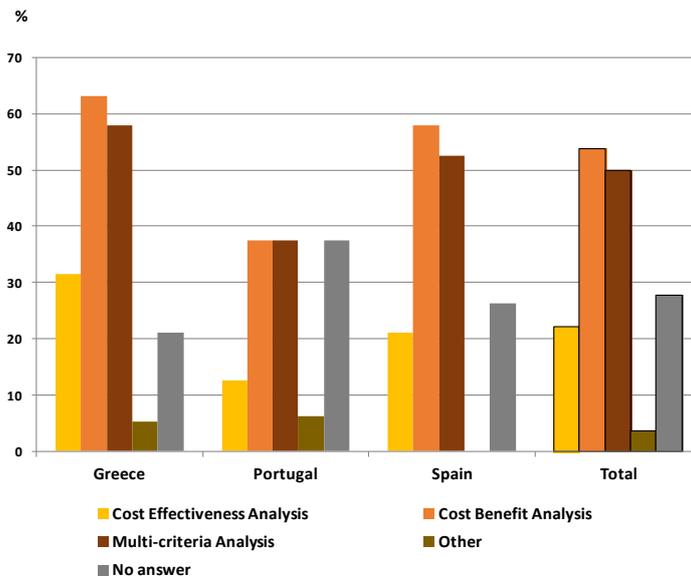


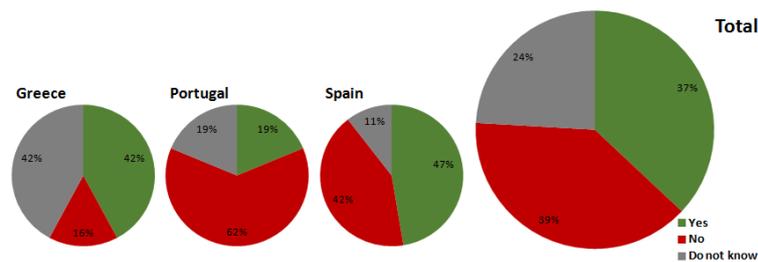
Table 1 presents the criteria identified by the stakeholders surveyed that should be used when deciding on the choice of Flood Protection Options and Standards. The criteria identified shows that stakeholders consider that a combination of several should be used. Furthermore, these criteria need to be assessed on a case-by-case basis due to the specificity of each situation. Protecting human lives is the more frequent criteria referred. In the United Kingdom, it was general consensus that the fairest approach involved a range of criteria, suited to local circumstances, as well as national needs. This would be more reasonable than considering only criteria of economic efficiency.

**Table 1.** Criteria identified by the stakeholders to be used when deciding on the choice of Flood Protection Options and Standards

Greece	Portugal	Spain
Acceptable expression of the climate change's influence	Protect human lives	Avoid losses of people and goods
Minimizing of the effects (social, environmental, economic) of floods	Protect more homes / people	Protection of human lives
Environmental, social and economic criteria	Protect built heritage (infrastructure)	Economic criteria
Effects on peoples' life and health.	Protect economic activities	Environmental criteria
Effects on nature, cultural assets, infrastructure and economy	Protect natural heritage	Prevention and emergency plans
Minimisation of loss of life	Maintenance of the flow, promoting occupation solutions that allow infiltration and / or retention of surplus flow	Protection of public domain
Protection of infrastructure	Hazard criteria and vulnerability criteria	

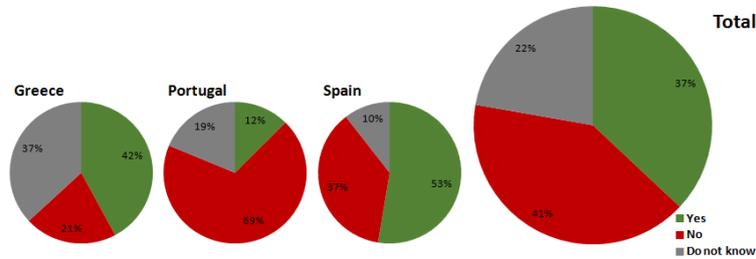
When asked if they consider having the needed skills for deciding on the choice of Flood Protection Options and Standards, 39% of the stakeholders surveyed say no (Fig. 8). This is mainly related with the fact that very few are decision-makers. Furthermore, 24% do not know if they have such skills.

**Figure 8.** Stakeholders' skills for deciding



Similar answers were obtained when the stakeholders were asked about the existence of essential data and techniques for deciding on the choice of Flood Protection Options and Standards (Fig. 9). 42% of the stakeholders say they don't have these data and techniques and 22% do not know.

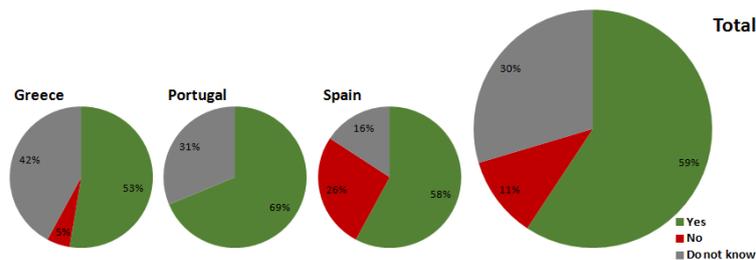
**Figure 9.** Availability of necessary data and techniques for deciding



## 2.4 Controversial issues and/or aspects that need further clarification

In general almost 60% of the stakeholders consider that can identify controversial issues or aspects that need further improvement / clarification concerning Flood Protection Options and Standards (Fig. 10). In Portugal, 69% of the stakeholders surveyed can identify such issues, but in Spain, 26% consider that there are no such issues. In Greece, the weight of respondents that do not know (or do not answer) to this question is significant (42%).

**Figure 10.** Existence of controversial issues concerning Flood Protection Options and Standards



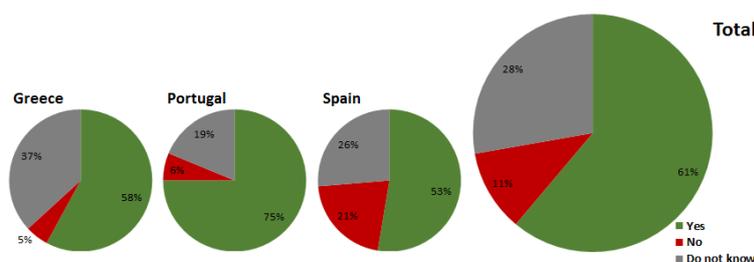
The main controversial issues identified by the stakeholders are presented in Table 2. Although a range of diverse type of issues are identified, is it possible to say that two are more frequently identified: the need for improved databases and better coordination among different agencies in order to avoid loss of time, money and conflicts of competencies.

**Table 2.** Controversial issues identified by the stakeholders

Greece	Portugal	Spain
Geometry / Topography of land	Insufficient georeferenced information and time series data	Standardization of different information systems
Inadequate modelling of hydrodynamics phenomenon and predictions of outliers of combinational flood (sea, land, etc.)	Need to develop methodology for the delimitation of flood areas, considering laws and regulations	Development of standards of urban development, taking into account the risk analysis and the implementation of limitations on use of flood areas
Building databases considering the climate change conditions	Need to develop knowledge to evaluate the effects of climate change	Auto protection and individual responsibility
Joint international agreement for water management	Articulation of Flood Risk Management Plans with National Ecological Reserve and Municipal Master Plans	Improvement of prevention processes, including forecasts, early warning systems and information to the public
Coordination of the stakeholders' actions	Poor involvement of all stakeholders	Public information
Coordination of involved authorities	Coordination of different responsible entities	Possible conflicts among different management agencies turns necessary a clarification of competencies in order to improve centralizing efforts and coordination of different agencies
Training on issues of prevention and first aid	Specific and Oriented Training	Preparation of municipal services

About issues that are not being addressed in the Flood Risk Management in their Country/Region, 61% of the stakeholders can identify at least 1(Fig. 11). In Greece, the weight of stakeholders that do not know (or do not answer) to this question is significant (37%). In Portugal, 75% of the stakeholders surveyed can identify such issues, and in Spain, 21% of the respondents consider that there are no such issues.

**Figure 11.** Existence of issues not being addressed in the Flood Risk Management



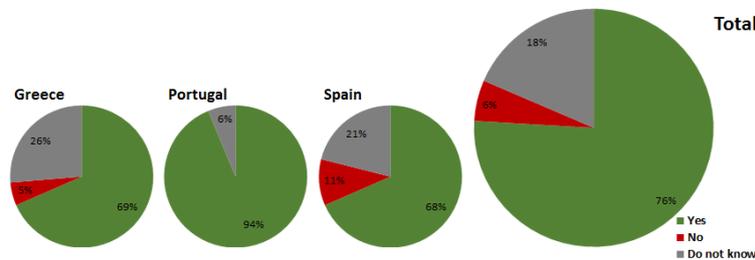
The main issues that the stakeholders identify as not being addressed in the Flood Risk Management are presented in Table 3. These are certainly the more heterogeneous answers obtained. Although, coastal and urban floods are identified by several stakeholders of the three countries as not being addressed in the Flood Risk Management, the main issues identified are quite specific for each region.

**Table 3.** Issues not being addressed in the Flood Risk Management identified by the stakeholders

Greece	Portugal	Spain
Coastal Floods	Urban flash floods	Urban flash floods
Flood hazards accurate assessment due to the lack of data	Lack of knowledge and information about the specific situations	Climate change
Assessment of damages/consequences	Assessment and monitoring of measures and actions	Early warning systems
Environmental friendly solutions for alternative management	Articulation of spatial planning with the management of flood risk	Non-structural measures and resilient construction standards
River management and the implementation of the EU Floods Directive 2007/60/EC	Risk management is not being properly addressed in the planning; lack of a behaviour to adapt to these risks (relocation, protection and accommodation).	Illegal occupation of Public domain
Cooperation of the competent authorities from the neighbouring countries for the frn management regarding the transboundary river basins	Prevention of flood phenomena, including cleaning the riverbeds, desilting, cleaning of drainage channels and buildings vulnerable to the risk of flooding.	Urban planning
Little care for the frequent control and maintenance of the riverbanks and the other flood prevention measures in general.	Learning from the past and the dissemination of scientific knowledge about floods causes	Economic valuation of sediment retention and intangible assets
Permanent / Stable constructions as flood prevention measures		Information to the public.

Additional guidance and/or training on the methods, techniques and data for making choices for Flood Protection Options and Standards is considered as needed for the great majority (76%) of the stakeholders (Fig. 12). This guidance and training is considered of great importance to planning technicians, civil protection staff, as well as for decision-makers and the vulnerable population.

**Figure 12.** Stakeholders' Need for additional guidance and/or training



## 2.5 Synthesis

From the analysis of the different answers obtained in Greece, Portugal, Spain and United Kingdom is possible to have a better understanding of the views and perspectives of stakeholders and end-users concerning the decision-making process implemented in their regions for the selection of the appropriate standards of defence against flooding.

These ideas can be summarised:

- The implementation of the European Flood Directive has produced important information about flood risks at a general level. At this point it is necessary to further deepen: public awareness; warning networks; and information tools in real time to the population potentially affected.
- Flood risk management is very important in decision-making to implement the strategy, guidance and training of personnel. It is necessary to listen local bodies, which are, by their proximity, the ones that had better knowledge of the intervention areas.
- Greater communication among the various entities and with the population, trying to involve citizens more in decision-making is desirable. Innovative ways of addressing these issues are needed, trying simultaneously to simplify the language of a subject, which is complex, but without spoiling the accuracy of information.
- Better coordination between agencies at different levels, clarification of their competencies are needed jointly with greater participation of private sector and society in the development of solutions.
- It will be important to continue and strengthen investment in data collection and information in order to develop knowledge and improve existing tools and develop other to reduce the

consequences of floods (addressing land-use practices and delivering more often information on the possibility of occurrence of these phenomena).