

Final Project Report

(Not to be used for LINK projects)

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Project title	POST EVENT APPRAISAL		
DEFRA project code	FD2012		
Contractor organisation and location	BULLEN CONSULTANTS		
Total DEFRA project costs	£ 30,656		
Project start date	01/02/02	Project end date	01/10/03

Executive summary (maximum 2 sides A4)

1.1 Background/Need

Defra commissioned this research project to examine the benefits, costs and use of post event appraisal, particularly in respect of its use to measure performance. Bullen Consultants has led this study with additional expertise provided by JBA Consulting.

This report (Volume 1) is a free standing record of the aims, methodology and findings of the project; the major recommendations are given in Section 7. Volume 2 describes in more detail the questionnaire survey and presents a full analysis of the responses. Volume 3 is a Best Practice Guide, which can be used without reference to Volumes 1 & 2. It sets down the basic requirements for effective monitoring, data collection and recording for flood and erosion events.

1.2 Main Objectives/Aims

It has been found that post event analysis is regarded as a "one-off" activity. It was not seen as a part of the continuum of providing feed back on past performance nor was it seen as an integrated element of the FCD R&D programme. Many potential cross-links with post event analysis were poorly appreciated. One exception is the work on Performance Appraisal; the comment has been made (Simm *et al*, 2002) that:

"..it is judged that there has been a failure to collect and analyse data in a sufficiently

systematic, comprehensive and consistent way to enable all of the following to be carried out:

- *Assess the performance of policies, plans and schemes against their original aims and objectives;*
- *Provide insights for effective future monitoring and management of the system being evaluated;*
- *Identify lessons for future practice in similar situations.”*

This study establishes priorities for data collection based on:

- The importance of the data (identified from questionnaire responses);
- The need to collect data which is either destroyed or degraded soon after an event;
- Data that would not be captured by routine practices or operational procedures.

Examination of recent post event data collection exercises has identified several areas in which the conduct of future studies can be improved. Adoption of a National Standard should not be a once and for all initiative. After each event lessons should be learnt, good practice shared and post flood and erosion action plans updated. There are multiple benefits of such an approach:

- The sharing of good practice nationally;
- A wider understanding of the issues;
- More effective targeting of resources;
- Systematic post-event action plans that have been agreed by all relevant agencies;
- More effective use of data collected;
- Improved forecasting and focus on flood and erosion risk areas.

The project brief commented that several recent reviews of the effectiveness of post event appraisal indicate that current approaches and techniques in the area of monitoring and recording events and subsequent performance evaluation have been neglected in the past and remain rudimentary. This is supported by the findings of this study.

1.3 Results

This study has concluded that:

1. There is no national consistency in methods of collection or analysis. Where a "national" procedure has been established it is not widely used;
2. The Lessons Learned; Autumn 2000 floods report (extended to include erosion events) and the SE Region¹ initiative to collect consistent data about coastal features provide role models for the future;
3. Post event data collection and analysis is heavily weighted to technical interests. Post event appraisals of emergency responses and long-term recovery are very much less common than appraisals of the weather and flooding experienced;
4. Little regard is given to the human, community, and social dimension of flooding and erosion events. The longer term psychological impacts on health and social well being, along with the issue of social support require more investigation;
5. The monitoring and recording procedures do not pay enough attention to the impact of events on victims of flooding and erosion, communications with the public and emergency planning issues;
6. Records are kept in a variety of formats and media, which makes data transfer and sharing

¹ See Volume 2 Section 3.4

between organisations inefficient and difficult. Data is not generally distributed widely and is not held centrally thereby allowing easy access to the information. Consequently the usefulness of the data is devalued. The Agency recognises the weakness of this and has started to address the problem;

7. A number of initiatives will improve information gathering, storage and access. These include a variety of current R&D projects and the NFCDD;
8. There is poor exploitation of new technology. The effectiveness of data collection procedures could be improved by the use of modern technology during surveys and the processing of data;
9. The majority of respondents consider that there are great benefits in undertaking post event data collection exercises and appraisals;
10. Operating Authorities consider that data collected during post event exercises is vital to improve management of flood and coastal defences. (Concerns have been expressed that the availability of resources, particularly among local authorities may not be able to sustain the required standard of input to obtain the data.)
11. No information on the numerical assessment of the benefits of post event appraisal has been identified. Nevertheless, we have found that post event appraisal is needed and that the benefits include:
 - The impact of flooding on victims and the recovery process will be better understood and thereby improved,
 - Learning from experience how to respond to flood and erosion events and how these impact on victims,
 - Improve the process of long-term recovery,
 - Monitoring the performance of defences and improving their design and maintenance,
 - Gaining a greater understanding of the causes of events,
 - The identification of flood risk areas,
 - Processing of the data creates a historic record of the event allowing comparison with other events and the predicted performance of schemes, and
 - Storage of the data and appraisal mean that long-term trends can be assessed and provides information to justify future decision-making.
12. Overseas practices are no further developed than in the UK.

1.4 Concluding Remark

A major challenge for the future will be to dovetail effectively with other ongoing developments and existing reporting procedures (e.g. for Defra High Level Targets), to avoid duplication and the introduction of unnecessary variations in methodologies. This will require further attention by Defra and Operating Authorities as a significant management challenge remains to co-ordinate these activities to avoid duplication of effort and data storage.

Scientific report (maximum 20 sides A4)

The study did not encompass experimental work in order to achieve the following objectives. Instead realisation of the objectives was accomplished through a controlled consultation exercise with stakeholders and by review and analysis.

Scientific Objective No.1

To examine the effectiveness of the monitoring and recording procedures currently employed by the Operating Authorities and DEFRA to collect data on events compared to best practice in other industries and the emergency services.

A Questionnaire (see Appendix A Volume 2) was sent to selected operating authorities, representative areas and regions of the Environment Agency and organisations with a stakeholder interest in flood response and recovery. The list of consultees is given in Appendix B Volume 2. The purpose of the questionnaire was to identify, at an overview level, the types, extent and methods of the monitoring, recording and appraisal procedures currently undertaken together with views on future needs from a monitoring and appraisal process.

The results of the questionnaire are presented in chapter 4 volume 1.

Scientific Objective No. 2

To evaluate the usefulness of existing parameters being monitored compared to overseas flood management agencies.

A literature review was undertaken of post project appraisal reports and projects undertaken in other countries and selected industries. The review is presented in chapter 5 volume 1. The findings and discussions of this review are presented in Chapter 6 Volume 1.

Scientific Objective No. 3

To examine how current monitoring and recording procedures are used in post event appraisal to:

- Develop strategies and policies;
- Improve managerial and operational practices and procedures;
- Review forward and emergency plans;
- Improve dissemination to and communications with the general public;
- Improve systems of monitoring and data collection in relationship to flooding and erosion events;
- Evaluate scheme (including flood warning, emergency response and maintenance regime) performances;
- Assess the achievement of national, corporate, regional and local targets

Further to the literature review and initial consultation stage (objectives 1 and 2), the findings were analysed, collated and reported on. The findings and discussions are presented in Chapter 6 Volume 1. The reporting ensured the following:

- Current procedures and systems of monitoring, data collection and post event appraisal undertaken by consultees were defined;
- Requirements for the training of staff with respect to monitoring, data collection and post event appraisals were defined;
- Efficient and meaningful indicator themes that cross cut the whole flood and coastal defence industry were identified and recommendations made (see figure 3.1, volume 1);
- A statement on the effectiveness of the current post event appraisal in performance evaluation was provided;

- A statement on the effectiveness of the current post event appraisal in informing policy, strategy and decision making processes, engineering design, managerial and operational procedures was provided.

Scientific Objective No. 4

To produce a best practice guide for post event data collection and recording for use in subsequent appraisal of performance.

Based on the outcomes of objectives 1,2and 3,a high level draft best practice guide for recording post data event data was prepared and circulated for comment. The guide provides a framework of best practice for post event data collection.

Recommendations for further (Phase2) work have been prepared to improve the effectiveness and usefulness of post event appraisal to fully realise the benefits of this study (phase) 1.