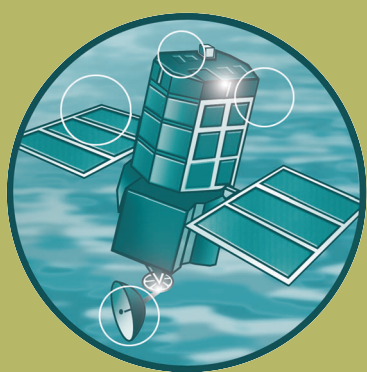


Developing an evidence base for appraisal guidance Task A2 Annex and appendices

R&D Project record FD2019/PR3



Joint Defra/EA Flood and Coastal Erosion Risk
Management R&D Programme

Developing an Evidence Base for Improving Appraisal Guidance

R&D Project Record FD2019/PR3 (Task A2)
Appendix A2

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Executive summary

Aim of Task A2

The aim of Task A2 is to allow all of those who may have read, used or consulted the guidance to provide feedback on their experiences.

Approach to Task A2

Task A2 involves gathering of structured feedback on the existing guidance from a wide range of users including:

- practitioners;
- operating authorities;
- project managers and specialists;
- Defra Regional Engineers and policy makers;
- members of the public (through flood defence committees, the National Flood Forum, or linking in with any on-going projects through their consultation phase); and
- Non-Governmental Organisations.

To enable input from a wide variety of consultees, a two-stage approach has been used for the information collection exercise:

- Stage 1 involved the use of a pre-questionnaire designed to elicit initial indications of the type of issues/problems that exist with the current suite of guidance and to identify those who would like to be involved further in the consultation process; and
- Stage 2 involved three workshops and a detailed questionnaire where the issues/problems raised in Stage 1 were explored in more detail.

In order to be as inclusive as possible, the approach included questionnaires (on-line and paper versions) as well as a series of workshops.

Conclusions

Comments received on the guidance ranged from the very negative to the very positive, with positive comments such as:

- 'don't change it too much – it's pretty good and people know where they are with it and are comfortable with it';
- 'stick with it, only change it if you are completely sure the change will improve things'; and
- 'keep up the good work'.

There were also requests for particular changes:

- 'would be good to re-consider how environmental costs and benefits are incorporated';

- 'it needs to be kept up-to-date with clear ownership'; and
- 'needs more balanced decision criteria in line with current policies'.

While others emphasised what they considered to be particular weaknesses in the guidance:

- 'it is almost impossible to carry out flood risk analysis on local ordinary watercourses with the minimal resources now within the local authorities';
- 'it is time for a major overhaul of scheme prioritisation';
- 'there is too much of it, little practical use at the level I work at'; and
- 'one comment often heard...is that the whole process was so complicated that those involved were losing the will to live'.

Members of the public commented on the helpfulness of the guidance in terms of understanding appraisals that had been carried out. Many commented on the complexity of the guidance although 47% did state that they had felt the guidance to be helpful.

The workshops and detailed questionnaire raised a large number of issues, particularly in terms of:

- the level of detail required in appraisals and the lack of guidance on this;
- lack of guidance (and available approaches) for including social and environmental issues in appraisals;
- lack of clarity in how to take account of climate change, extreme events and other sources of uncertainty;
- the use of do-nothing as an option when it could not usually be implemented at zero cost;
- the role of approvers and the priority scoring system in driving approaches to appraisal rather than the specific project requirements; and
- the current length and complexity of the guidance and duplication within it, and concerns that any revisions/clarifications/additional detail may add to this.

Attendees at the workshops and respondents to the questionnaire provided reasons why problems arise and suggested solutions as to how the problems could be addressed. The workshops and questionnaires also highlighted that many of the issues are not just related to guidance; other problems are also important in terms of affecting the way that appraisals are currently undertaken. These include a lack of skills, not just in terms of appraising, but also how experts from other fields are brought into the appraisal process. There are also time and resource pressures, not helped by the long time and high volume of resources required to undertake appraisals at present. There are also stakeholder and political influences that place external pressure on all those undertaking, managing and approving the appraisals. It is important, therefore, that any revision of the guidance documents looks not only at specific issues associated with particular sections (or volumes) of the guidance, but looks wider at how other pressures are driving the problems currently being faced.

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1. Introduction

1.1 Background to the study

FCDPAG 1 (MAFF 2001) defines Project Appraisal as: “the process of identifying and then evaluating options in order to select the one that most closely satisfies the defined project objectives. In the context of flood and coastal defence strategy and scheme appraisals these objectives include:

- reducing the risks to people and to the developed and natural environment from flooding and coastal erosion;
- identifying a solution that is technically sound and most fit for purpose;
- being environmentally acceptable and sustainable; and
- ensuring best value for money from a national perspective."

The approach to project appraisal in flood and coastal erosion risk management (FCERM) is based on this definition. However, the definition appears to focus on a comparison of defined options and does not *emphasise* the role of developing options through learning and feedback from the appraisal process, although the FCDPAG series does refer to the need to review options both during and at the end of the appraisal process.

Making Space for Water (MSfW) clearly states the Government’s aim for flood and coastal risk management as: “to manage the risks from flooding and coastal erosion by employing an integrated portfolio of approaches which reflect both national and local priorities, so as:

- to reduce the threat to people and their property; and
- to deliver the greatest environmental, social and economic benefit, consistent with the Government’s sustainable development principles.”

It is clear that appraisals are therefore central to achieving and delivering the Government's aim.

This study, through reviewing and analysing existing appraisals and potential improvements, will provide a better understanding of the guidance that supports the appraisal process, how it can be improved to contribute to better decisions and be cost effective, in the quest to reduce risk and be consistent with sustainable development principles.

The study will need to be informed by other projects being carried out under the MSfW delivery programme such as “Identifying the barriers and incentive to the delivery of better environmental and social outcomes”, R&D projects such as “Evaluating a Multi-Criteria Analysis Methodology for Application to Flood Management and Coastal Defence Appraisal” and “Integrating Cost-benefit Analysis and Multi-Criteria Analysis of Flood and Coastal Defence Projects” (the Sugden Approach), and Foresight Scenarios.

1.2 Objectives of the study

The aim of the study as set out in the project specification is to:

- explore the potential for improvements to the existing project appraisal guidance (Defra 1999-2001) to reflect the findings of the Foresight Study (OST 2004) and the direction of travel identified in the Government's first response to the Making Space for Water (MSfW) consultation (Defra 2005).

The objective of the project is to:

- develop evidence that will allow Defra and the operating authorities to improve guidance and thus assist practitioners make better decisions.

1.3 Organisation of this report

This report sets out the evidence collected under Task A2 (structured feedback). The remainder of the report is structured as follows:

- Section 2 provides an overview of the approach to Task A2;
- Section 3 sets out the results of the initial questionnaire and the questionnaire for Members of the Public;
- Section 4 describes how the current guidance documents are used (drawing mainly on the results of the detailed questionnaire);
- Section 5 examines a number of key issues raised and discussed at the workshops, and which were included in the detailed questionnaire; and
- Section 6 discusses other issues that have been highlighted during Task A2.

1.4 Structure of the Final Report

This report forms one of five Task Reports which provide a summary of the results of each Task to inform the Final Report. Figure 1.1, overleaf, shows how these reports feed into the FR and draw on the evidence collected and reviewed during the study.

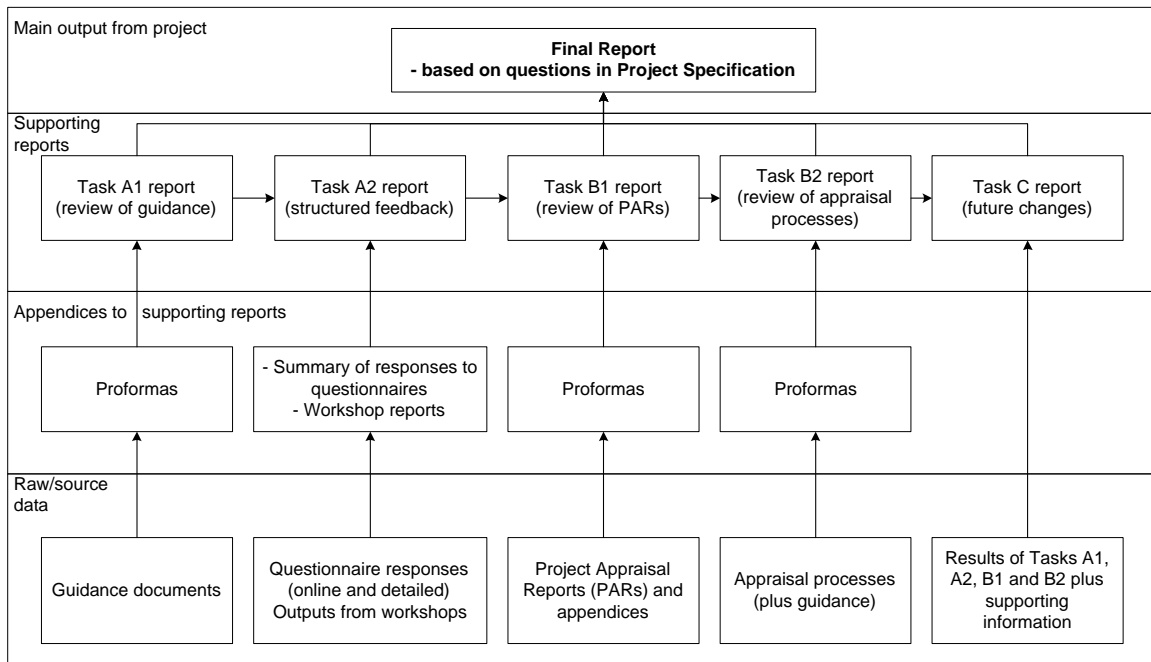


Figure 1.1 Structure of the outputs forming the Final Report

2. Approach to Task A2

2.1 Aims and objectives of Task A2

The aim of Task 2 was to allow all of those who may have read, used or consulted the guidance to provide feedback on their experiences. In order to be as inclusive as possible, the approach included questionnaires (on-line and paper versions) as well as a series of workshops.

2.2 Approach to Task A2

There are a number of ways of collecting information from consultees. The key to obtaining the information required is to have a very clear objective for the consultation exercise. For this study, the objective is to obtain feedback from consultees on problems they have encountered or are aware of, or their perceptions of problems and inconsistencies in the current suite of flood and coastal erosion risk management guidance (i.e. SMP, CFMP, the FCDPAG series and spreadsheets, and the Multi-Coloured Manual).

Task A2 involves gathering of structured feedback on the existing guidance from a wide range of users including:

- practitioners;
- operating authorities;
- project managers and specialists;
- Defra Regional Engineers and policy makers;
- members of the public (through flood defence committees, the National Flood Forum, or linking in with any on-going projects through their consultation phase); and
- Non-Governmental Organisations.

To enable input from a wide variety of consultees, a two-stage approach has been used to the information collection exercise:

- Stage 1 involved the use of a pre-questionnaire designed to elicit initial indications of the type of issues/problems that exist with the current suite of guidance and to identify those who would like to be involved further in the consultation process; and
- Stage 2 where the issues/problems raised in Stage 1 will be explored in more detail.

Responses to the first stage of consultation (the pre-questionnaire) were also used to determine the approach to stage two. Four options were available to respondents to the pre-questionnaire:

- completion of a more detailed on-line questionnaire;
- completion of a paper-based questionnaire;

- telephone consultation; and
- attendance at a workshop.

A separate questionnaire was developed to ensure that members of the public were involved in the consultation process.

The data collected during the consultation phase of the study is, by its very nature, limited to the views of those who responded to the questionnaires or attended workshops. The views of those who were unable to respond to the questionnaire (e.g. due to time constraints) are not represented, hence, there is an inherent limitation in terms of the data used. To counteract this limitation, the initial questionnaires were circulated as widely as possible amongst those working in the flood and coastal erosion risk management field. Similarly, care was taken to make the questionnaire for Members of the Public clear and concise. The workshops were structured in a manner to facilitate free issue raising and discussion and were open to all those who expressed an interest in attending.

Those responding to the questionnaire and attending the workshops were people involved in FCERM, generally with significant experience in the field. Thus, they were able to provide real insight into what they perceived to be the problems with the current guidance, but also beyond this, into the current approaches to appraisal. The project team prepared workshop reports, which summarised all issues raised in the workshop. It was then necessary to sort these comments (also incorporating issues raised through questionnaires and reviews), to identify whether they were related to the guidance itself or to wider issues. Comments on the guidance were then further classified, identifying causes of problems, consequences and solutions and assigning these to appropriate steps within the appraisal process.

The questionnaires and workshops focus on problems raised and the causes of those problems, although they did not go into detail as to specific parts of the guidance that are unclear or too complex. This is because the issues being raised were focused on the overall approaches and highlighted that any changes that were likely to be required to the guidance were likely to be more than just amendments to the wording of particular sections or provision of supplementary guidance. As a result, the focus of evidence collection moved from identifying very specific issues with specific parts of the guidance to understanding why there are such major problems (or the perception of major problems).

2.3 Overview of initial questionnaire

Stage 1 of consultation uses a pre-questionnaire. This is a short one page questionnaire aimed at identifying those who are interested in being involved in the project, which issue(s) they are interested in, and whether they would prefer to fill in a longer questionnaire (electronically or paper-based), attend a workshop, be contacted by telephone at a time that is convenient for them, etc. To facilitate completion of the questionnaire, an on-line survey was used. A copy of the pre-questionnaire is given in Appendix 3.

The pre-questionnaire was distributed as widely as possible to encompass all the groups identified above. This included:

- sending more than 825 invitations using email addresses held by the project team or Defra (where email addresses were provided by Defra, the invitations were sent from Defra's project manager, Karl Hardy). The invitations were sent out using the mailing list function of the ZapSurvey site; this allowed emails to be addressed to the person to whom they were being delivered, which helps improve response rates;
- a brief introduction to the study with an invitation to contact the consultants' Project Manager, John Ash, through the CIWEM newsletter; and
- sending out invitations with a hyperlink to the on-line questionnaire via CoastNet (email database in excess of 4,000 records).

Consultees were also encouraged to circulate the questionnaire to other colleagues that would be interested in providing their views. For example, the Kent Coastal Network included a link to the questionnaire in an email update to their members, while other consultees circulated and/or discussed the questionnaire with colleagues. In some cases, combined responses were provided.

Invitations accompanying the questionnaire included reference to other consultations that have been undertaken, highlighting that this study would, wherever possible, draw on previous responses and avoid asking duplicate questions. The aim was to reduce duplicating demands on consultees and help address concerns over stakeholder fatigue.

Email reminders were sent via the questionnaire server on 15 March 2006. This also included the potential to send a paper-based/electronic version of the questionnaire, if requested; eight consultees took up this offer.

The closing date for responses to the on-line questionnaire was set for the 24 March 2006, although the questionnaire remained open until 31 March 2006 to allow for inclusion of late responses.

2.4 Overview of questionnaire for members of the Public

To capture views from members of the public, a second short questionnaire was developed. This focused more on access and transparency of the guidance and appraisal process. The questionnaire was developed in consultation with the National Flood Forum. A copy of this questionnaire is included in Appendix 3.

The National Flood Forum also circulated the questionnaire, in a paper-based form, to 85 member groups. Each consultee was provided with a stamped addressed envelope to encourage responses. The deadline for responses to this part of the consultation was set for the 28 April 2006.

2.5 Overview of detailed questionnaires

The detailed stage of consultation is to build on the findings of the first stage so that there is an opportunity to further investigate those issues raised. In this way, it is the results of the first stage of consultation that drive the detailed stage, not just in the way that consultees are involved (questionnaire, workshop, telephone) but also in terms of the key issues that are to be discussed. The detailed questionnaire was circulated after the workshops had been held and was structured in the same way, covering the same issues. This means that the results of both the workshops and the detailed questionnaire can be combined to provide a more comprehensive body of evidence from stakeholders.

Further discussion on the approach to the detailed stage of consultation is provided in Section 3.4 drawing on the results of the first stage of consultation.

2.6 Overview of workshops

Three workshops were held, with the locations and dates selected to best reflect the preferences of those who had responded to the initial questionnaire. The locations were:

- 10 May 2006: The Bull Hotel, Peterborough;
- 22 May 2006: Gloucestershire County Cricket Club, Nevil Road, Bristol; and
- 24 May 2006: RSA, 8 John Adam Street, London.

The programme and issues to be discussed were amended slightly after the Peterborough workshop, taking into account feedback received from attendees. Figure 2.1 presents the programme for the London workshop.

FD2019: Developing an Evidence Base for Improving Appraisal Guidance
London Workshop, RSA, 8 John Adam Street
24th May 2006

Aim of the day

To review issues identified through consultation and discuss implications for changes to flood and coastal erosion risk management guidance.

Programme

10.30-10.45 **TEA and COFFEE**

10.45-11.00 **Introduction to the project and progress so far**

11.00-12.00 **Breakout session 1**

Discussion on one of three issues:

- time and resources being spent on appraisals is too great
- interpretation of guidance is leading to inconsistencies
- environmental and social issues are not being included

Questions to be considered:

- is it a guidance issue or wider?
- what are the key problems/issues?
- what are the potential solutions?

12.00-12.30 **Feedback from the breakout groups**

12.30-13.15 **LUNCH**

13.15-14.15 **Breakout session 2**

Discussion on one of three issues:

- future changes (e.g. climate change) are not being fully taken into account
- lack of clarity on uncertainty and sensitivity analysis
- links between guidance and different levels of appraisal are unclear

Questions to be considered:

- is it a guidance issue or wider?
- what are the key problems/issues?
- what are the potential solutions?

14.15-14.45 **Feedback from the breakout groups**

14.45-15.00 **TEA and COFFEE**

15.00-15.30 **Whole group discussion**

Thoughts on issues covered by other breakout groups
Additional issues not covered
Timetable for the project

Figure 2.1 Programme for London workshop

3. Responses to questionnaires

3.1 Summary of responses to the initial questionnaire

The precise number of people invited to respond to Stage 1 of the consultation is not known due to the approaches used to publicise availability of the questionnaire. However, an indication of interest can be obtained by the number of people responding to invitations sent out directly from the on-line survey.

A total of 919 invitations were sent out using the ZapSurvey mailing list function. A number of these were returned as undeliverable or found the consultee out of the office for an extended period, resulting in 825 invitations being delivered. Of these 825 invitations, 88 were delivered to members of the public via the National Flood Forum; these are considered separately in Section 3.3.2, below. All of the results given here relate to the 737 invitations sent to other consultees.

Many of the consultees (67, or 9% of the total number of invitations sent) submitted an email to confirm that they would not be filling in the questionnaire as they did not have enough experience with the guidance to comment or were no longer involved with flood and coastal erosion risk management. Of these, eight did provide some comments on the guidance documents and/or the appraisal process.

A total of 105 questionnaire responses were posted onto the ZapSurvey site. This is equivalent to a response rate of 15%. However, 27 of the respondents combined their responses with others, increasing the number of consultees represented by the completed questionnaires to 132; a further five responses were received to the paper-based questionnaire. Thus, the overall response rate in terms of completed questionnaires is 19% (137 out of 737 invitations sent).

A few problems were experienced with the questionnaires. In particular, the ZapSurvey server was set to time out after 20 minutes. This resulted in a number of completed questionnaires not being recorded on the ZapSurvey site. As a result, the timeout was increased to 60 minutes. An email was sent to those who had confirmed that they had replied asking them to fill the questionnaire again. In many cases, affected consultees kindly offered to complete the questionnaire again or sent a summary of their key responses. However, it is possible that a small number of questionnaire responses may have been lost.

It is important to remember the nature of the consultation exercise is that stakeholders are more likely to respond where they believe there to be significant problems or issues with the current guidance needing to be addressed. During collation of responses, it will be important to consider the motives of respondents and to take this into account when analysing the results of consultation.

The Specification requested that six ‘types’ of consultee should be invited to provide feedback on current flood and coastal erosion risk management appraisal guidance. All consultees invited to respond to the questionnaire have been placed into one of these groups (or a group of ‘other/not known’) according to the following definitions:

- practitioners: consultants and engineering consultants;
- operating authorities: local authorities, district and county councils, coast protection authorities, port and harbour authorities, and Internal Drainage Boards (IDBs);
- project managers and specialists: Environment Agency consultees;
- Defra Regional Engineers (REs) and policy makers: consultees from Defra and other Government departments, such as English Nature;
- members of the public;
- non-governmental organisations, including university departments, British Geological Survey, Broads Authority, Met Office, etc.; and
- other/not known: contractors and others that did not fit into the above groups, or whose organisation was not known.

Table 3.1 indicates the number of invitations sent to each of these groups, with the largest number of invitations being sent to practitioners (204, or 25%).

Table 3.1 Number of invitations sent to each group

Group	Number sent	% of total sent
Practitioner	204	25%
Operating authority (LAs-CPAs-IDBs)	157	19%
Project managers and specialists	166	20%
Defra REs and policy makers	44	5%
Members of the public	88	11%
Non-governmental organisations	133	16%
Other/not known	33	4%
TOTAL	825	

Figure 3.1 shows the proportion of responses that have been received from each group. The highest response rate is from ‘Defra REs and policy makers’ at 43%. The lowest response rate is from ‘other/not known’ at 12%, but this is to be expected as those replying to the questionnaire were placed into one of the other groups if this was more appropriate. The response rate from members of the public is also relatively low, at 19%, but the closing date for responses to the public questionnaire was the 28 April.

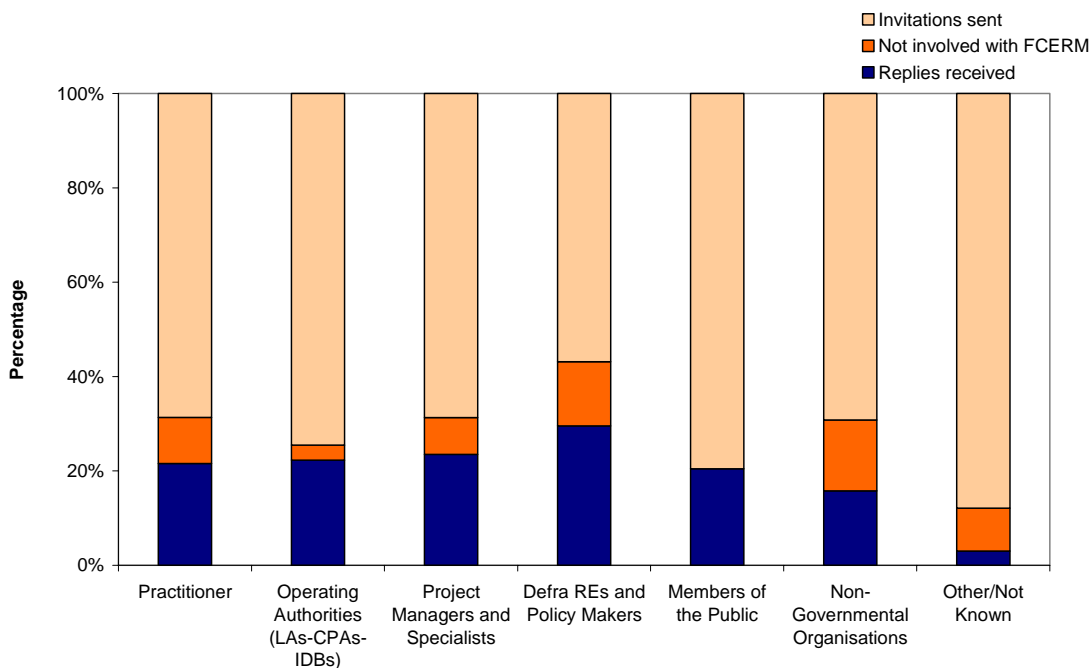


Figure 3.1 Response rate by group

Figure 3.1 also shows the percentage of each group that did not consider themselves to be sufficiently involved with flood and coastal erosion risk management to complete the questionnaire. The largest proportions considering that they were not involved are associated with 'Non-Governmental Organisations' at 15% and 'Defra REs and policy makers' at 14%¹.

As well as considering the total responses, it is also interesting to consider whether the replies received are representative of the population that was invited to participate in the survey. Figure 3.2 presents a chart showing the percentage of invitations sent to each group and the percentage of responses received. The Figure shows that the responses received are broadly in line with the invitations sent. Replies from 'operating authorities' are slightly lower than may have been expected, as are responses from 'members of the public' (but responses from this group are expected to increase as the closing date is 28 April 2006). Overall, therefore, the responses received are considered to be representative of the population that was invited to be involved in the first stage of consultation.

The remainder of this section focuses on responses from all groups except 'members of the public', for which a separate discussion is provided in Section 3.2 below. The discussion is organised around the structure of the pre-questionnaire (a copy of which is provided in Appendix 3).

¹ Those considering that they were not sufficiently involved with flood and coastal erosion risk management are from English Nature (3), SEPA (1), SNIFFER (1) and Defra (1).

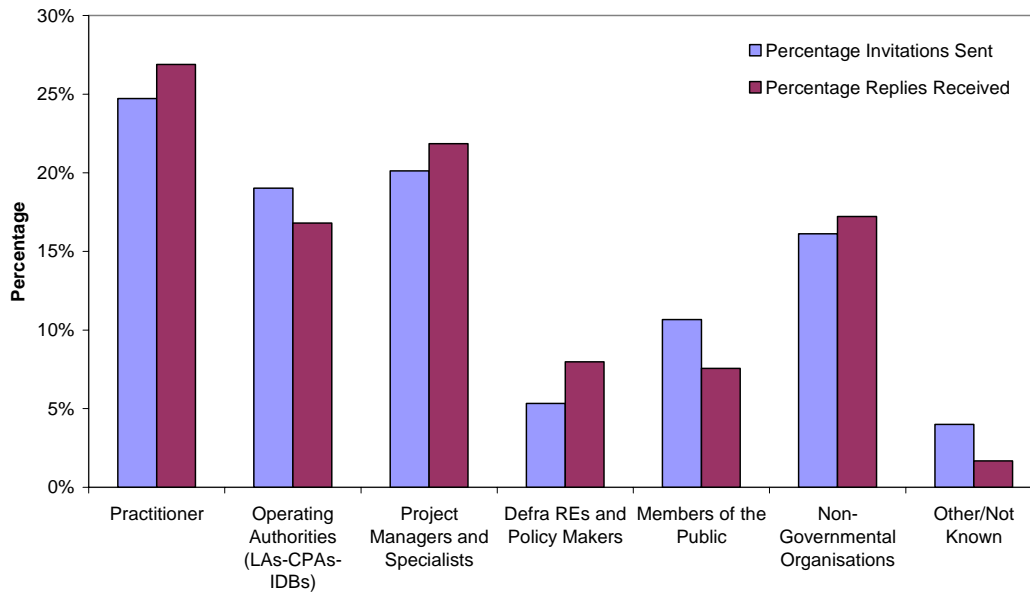


Figure 3.2 Comparison between the invitations sent with responses received

Analysis of responses to question 1

The first question asked 'is the current guidance (e.g. SMP, CFMP, the FCDPAG series and spreadsheets, and the Multi-Coloured Manual) useful when undertaking project appraisal?'. Figure 3.3 indicates the distribution of replies. The number of consultees agreeing with each response is shown on the y-axis, and the corresponding percentages are given on the chart.

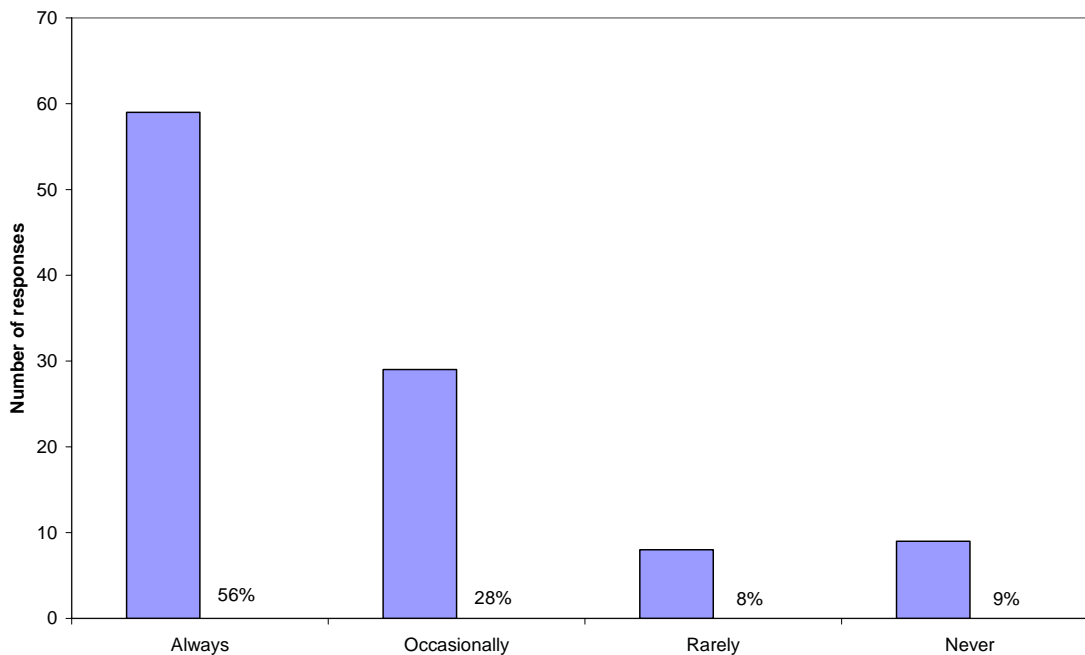


Figure 3.3 Is the current guidance useful when undertaking project appraisal?

Figure 3.3 shows that most respondents (59 or 56%) said that the appraisal guidance is always useful, with a further 29 (28%) stating that they found it occasionally useful.

The comments provided by respondents suggest that many who indicated 'rarely' or 'never' did so because they are not often involved in undertaking project appraisals. However, two respondents who indicated 'rarely' stated that this was because the guidance is:

- too elaborate for small schemes (such as small pumping stations or small drainage schemes); and
- not relevant to some projects (such as flood detection, flood forecasting and response, erosion).

Many of the respondents who gave 'occasionally' as their answer also qualified this with comments suggesting that the guidance is generally useful, but there are some projects where it is less useful. There were also comments suggesting that the level of detail in the guidance is not sufficient, but others felt that applying the guidance too rigorously required too many resources. Several consultees highlighted that there are ambiguities or that it is over-complicated (particularly for non-specialists). One respondent suggested that the guidance 'is always useful for people who have little or no experience but once people have used it a number of times it becomes less useful and less essential'. There were also comments in terms of the lack of guidance on how to include social and environmental impacts.

Those replying 'always' were generally supportive of the current suite of guidance, noting that it 'is extremely useful and comprehensive', that it 'ensures consistency of approach' and that it 'provides a clear framework and sets out key principles'. One comment was very positive noting that 'we have used some of the guidance as models for use in overseas projects (developed and undeveloped nations). Our perception is that the guidance is world-leading'.

Others noted that they 'always' use the guidance because it is the system that is in place and is an agreed process, and that it is vital when undertaking project appraisal for flood and coastal erosion risk management.

A summary of the positive and negative comments on the guidance documents from question 1 is provided in Appendix 3.

Analysis of responses to question 2

Question 2 asked 'is the level of detail provided in the guidance appropriate for your needs?'. Figure 3.4 presents the distribution of responses. The Figure shows that the majority of respondents suggest that the level of detail is appropriate 'occasionally' (55 or 53%), while 32 or 31% believe the level of detail to 'always' be appropriate.

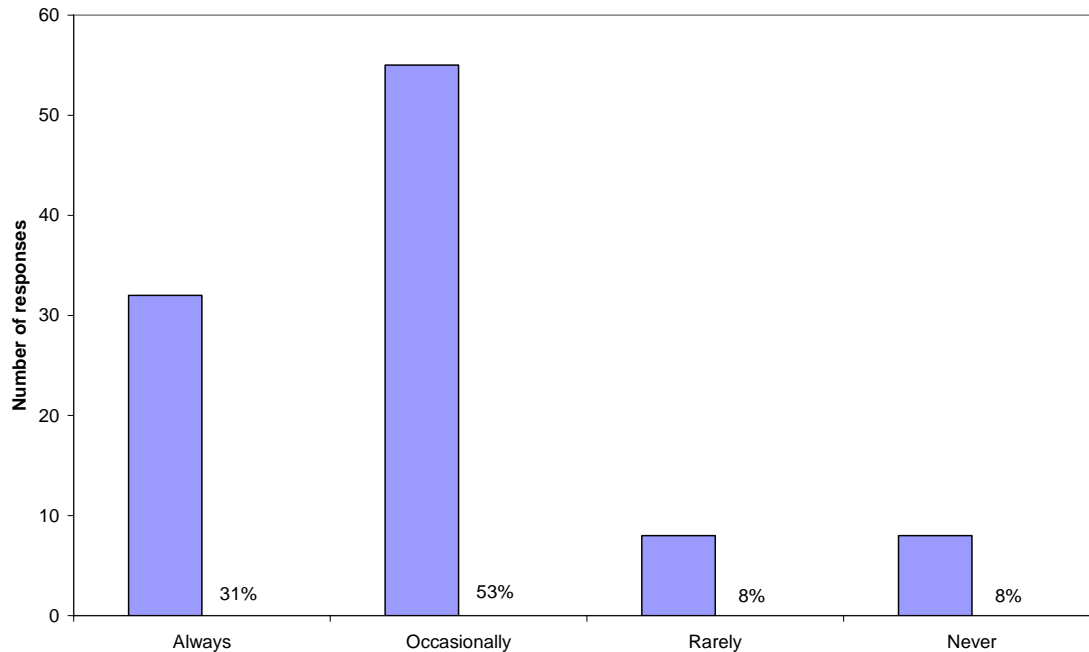


Figure 3.4 Is the level of detail provided in the guidance appropriate for your needs?

As with question 1, those indicating ‘rarely’ or ‘never’ often did so because they are rarely or never involved with project appraisal. Some respondents did make comments in terms of why they consider the detail to be rarely or never sufficient, such as:

- the points addressed are myopic relating only to the apparent need of a continuing aggregate release to sustain the treasury income;
- too detailed for the type of IDB works; and
- not enough detail on maps.

Of those who answered ‘occasionally’, many focused on the need for a more concise approach, with comments such as:

- could provide more useful short cut methods;
- the documents are quite wordy;
- a more concise approach would generally be more effective; and
- should be more pragmatic.

Others answering ‘occasionally’ suggested areas where further detail is necessary:

- could do with more worked examples;
- more guidance is required for strategies; and
- more and more looking for greater information on how to assess intangible benefits (such as environmental and social benefits).

More general comments from those responding ‘occasionally’ include:

- judgement/interpretation is required;
- can be quite vague in places; and
- often need more technical detail than is offered.

There were also comments from those replying ‘occasionally’ that the guidance should not be prescriptive and that the current variation in detail between sections is appropriate to avoid the guidance becoming too prescriptive. There are also comments on the importance of guidance evolving, and that supplementary guidance ‘is a good way of evolving the base document’ but that it ‘is often hard to track down’. Other suggestions included the provision of a ‘helpdesk’.

Those replying ‘always’ generally commented that the level of detail is appropriate and recognised that because they are guidance documents, not everything can be covered in detail and still remain useable. A common comment was that ‘always’ was not really an appropriate choice and that ‘usually/mostly’ would have been more appropriate because of the nature of the guidance. However, one respondent did note that the guidance tends to have ‘grey’ areas on difficult issues.

A summary of comments received on question 2 is provided in Appendix 4, divided into positive and negative comments on the level of detail provided in the guidance.

Analysis of responses to question 3

Question 3 concerned the presentation, accessibility of the guidance and whether it is understandable. Figure 3.5 provides an overview of the distribution of responses. The Figure shows that the majority of consultees replied ‘mostly’ (72, or 73%). A further 11% (11 respondents) indicated ‘partly’, with 10 respondents (10%) saying ‘completely’. Only 6 respondents (6%) considered that the guidance was not clearly presented, accessible or understandable.

Of those replying ‘mostly’ or ‘completely’, the comments related to all three aspects of the question (presentation, accessibility and understanding). In terms of presentation and understanding, key comments included:

- flowcharts: some considered there to be good use of flowcharts, but other thought the flowcharts (and tables) were sometimes complex or needed to be developed further;
- text: the potential for different interpretations was highlighted, but the more recent documents are considered to be clearly presented, and in clear English. Several respondents considered the guidance to be too complex with overuse of jargon; and
- linkages between guidance: the need for better linkages (e.g. between multi-coloured manual and mapping) was highlighted. The explanation of how the PAG series fits together was considered good, but links to SMP and CFMP was lacking.

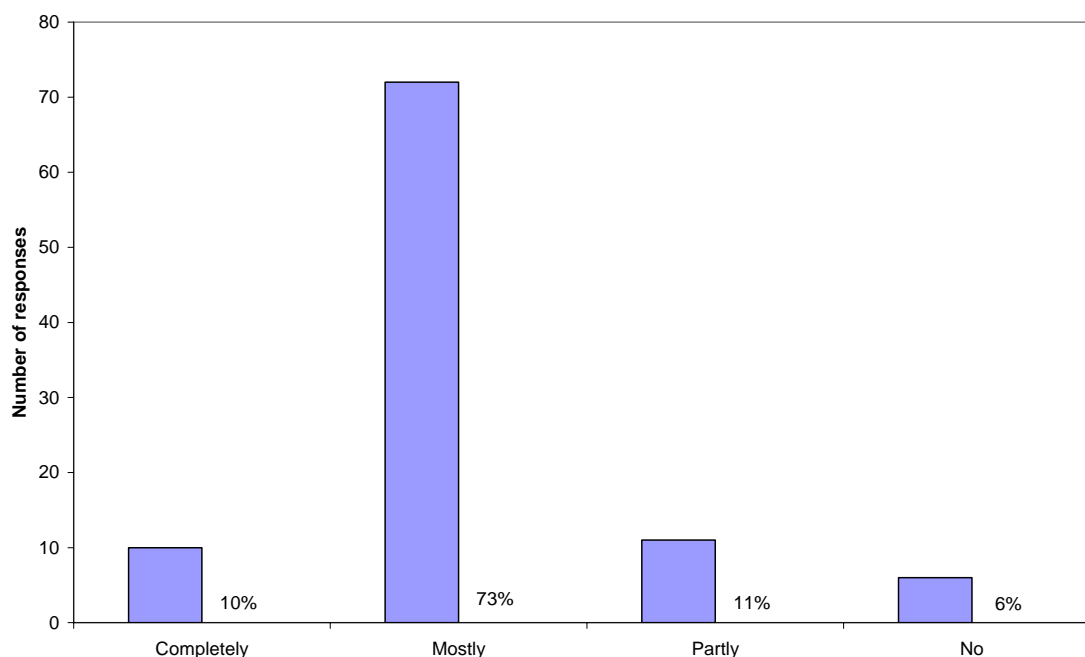


Figure 3.5 Is the guidance clearly presented, accessible and understandable?

Accessibility was considered to be a problem by some, particularly when trying to find supplementary documents on the Defra Internet site. Many others considered the documents easily accessible, noting that it is 'vital that the guidance documents remain slim'.

For those who responded 'partly' or 'no', comments generally relate to lack of explanation on specific points, such as the FCDPAG3 spreadsheets and the need for more worked examples to follow.

A fuller set of comments on question 3 is provided in Appendix 4.

Analysis of responses to question 4

Question 4 asked whether the guidance needs to be changed to result in outputs that are in keeping with the general policy direction set out in Making Space for Water. Figure 3.6 provides a pie-chart showing the range of responses.

Figure 3.6 shows that the majority of respondents (66 or 64%) said 'yes' (the guidance should be changed to keep with the policy direction set out in MSfW). Only 4% (four respondents) answered no, while 32% (33 respondents) did not know.

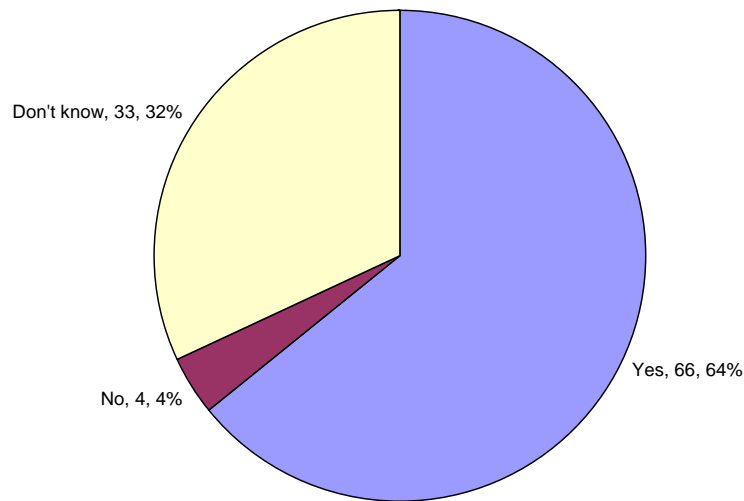


Figure 3.6 Should the current guidance be changed to result in outputs that are in keeping with the general policy direction set out in Making Space for Water?

Of those saying 'no', the comments included:

- the guidance being adequate;
- it being too soon to know what Making Space for Water (MSfW) would actually involve; and
- that the guidance should concentrate on the appraisal of the project rather than responding to political or administrative influence/intervention.

Comments from those replying 'yes' related mainly to a move to more sustainable appraisals, able to take better account of environmental and social costs and the encouragement of schemes with multiple benefits, with the use of multi-criteria analysis emphasised. The importance of having the guidance in line with Government policy was highlighted, in particular a shift in philosophy from flood defence to flood risk management. Other suggestions for changes include:

- more scope for non-engineering/non-structural solutions;
- removal of bias to larger schemes;
- need for clear links across the appraisal framework;
- consideration of the Water Framework Directive's objectives and requirements;
- emphasis on adaptive strategies, taking account of climate change impacts;
- maintenance of a list of projects that represent good practice; and
- method of including third party contributions.

The full set of comments on question 4 is provided in Appendix 4.

Analysis of responses to question 5

The focus of question 5 was whether there is a need to change the current appraisal guidance to take into account the outputs of the Foresight reports, climate change issues, etc. Figure 3.7 provides a chart showing the range of responses received.

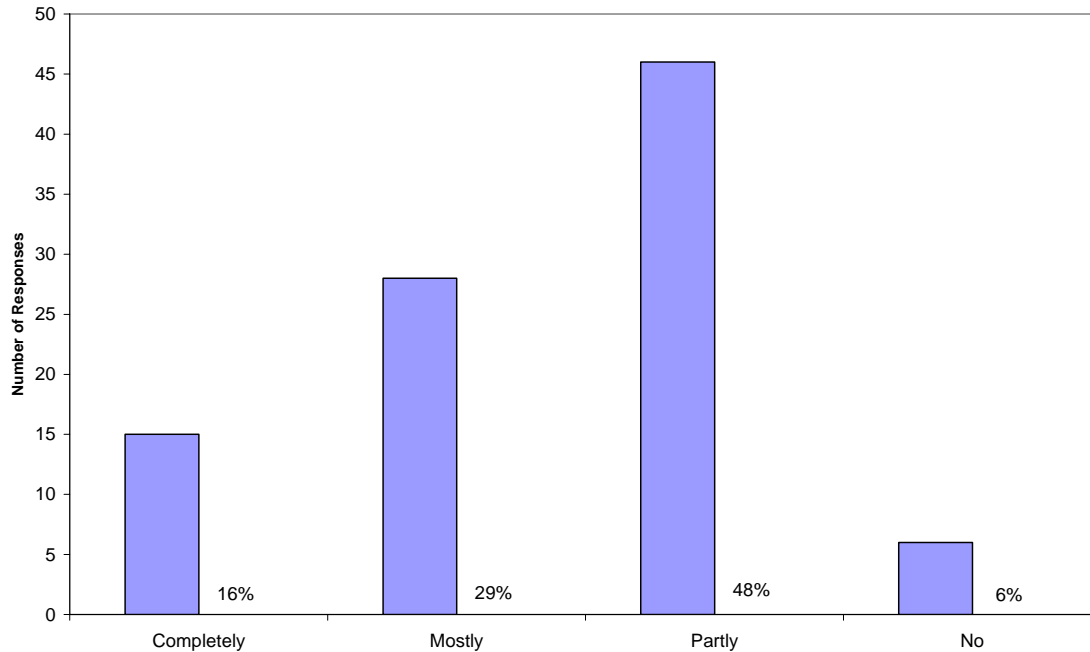


Figure 3.7: Do you feel that the current appraisal guidance needs to be changed to take account of the outputs of the Foresight reports, climate change issues, etc.?

Figure 3.7 shows that the most common response was ‘partly’, accounting for 46 (or 48%) of responses. The second most common response was ‘mostly’, with 28 respondents (or 29%) giving this answer. A further 16% (15 respondents) believe the guidance needs to be changed ‘completely’, while just 6% (six respondents) consider that the guidance does not need to be changed.

Table 3.2 summarises the key changes highlighted by consultees to question 5, according to whether they replied ‘completely’, ‘mostly’, ‘partly’ or ‘no’.

Table 3.2 Summary of comments on question 5

Comments where guidance is considered to need to be changed ...	
Completely	Mostly
Current guidance on climate change is vague, particularly for the fluvial environment	Better guidance on climate change
More guidance on social issues	No provision for scenario based decision-making
Values to be given for environmental and recreational benefits	Non-structural responses need to be included
Clearer guidance on allowing for long-term changes	How to tackle long-term uncertainty via scenario analysis
Leeway for updating	

Table 3.2 Summary of comments on question 5

Comments where guidance is considered to need to be changed ...	
Partly	No
Need to provide guidance on climate change scenarios and implications of climate change	Foresight is too technical for most appraisals
More to encourage sustainable solutions	
Better consideration of long-term impacts	
Need to reduce uncertainty	

Table 3.2 shows that there is general agreement in terms of areas where the guidance needs to be changed, even if there is some disagreement on the extent to which it should be revised. The main comments relate to improved methods of taking account of climate change, particularly through scenarios to help identify and understand uncertainty with a view to moving towards more sustainable (potentially non-structural) solutions. A number of consultees noted the importance of ensuring that the cost of appraisal is proportionate and does not become as expensive as implementing the preferred option. As with the other questions, a full set of comments on question 5 is provided in Appendix 4.

Analysis of responses to question 6

Question 6 asked consultees to identify the main barriers/difficulties to applying the existing appraisal guidance and how these could be overcome. Table 3.3 sets out some of the more common barriers given and the proposals for overcoming them.

Table 3.3 Summary of main barriers identified in question 6

Main barriers	Proposals for overcoming the barriers
Too rigid and prescriptive – those who administer the processes to which the guidance relates sometimes do so to the letter rather than the principle. Also risk of ‘handle turning’ by inexperienced users	Scope for drawing up the essence of the guidelines. More flexibility needed
Complex and ambiguous	Training is needed. Simplify. Use ‘Plain English’. Need to encourage clear story telling. Key point checklist
Time consuming exercise – level of detail required	Needs to be a quick route for simpler/low cost /small scale schemes. Requires a quick filter stage where schemes are accepted for further analysis, rejected or passed in clearly defined areas. Better guidance on level of detail required
Open to interpretation	Typical examples. guidance needs to be made more robust
Not always clear when to take certain actions	
Environment not integrated into guidance – Defra’s acceptance of intangible benefit assessment	Moving from basing decision on cost-benefit alone. Need for some kind of MCA (or hybrid CBA/MCA)

Table 3.3 Summary of main barriers identified in question 6

Main barriers	Proposals for overcoming the barriers
Insufficient consideration of social issues	
May 'talk' in terms of flood risk management but still 'think' in terms of flood defence	
Perception that guidance is out of date	Needs to be updated
Assumptions associated with the do-nothing option – assumption that do-nothing has zero costs	
Accounting for climate change	
Priority score	
Budgets do not match expectations	
Treasury rules – and Defra interpretation of Treasury Green Book (cf other Department and Scotland)	
Lack of skills available to apply the guidance	Training is needed
Organisational inertia which favours 'tried and trusted'	
Uncertainty over appropriate level of detail in strategy plans and scheme appraisals (driven by approval processes)	
Sheer volume of guidance is off-putting, need clear indexing to avoid missing essential guidance	More bullets, interactive CD style
Complexity of spreadsheets	
Lack of clear linkages between different guidance	
Uncertainty	
Ever changing goalposts	PAG should include strategy and project appraisal report templates for all to use and should only be reviewed and changed every 5 years
Uncertainty over new approval processes for non-Agency operating authorities – real concern over high value projects	
Barriers between different sectors, particularly planning and engineering	Regular joint training sessions, close liaison, protocols of cooperation, etc.
Relations with local community and community buy-in	Early involvement in process. Careful facilitation translating science to common language
Decision Rule	
Review of strategies after 5 years (particularly for large strategies)	Review larger strategies every 10 years unless fundamental change has occurred

Table 3.3 shows that consultees identified a lot of barriers, but that the respondents could not always come up with obvious ways of overcoming them. This is not surprising given the type and range of barriers that have been identified. One of the aims of the detailed consultation (stage 2) will be to investigate these barriers further, including whether they can be overcome in the appraisal guidance or whether they are more fundamental, requiring changes to the appraisal processes themselves. A full list of all responses to question 6 is given in Appendix 4.

Other comments

There was also an opportunity for consultees to add further comments, where they felt specific issues had not been addressed by the questions discussed above. A large number of comments were received, including those providing positive comments such as:

- *'don't change it too much – it's pretty good and people know where they are with it and are comfortable with it';*
- *'stick with it, only change it if you are completely sure the change will improve things'; and*
- *'keep up the good work'.*

There were also requests for particular changes:

- *'would be good to re-consider how environmental costs and benefits are incorporated';*
- *'it needs to be kept up-to-date with clear ownership'; and*
- *'needs more balanced decision criteria in line with current policies'.*

While others emphasised what they considered to be particular weaknesses in the guidance:

- *'it is almost impossible to carry out flood risk analysis on local ordinary watercourses with the minimal resources now within the local authorities';*
- *'it is time for a major overhaul of scheme prioritisation';*
- *'there is too much of it, little practical use at the level I work at'; and*
- *'one comment often heard...is that the whole process was so complicated that those involved were losing the will to live'.*

The Detailed Stage of Consultation

The above discussion needs to be investigated further, with this to be undertaken in a second, more detailed, stage of consultation. To identify the most efficient method of doing so, the pre-questionnaire also asked whether respondents would be interested in being involved in the more detailed stage of consultation. Figure 3.8 provides a summary of the responses. The Figure shows that 66 respondents, representing 63%, said that they would like to be involved further.

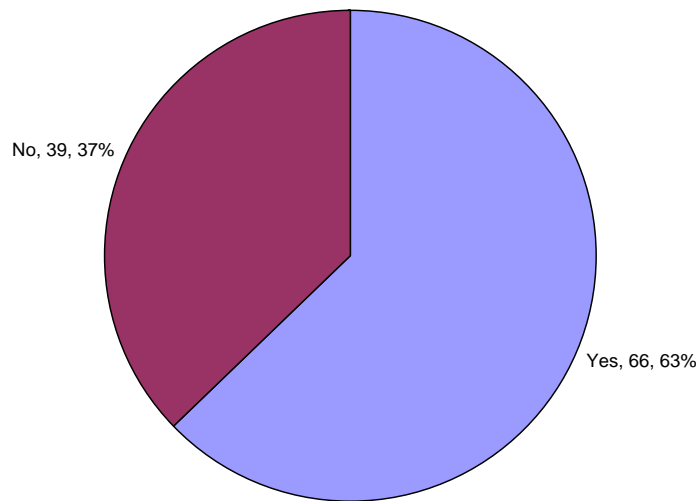


Figure 3.8 Would you like to be involved in the detailed consultation?

The next question was then to identify how consultees would like to be involved, with the options including an on-line or paper-based questionnaire, telephone consultation or attendance at a workshop. Figure 3.9 shows the selection of those interested in being involved in the detailed consultation and their preferred method of involvement. The Figure shows that 44 (40%) of respondents requested an on-line questionnaire (as was used for the pre-questionnaire). A further 35 (31%) respondents indicated that they would prefer to attend a workshop, with 25 (22%) requesting telephone consultation. A small number (8 respondents, or 7%) stated that they would prefer a paper-based questionnaire.

Given that 35 respondents indicated that they would like to attend a workshop, it is proposed to hold two workshops in the next stage of the study. This will allow around 15-20 attendees at each workshop which is conducive to good discussions.

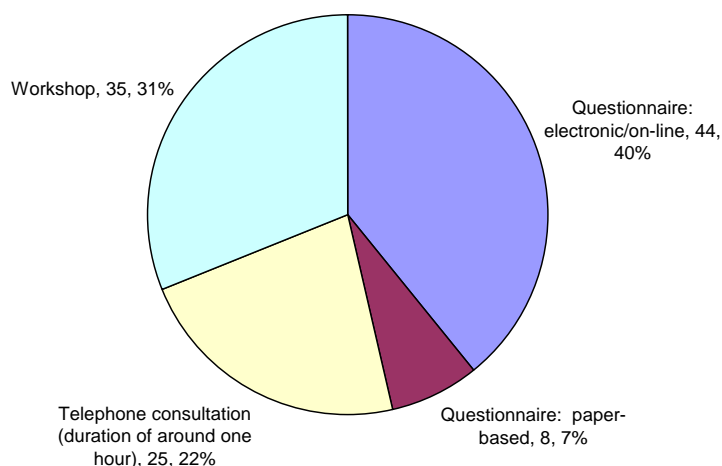


Figure 3.9 Preferred method of involvement in the detailed consultation

The location for the workshops is also to be determined by consultees by asking where they would prefer the workshops to be held. Not surprisingly, a wide range of locations were given, the most common being London (17), Bristol (6), Peterborough (4) and Birmingham, Norfolk, Worthing and Leeds (all 3). One respondent suggested central Scotland, while another proposed south Wales. This suggests that one location should be London. The other location could be in Peterborough/York/Leeds or Bristol/Birmingham. This assumes that those selecting Worthing would be willing to travel to London. Once those who suggested London are removed, there are six requests remaining for Peterborough/York/Leeds and five requests for Bristol/Birmingham. Others, such as those requesting Norfolk, may prefer a Peterborough workshop to Leeds/York, London or Bristol/Birmingham. Those who are unable to come to the workshops because of their locations will be offered the opportunity of a telephone consultation or questionnaire. An email was sent out to those expressing an interest in workshops to request their preference for:

- a workshop in London or Peterborough on 9, 10 or 11 May; or
- a workshop in London or Bristol on 22, 23, 24 or 25 May.

3.2 Responses to the questionnaire for members of the public

A total of 23 responses have been received to the questionnaire for members of the public (out of 88 sent). This is equivalent to a response rate of 26%.

Almost all of the respondents (96%) live in an area that is at risk of flooding or erosion and are members of a regional flood defence committee, flood action group or similar. This is perhaps not surprising given that the questionnaires were circulated by the National Flood Forum.

When asked if they had been consulted as part of the appraisal process, the majority (59% or 13 respondents) stated that they had been consulted personally, as shown in Figure 3.10. Five respondents (23%) said that they had not been consulted, with four respondents indicating that they had not been consulted personally but had seen plans or received leaflets or other information.

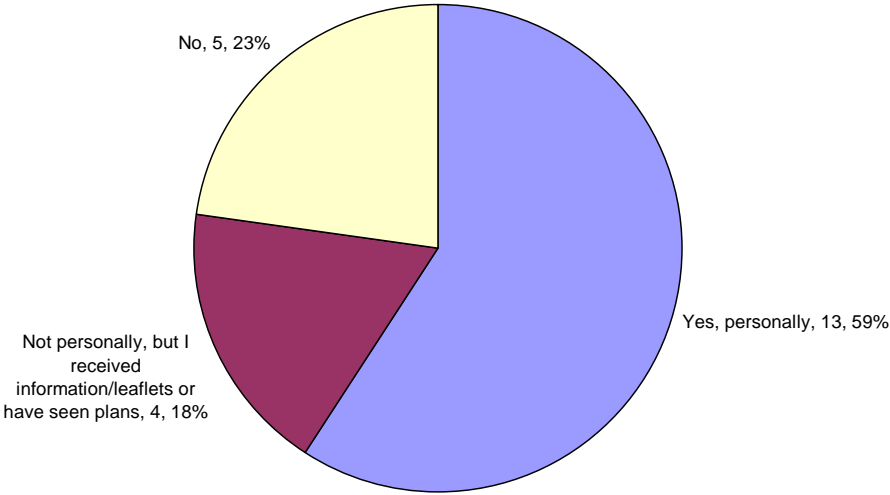


Figure 3.10 Have you been consulted as part of the appraisal process on schemes and/or strategies in your local area?

Consultees were next asked whether they had ever tried to access the guidance documents. Figure 3.11 shows that just over half of all respondents (11 or 52%) said that they had accessed and read the guidance. Six respondents (29%) had not tried to access the guidance. One respondent had tried to access the guidance but had difficulty finding it, while another three found the guidance too technical or detailed for what they needed. One respondent commented that ‘most members of community flood groups will not be aware that any guidance exists’.

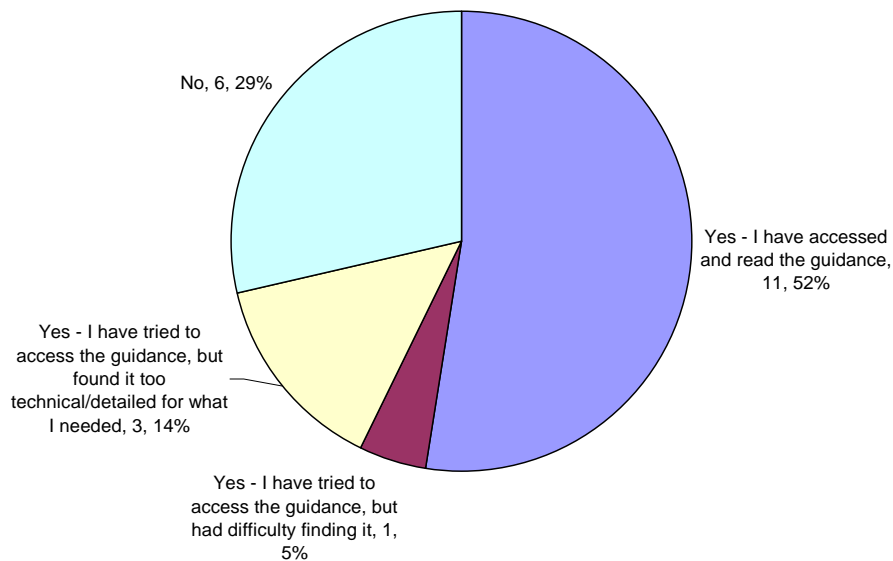


Figure 3.11 Have you ever accessed guidance on the appraisal process for flood and erosion risk?

Those accessing the guidance were then asked whether they found the guidance helpful in terms of understanding the appraisals that had been carried out. Figure 3.12 shows that 47% (seven respondents) said 'yes', while 33% (five respondents) replied 'no'. Three respondents stated that the guidance had helped 'partly', noting the complexity of the guidance or that it was difficult to deal with, with one respondent saying that it left them 'feeling vulnerable to expert opinion'. Another commented that the 'guidance is wholly inadequate for cliffed/eroding coasts'. One respondent, who had replied 'yes', also commented that they found it '*complicated and difficult even after several readings*'.

Consultees were then asked if they felt that the appraisal process considered all of the important social, environmental and economic issues. As shown in Figure 3.13, 44% (seven respondents) felt that this was only 'partly' true. Comments included:

- '*not enough emphasis on social and environmental issues. Too much on economic value of properties*';
- '*maintenance of rivers and watercourses was not covered*';
- '*wider issues caused by a "no active intervention" approach to erosion, i.e. area blight, property value, lack of compensation, etc.*';
- '*damage to mobile homes not fully taken into account nor the fact that there is not a simple solution to moving beach properties to alternative sites*';
- '*inadequate value placed on potential damage to wealth creation (business/tourism)*';
- '*leaves out non-residential properties, e.g. village halls*';
- '*the core problem is inadequate/incorrect policy which can only lead to inadequate/incorrect guidance and appraisals*'; and
- '*the arguments are around the relative importance and weighting given*'.

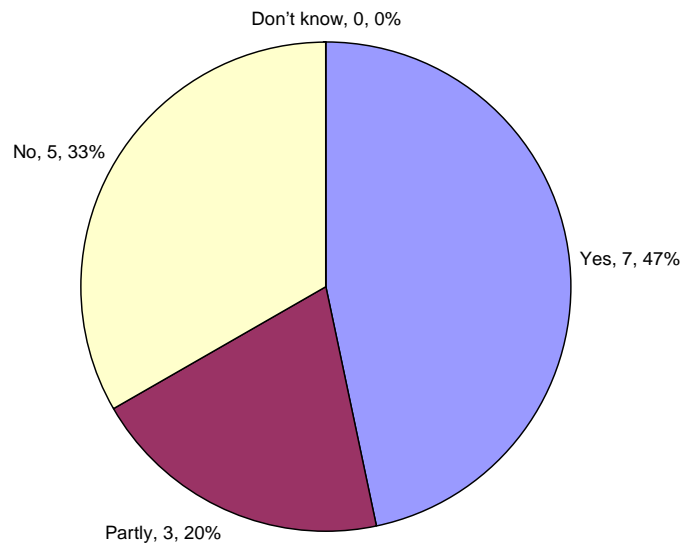


Figure 3.12 Did the guidance help you understand appraisals that had been carried out?

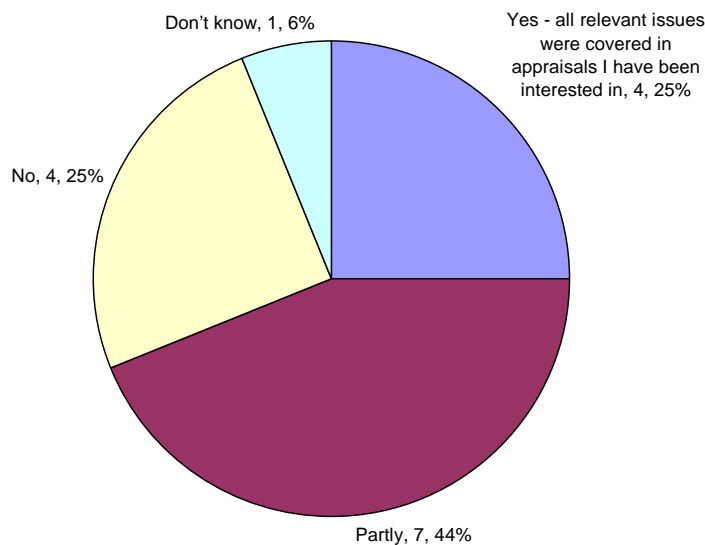


Figure 3.13 Do you feel that the appraisal process considers all of the important social, environmental and economic issues?

The next question asked whether consultees felt that the appraisal process and the decisions made are logical and understandable. Responses to this question are presented in Figure 3.14. The Figure shows that only one respondent replied 'yes' to this question, but 47% (ten respondents) though this was 'partly' the case. One respondent noted that the *'decisions made seem sensible when they were explained to us'*. A further 19% (four respondents) considered that

the appraisal guidance and decision made are not logical and understandable, with 29% (six respondents) stating 'don't know'. Several comments noted that the priority score is seen as 'unfair' or 'arcane', while one comment related to the decision-making process itself, stating '*I have reservations about determination of priority scores. Decisions on priorities were made by the RFDC in public session with elected representatives accountable to their constituents. Now they seem to be made by an EA board sub-committee in closed session with no such accountability. How can the public accept this process?*

Consultees were then asked whether they believed that the appraisal process needs to be changed to make it more transparent and accessible. Figure 3.15 shows that almost three out of four (74%, or 17 respondents) agreed that the appraisal process needs to be changed. One respondent asked whether the models of catchment areas could be improved, while another noted that '*it is the policy behind the appraisal which is wanting*'. The importance of distinguishing between river, estuary and coastal flooding was highlighted, while one respondent requested '*greater involvement with stakeholders (local people) and more honesty*'.

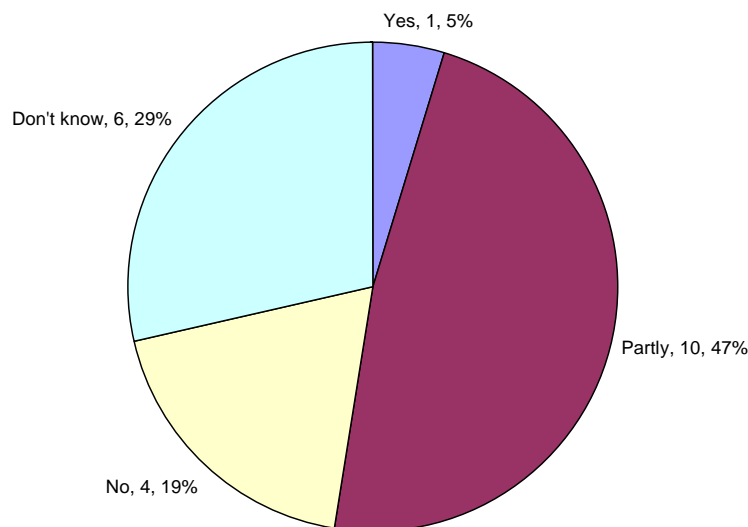


Figure 3.14 Do you feel that the appraisal process and the decisions made are logical and understandable?

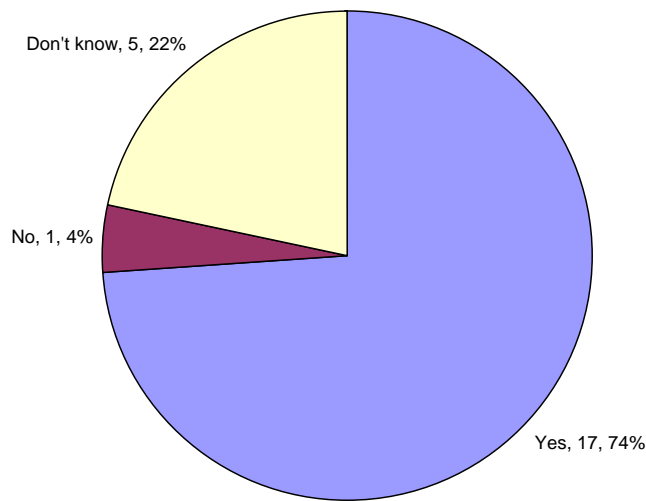


Figure 3.15 Do you feel that changes need to be made to the appraisal process to make it more transparent and accessible?

The next question asked how the appraisal process needs to be changed, giving four choices, with additional space for consultees to add their own suggestions. Figure 3.16 shows the percentage of consultees that agreed with each choice; with 74% (17 respondents) agreeing that 'better *liaison between Environment Agency, consultants and the local community*' was required.

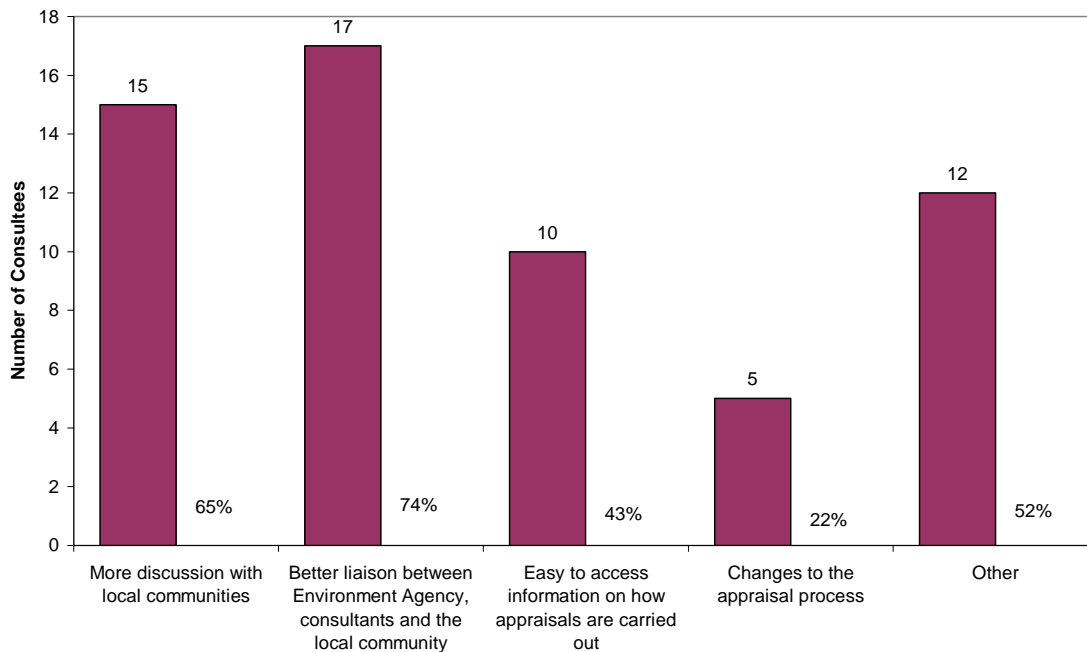


Figure 3.16 What changes would you like to see happen to make the appraisal process more accessible and transparent?

Figure 3.16 also shows that 15 respondents (65%) wanted more discussion with local communities, with 12 respondents (52%) also giving their own suggestions. These include:

- *'much less weight to economics, which seem to dominate the process';*
- *'the environmental lobby seem to have more weight than they deserve';*
- *'hard to build long standing relationships with the EA';*
- *'process needs to address the people's needs';*
- *'time taken to consider anything is far too long';*
- *'more independent, fairer, more honest, more local involvement';*
- *'better understanding of local issues';*
- *'simpler and clearer priority assessment';*
- *'more transparent process for approving and prioritising schemes';*
- *'advertising schemes in newspapers';*
- *'amendments to policy';*
- *'more information about work/maintenance that is to be carried out'; and*
- *'more options needed in the face of climate change, including demolition/compensation and relocation'.*

Consultees were also given an opportunity to add any other comments. Key issues raised include:

- *'perception that RFDCs 'rubber-stamp' the Environment Agency's decisions';*
- *'lack of objectivity when judging the appraisal process as people's opinions depend on whether they get a positive outcome';*
- *'why is so much time and money spent on reports';*
- *'need for special consideration for older properties which have no modern damp course or means of preventing water coming up from the ground';*
- *'partnership between EA, City and County Council seen as best practice';*
- *'drainage boards working well in maintaining small rivers, but EA have failed to maintain main rivers';*
- *'lack of fair treatment on erosion concerns';*
- *'difficult to change viewpoint of Environment Agency once a viewpoint has developed';*
- *'open and supportive EA staff willing to help, but constrained by Defra rules and decisions made elsewhere';*
- *'lack of an expert independent body to look at all cases for validity';*
- *'social justice must be built in at the front and become policy before looking at changes to guidance or appraisal';*
- *'EA have been very good at explaining what is happening but there has been no support from the local Council/District Council, etc. There is a need to keep local residents informed';*
- *'although I have a scientific background I still have problems understanding information put out by Defra and especially the Environment Agency';*
- *'flooding and erosion are constant problems where we live – flashy rivers, silting lakes. No-one seems to want to consider the causes upstream, only remedy the effects downstream';*
- *'there is a general lack of transparency from the responsible authorities and more awareness of the responsibilities of riparian landowners. Is there sufficient cooperation between the numerous authorities involved?'; and*

- *'the Environment Agency is the interface with the public but the standard of communication is very variable. The Environment Agency website is not being used effectively. Decisions have already been made before the public are involved and the basics (i.e. how many properties would actually be affected in a 1 in 100 flood and what river level has been taken as the 1 in 100 flood) are impossible to discover in time for discussion'.*

4. Use of the current guidance documents

4.1 FCDPAG series

Consultees were asked whether they had used the FCDPAG series. Most respondents (78% of the responses received) stated that they had used the FCDPAG series.

15 out of 19 responses on-line answered yes whereas the rest answered no to this question. A high percentage of the respondents however did not provide an answer to the question of why they had not used the PAG series (17 out of 19 skipped the question). The other two respondents provided the following reasons:

- the FCDPAG guidance documents are not helpful; and
- no involvement in coastal schemes since 1999.

Of those responses received in writing, three of the four respondents stated that they had used the PAG 3 series to a greater or lesser degree. One respondent indicated that they had only used FCDPAG3 whereas the remaining two had used more of the PAG series. The fourth respondent stated that they did not use the volumes. In total, 18 out of 23 respondents use the FCDPAG series. Figure 4.1 shows the percentages of consultees using the different PAG documents.

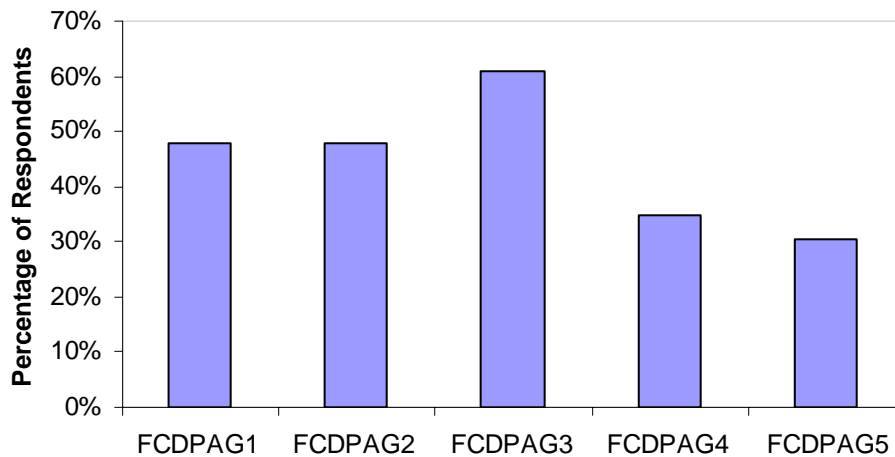


Figure 4.1 Consider your use of each of the five volumes within the FCDPAG series. Please indicate whether you have ever used each of these volumes?

Most of the respondents use the FCDPAG series monthly or less often than on a monthly basis, with only one respondent indicating that they use FCDPAG3 daily and two respondents using FCDPAG3 weekly. The percentages of respondents using the different FCDPAG volumes for different reasons are shown in the Figure 4.2.

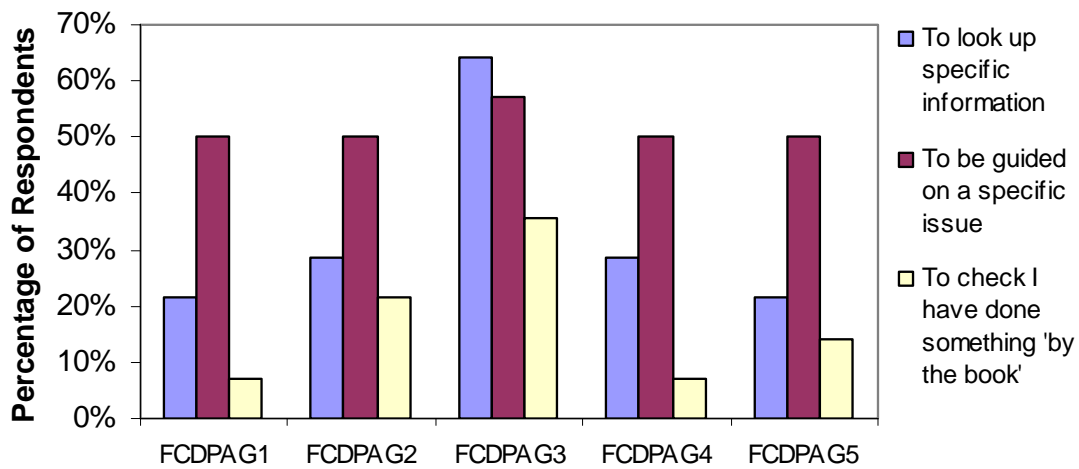


Figure 4.2 How do you typically use each of the FCDPAG volumes?

In terms of the project frequency and type of projects that the FCDPAG volumes are used for, respondents gave a varied response. As it can be seen in Figure 4.3, a high percentage of respondents use FCDPAG3 for every project. More generally, the PAG series are used for specific projects.

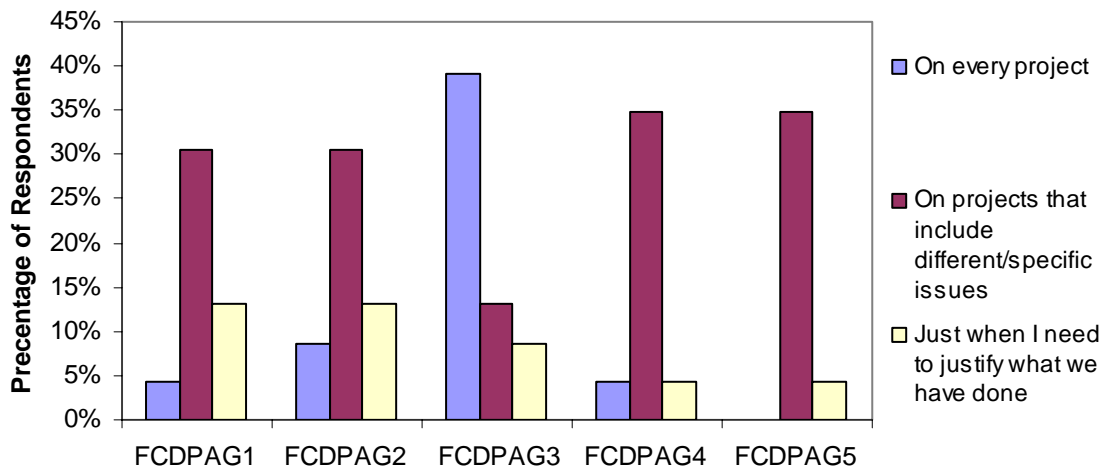


Figure 4.3 Do you use each volume of the FCDPAG series in this way...?

Overall there was a high degree of satisfaction with the content and format; although respondents indicated that they occasionally needed to search for information; one respondent stated that they normally had little difficulty in finding the information they wanted. None of the respondents stated that the PAG series always provided the answers. With regard to FCDPAG5, Environmental Appraisal, 4% of the respondents stated that they do not find it useful and rarely found what they needed, as can be seen in Figure 4.4.

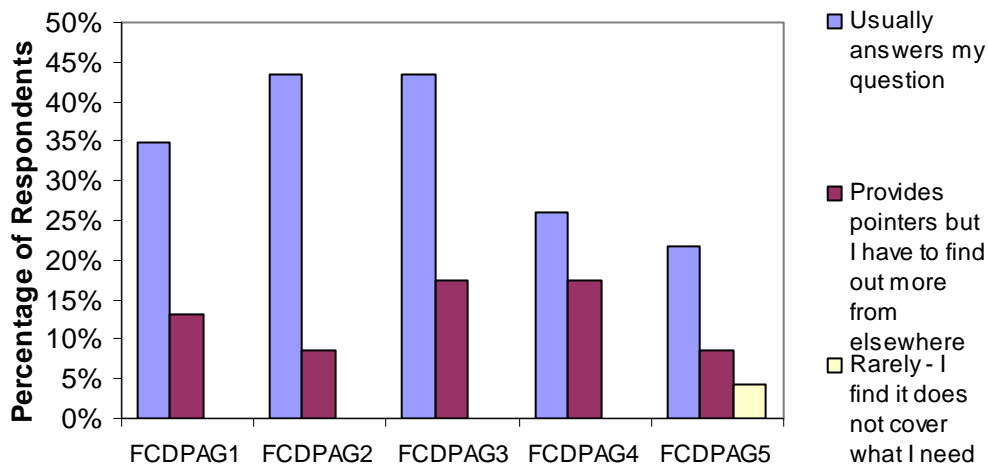


Figure 4.4 How useful do you find each volume in the FCDPAG series?

The reasons given for not considering the volumes useful are encapsulated as follows:

- most guidance documents had been superseded or partially superseded by more recent supplements and do not have updated references to useful information; cross-referencing of several documents now required in order to establish the most up-to-date position and to obtain all information on a particular matter, e.g. use of freeboard in assessment of threshold flood and standard of protection;
- they do not always go into enough detail and usually there is a need to talk to someone who has had done it before; and
- the documents provide a good basis for most studies and reports, however other information is often needed to complete the appraisal.

With regard to the presentation and format, nine out of 23 respondents stated that they sometimes have to search for information. However, there was an equal divide between respondents when asked whether the presentation and organisation of the FCDPAG series needed to be improved to make it easier to find specific information. Only two respondents expressed their views on how the series could be improved. According to these respondents, the presentation could be improved as follows:

- online access with links to specific information and similar information;
- online access on dedicated appraisal web-site; and
- printed format.

One of the respondents added the following:

'Hard copies are always useful for reading. However, sources of information are changing more rapidly than the guidance. Documents and references need to be kept up-to-date to avoid time-wasting when searching for information that has been superseded or moved (e.g. Index of Multiple Deprivation is no longer produced)[...] An idea is to produce a ring binder with dividers and loose-leaf insert, which can be updated one sheet at a time if necessary.'

4.2 FCDPAG3 spreadsheets

Respondents were asked whether they had used the FCDPAG3 spreadsheets. Of the 17 that responded, 65% responded that they had used them, with a monthly or less often frequency; whereas 35% responded that they had not used the PAG spreadsheets. From the latter group, only one respondent stated that the FCDPAG3 spreadsheets were not relevant to their work. Another two answered that they only refer to them in order to understand spreadsheet work done by others. Finally, one respondent stated the following:

'Economic losses do not reflect the true costs to society. True costs are better reflected in the National Flood Insurance Claims Database, bearing in mind that insurers have to purchase increasing amounts of reinsurance overseas. The true costs of flood claims are therefore ultimately reflected in the balance of payments of UK plc. This database is also many orders of magnitude bigger than that used by Middlesex and allows statistically significant analysis of the impact on costs from up to 28 different factors such as type of property, depth, duration and velocity of flood etc. as well as changes in contents mix by socio economic factors [...]. Any system which ignores these data is essentially incomplete.'

Figure 4.5 shows the type of use of the FCDPAG3 spreadsheets among respondents. Half of the respondents (47%) use them as a template to copy, adjusting them wherever necessary. The remaining half, however, either use those spreadsheets as a supporting tool to the results of their economic appraisal, as an illustrative example, and/or as a means of gaining approval.

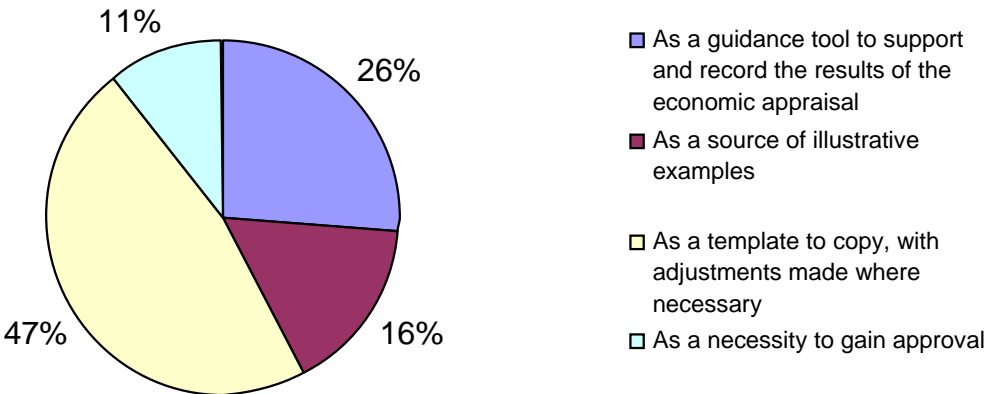


Figure 4.5 How do you typically use the FCDPAG3 spreadsheets?

Figure 4.6 illustrates how the respondents made use of the FCDPAG3 spreadsheets. The results demonstrated that six respondents (55%) used them on every project. The remaining respondents were equally divided between

whether they used them on project which includes different/specific issues, when they were needed to aid in justifying results, or for other reasons. Further reasons included use of spreadsheets relevant to their work, or the respondents own version of the spreadsheets.

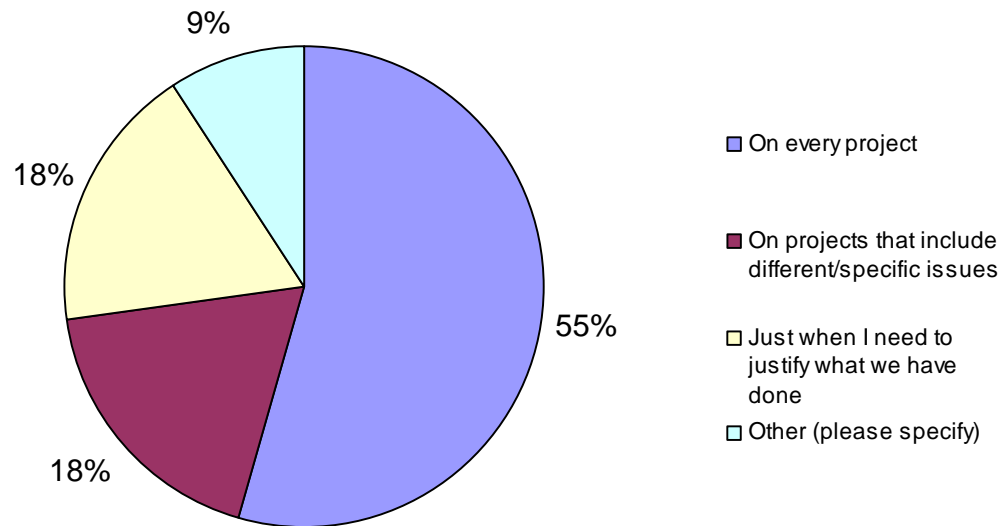


Figure 4.6 Do you use the FCDPAG3 spreadsheets?

Figure 4.7 shows how useful the respondents find the FCDPAG3 spreadsheets. While no respondent stated that they did not find the spreadsheets useful, only 18% stated that they found them very useful. If the spreadsheets were deemed either 'very useful', 'useful', or 'fairly useful', this was because:

- they are only a template for the final stages of the appraisal. Every project is different which means that they have to be modified to fit the purpose of the project;
- they are usually satisfactory as a basic template; and
- the spreadsheets omit some essential aspects of economic appraisal, e.g. capping of property damages and, forcing users to create supplementary spreadsheets to do the additional calculations. The duplication of effort at each consultant and office is wasteful and risks an inconsistent approach.

Only four respondents (17%) answered that the presentation and organisation was clear and no changes were needed. Of those surveyed, 26% (5 respondents) noted that the presentation and organisation needed improvement. The changes suggested to make the spreadsheets more useful are as follows:

- inclusion of one input page only and then develop and 'automatic' spreadsheet;
- inclusion of more clearer linkages between each of the spreadsheets, automatically updating but also explaining in the text what has been done; and

- more clear guidance, flowcharts and explanations, for instance a summary Average Annual Damage (AAD) versus Present Value (PV) losses, with clear examples of common types of scheme.

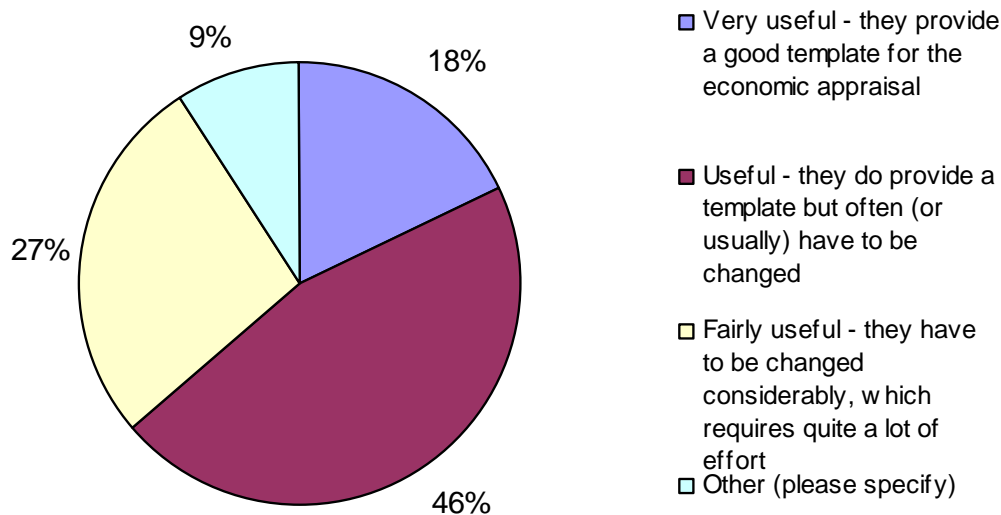


Figure 4.7 How useful do you find the FCDPAG3 spreadsheets?

The following is a more detailed account to the changes suggested:

- alternative to ESTDAM: a new spreadsheet to calculate property damages, linking with the MCM depth-damage data spreadsheets would be useful. Current options available to practitioners include: use of DOS-based ESTDAM which requires manual input of Multi-coloured Manual depth-damage data; creation of a bespoke spreadsheet to calculate event damages using an interpolating routine; or use of MDSF, which is intended for CFMPs or strategies;
- toolbox incorporating all common economic appraisal calculations: to avoid the need for practitioners to adapt the spreadsheets and meet the requirements of current guidance. The features to include were the capping of property damages, and a reduction in flood warning time; and
- toolbox for cost estimation: would help to bring some consistency. Research, guidance and data for cost estimation is disproportionately low compared to that available for benefit calculations and in my experience is the weak link in project appraisal. Guidance on cost estimation similar to the Multi-Coloured Manual would be useful, particularly for practitioners who are not civil engineers. A selection of estimating methods and database of unit rates for use at different stages of appraisal would be helpful. The EA unit cost database has been spoken of for a long time but has never materialised.

One respondent noted that the use the spreadsheets should not be a requisite.

4.3 Shoreline Management Plan (SMP) guidance

Only 26% of the interviewees noted that they have used the SMP guidance. The main reason for not using this guidance was that it was not relevant to the work of the respondents; although one respondent noted that they did not have access to the guidance.

The following are some of the reasons for using the guidance on a monthly basis, or less often:

- to look up specific information; and
- to be guided on a specific issue.

Figure 4.8 shows the respondents' opinion on the essential purposes of the SMP guidance.

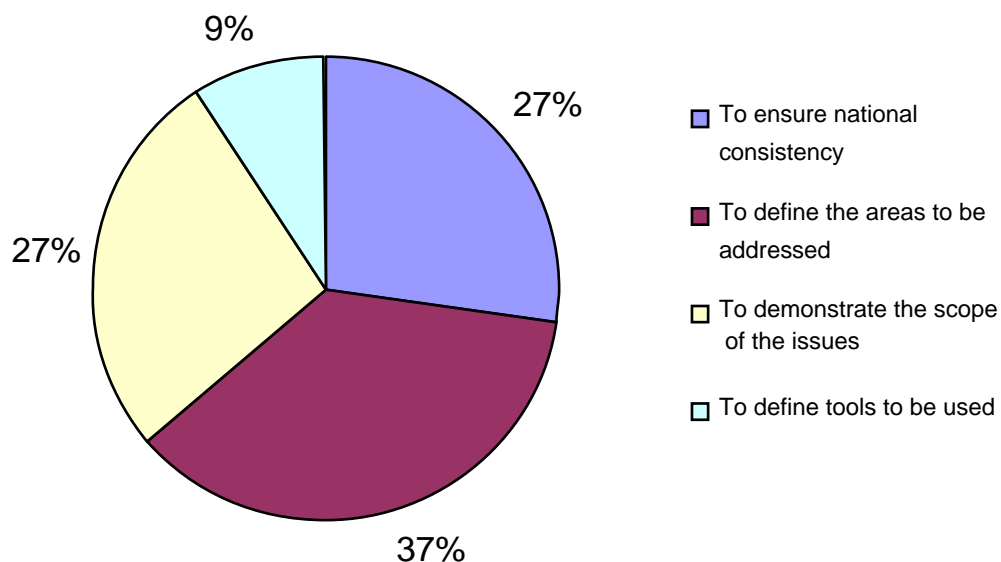


Figure 4.8 What do you feel are the essential purposes of the SMP guidance?

From the results illustrated in Figure 4.8, 37% of respondents believed that the SMP guidance helped to define the areas needing to be addressed. A further 27% of respondents felt that the SMP guidance helped ensure national consistency or were useful for demonstrating the scope of issue. A minority of respondents (9%) felt that the SMP guidance helped them define the tools to be used.

When asked about the usefulness of the guidance, only one respondent noted that the guidance does normally answer their questions with most of those responding noted that they frequently needed to find more information from elsewhere. Other sources of information include:

- coastal groups; and
- universities.

With regards to the presentation and organisation of the guidance, most of the respondents either had to search for the information and/or call someone to find out what was needed. Few suggestions were given on the types of changes needed; although one respondent noted that the same types of changes as those to FCDPAG guidance should be applied to the SMP guidance.

4.4 Catchment Flood Management Plan (CFMP) guidance

Only three respondents (equivalent to 13%) seem to have used the CFMP guidance. The main reason for this was a lack of relevance with the respondents' own work; although one respondent noted that they did not have access to the guidance.

Those using the guidance tend to use it on a monthly basis or less often. Figure 4.9 illustrates the reasons for using the guidance among those that responded.

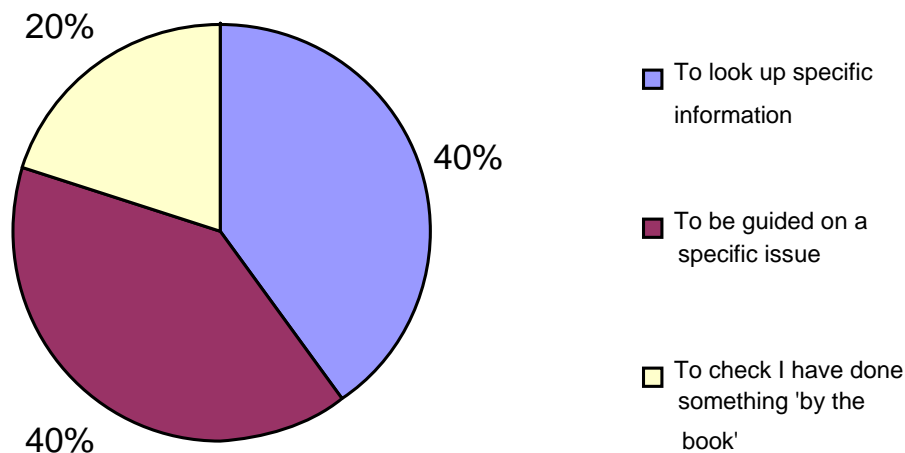


Figure 4.9 How do you typically use the CFMP guidance?

Most of the respondents use the guidance on every project. As demonstrated in the Figure 4.9, respondents were divided in opinion as to how the CFMP guidance was used, and thus, normally sourced out further information from elsewhere. Users believe that the guidance should be improved to make finding specific information easier. However, no suggestions were given which may also apply to the FCDPAG volumes.

4.5 Multi-Coloured Manual and Handbook

Some 52% of the respondents have used the MCM. The frequency of use of those that responded is shown in Figure 4.10. Most of the respondents noted that they use it to look up specific information (e.g. depth-damage data), followed by those that use it to be guided on a specific issue (e.g. inclusion of recreation or environment impacts), as shown in Figure 4.11. 'Other' includes teaching purposes and research.

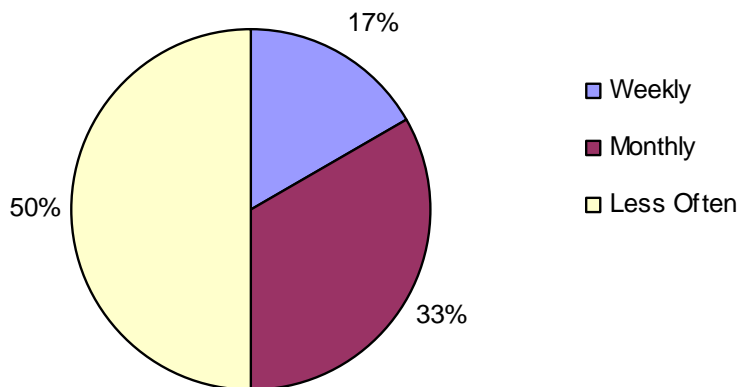


Figure 4.10 How frequently have you used the Multi-Coloured Manual (MCM) or Handbook?

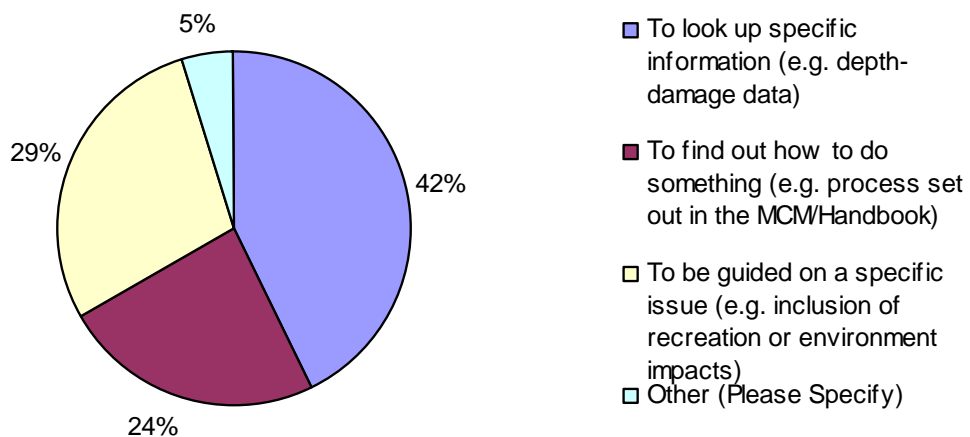


Figure 4.11 How do you typically use the MCM and/or Handbook?

A higher percentage of users employed the MCM and/or Handbook on every project. Of the 12 that responded, 75% noted that it usually answers their questions; with 25% stating that it provided useful indicators, but they normally need to source information from elsewhere. This was mainly due to the fact that the principles of MCM must at times be adapted to situations beyond the

scope of the guidance, e.g. losses due to rail/traffic disruption, flood warning reduction, disruption to the hinterland. None of the respondents noted that the MCM always answered their questions.

Figure 4.12 illustrates the respondents' views on the presentation and organisation of the MCM. As it can be seen from the Figure, a high percentage of respondents (51%) sometimes need to search for the information.

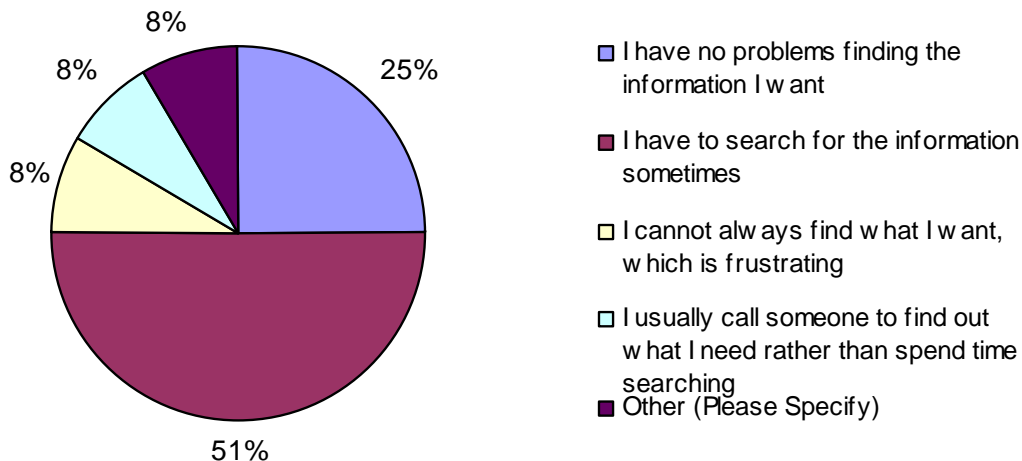


Figure 4.12 How useful do you find the presentation and organisation of the MCM and/or Handbook?

All of the respondents found the presentation and organisation of the Handbook easier to use than the MCM. The reasons given are as follows:

- the Handbook text is available as a pdf (Adobe Acrobat) so searches are easier to make;
- the Handbook has a better layout, and clearer section numbering;
- the chapters in the Handbook are well-defined with logical headings. The colour-coding of chapter headings and pages is helpful. Extensive use of tables makes the information more accessible and easier to find; and
- the Handbook has a better structure and is pleasing to the eye. It also provides a quick overview, which is sometimes all you need.

Some of the changes proposed by the respondents include:

- making the MCM more user friendly like it has been done with the Handbook; and
- making the MCM text available as a pdf.

5. Key issues raised through consultation

5.1 The level of detail to be included in an appraisal is not clear (SMP, strategy, scheme, small/low cost schemes)

Fifteen respondents (equivalent of 65% of the total interviewees) gave an opinion on the level of clarity of the guidance. Most of these agreed with the statement that the level of detail to be included in an appraisal is not clear (SMP, strategy, scheme, small/low cost schemes). More specifically:

- 27% agreed completely; and
- 53% agreed partly.

As shown in Figure 5.1, respondents' views were varied. Some 22% thought that the level of detail to be included in an appraisal was not clear as a result of other/wider issues (not guidance specific). Some respondents (34%) expressed this was mainly due to a problem with the guidance; although none noted that this was due to the guidance alone.

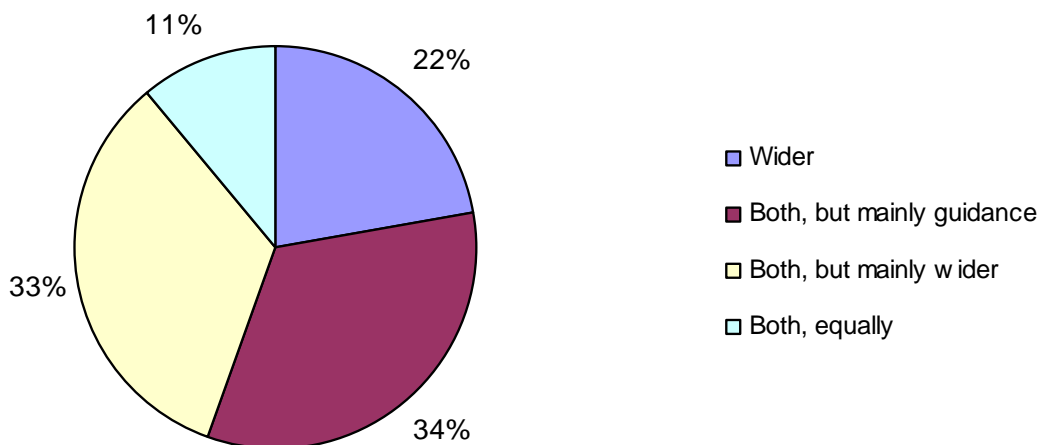


Figure 5.1 Do you believe that the issue 'the level of detail to be included in an appraisal is not clear (SMP, strategy, scheme, small/low cost schemes)' is caused by a problem with the guidance or as a result of other/wider issues (not guidance specific)?

Some of the reasons given for the above regarding the guidance are as follows:

- the treatment of indirect losses and intangibles is unclear;
- the guidance covers all levels, from strategy to PAR, but the Handbook is the only document to set out a recommended approach for each stage. The level of detail has in the past been driven by the client and Defra, leading to wide variation in requirements; and
- not enough examples are given.

Some of the wider issues include:

- the level of detail required is defined by NRG/PAB not by the guidance;
- a genuine difficulty in addressing the long term implications of decisions, particularly when they are unpalatable. Additionally, the difficulty in aligning with the investment and objectives of others;
- a tendency to distrust operating authorities and the "micromanagement" mentality; and
- the different interpretations of what is required and difference expectations from the EA project manager.

Most of the respondents believed that the lack of clarity was either an important or a very important issue and that well-defined standards would ensure that an appropriate and consistent level of detail was used at each stage of appraisal. Some of the changes proposed include:

- more explanation aligning FCDPAG3 and the MCM is required;
- clear statements from NRG on what is required;
- 'project appraisal standards' are required, setting out the range of methods available and which methods would be acceptable for each level of study or stage of project. This could take the form of a matrix or table, indicating the type of model required, level of modelling accuracy, methods of estimating costs/benefits/freeboard, etc;
- stronger links with other development and strategic investment;
- more clear guidance on minimum levels of detail required for smaller schemes and those easily justified;
- more examples ; and
- changing the guidance to clarify what details should be pursued when truly required and to what extent the data quality and quantity would allow for this.

The significant changes recognised amongst respondents are as follows:

- they will reduce time taken to prepare some PARs, will reduce fees on some projects; and
- they can influence consistency of results and hence prioritisation of projects.

The problems, their causes and the possible solutions to the problems were discussed in the workshops with relation to the level of detail to be included in an appraisal. These are included in Table 5.1 overleaf.

Table 5.1 Problems, causes of problems and solutions on the level of detail

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
<p>There is a lack of definition of what should be undertaken at each level</p> <p>Lack of understanding of 'what decision' is being made at each level which then makes it difficult to prescribe the level of detail</p>	Y	Y	<p>There is a lack of guidance on the level of detail that is appropriate and on what should/should not be included</p> <p>No overarching procedural document</p> <p>Not clear on how far PAG3 should be taken</p> <p>There is no guidance for pre-feasibility. The guidance is mainly focused on major projects without pre-feasibility screening</p> <p>We have moved away from simple appraisals – now need to look wider</p> <p>The guidance is very vague on where to stop</p>	<p>We need to go back to why we are undertaking flood risk management – what is the best way to allocate money</p> <p>Need for guidance to differentiate between what is a policy and what is a strategy. Need to clarify the guidance on what is meant by a strategy which when fully understood will lead to appropriate level of detail</p> <p>A triangular structure is required with a pyramid of guidance. There is a need for a clear explanation of what is needed, which has to be at the very top level. Identifying what needs to be dealt with at each level and what feeds down to inform lower levels, with the smallest level of (appropriate) detail at the top increasing down through the levels</p> <p>The level of detail and cost needs to be set to avoid running the risk of starting the appraisal again if wrongly interpreted. Need simple essential guidance – need for judgement becomes inherent</p> <p>Defra has to be willing to let go of control and hand over responsibility to the EA. This is particularly important if Defra are going to write policy guidance, and the EA will write 'how to' guidance and review PARs</p> <p>Need to define stages – what is required at each step – how much do you have to do for each report</p> <p>Need a co-ordinated document setting out what to do and what not to do</p>

Table 5.1 Problems, causes of problems and solutions on the level of detail

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is uncertainty on the level of detail required at different levels (SMP, strategy, scheme)	Y (mainly)	Y	<p>An SMP/CFMP can be undertaken at different levels of detail</p> <p>Discrepancies between PAG, MCM, CFMP/SMP, Treasury Guidance</p> <p>Currently, we are in learning process of where CFMPs stop and strategies start. Variety of size and scope of CFMPs is enormous, therefore some are in lots of detail and some are very broad brush – if it is obvious it is ok to not need a strategy and to go straight to a scheme</p> <p>There is confusion as to the difference between strategies and PARs. Strategy is a 'living document' (as is SMP/CFMP) and provides a framework for FRM and have to be reviewed over time as conditions change</p> <p>Guidance has been accretionary – different authors</p> <p>Lack of understanding of what SMP/CFMPs /strategies inform and how they are to be used – who makes the decision?</p> <p>There has to be continuity of thinking, which links back to learning and team retention. PAR feedback groups need to include local authorities, the deficiencies in appraisal need to be more widely known. There is an expectation that reviews of SMPs (etc.) will draw on lessons learned from the previous SMP. This does not always happen and it is often a case of starting again</p>	<p>The results of the SMP should be used to get the scheme into the programme (an additional level below the SMP). The strategy should be used for budgetary prioritisation and the scheme should be to identify what is the best way to deliver</p> <p>At the SMP level, things should be discussed in a way that sensitivity is covered in how the impacts are described, in this way uncertainty is built into the process</p> <p>There is a need for specific guidance on what must and must not be considered</p> <p>Staged approach</p> <p>Need for a structured decision-making process – with the appropriate level of detail and the nature of outcomes identified</p> <p>Need proportionality between the levels of appraisal to the nature of possible solutions</p> <p>Need to avoid making things too complicated – avoid adding too much into project appraisal – need to use different levels</p> <p>The guidance could be improved by demonstrating or describing the process. CFMP informs the strategy but as part of an on-going, iterative, process. The CFMP is catchment-wide, the strategy looks at sub-areas but there are links between the two and feedback is essential. The CFMP does not look at whether the policy is achievable. Rather it is to feed into strategies, which build up the investment plan. However, the CFMP policy choice can generate a lot of interest and concern. Therefore, the reasons behind the choice have to be strong and robust such that the policies can cascade down. RFDCs are being asked to adopt them and strategies will follow</p>

Table 5.1 Problems, causes of problems and solutions on the level of detail

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>When undertaking a strategy, it is necessary to look at the SMP to see what it says. In this way, the SMP output should feed directly into the strategy. Often, the SMP has been written as if it is a clean sheet, and does not always draw on strategies that are already in place</p> <p>When undertaking the CFMP, if there is uncertainty as to which is the best policy, the decision can be deferred to the economic appraisal. The problem is really with the way that the guidance has developed over time and that there has not been a consistent hierarchy</p> <p>The aspiration with CFMPs was that the 'best' policy would be identified first time and would not cost too much (£70-£80k). However, it has been much more difficult to define policy at the CFMP level. There is also tension in terms of who is designing policy and the type of policy</p>	<p>There needs to be a clear definition of each level and what is appropriate overlap between them</p> <p>What are SMPs for? This needs to be clear in the guidance</p> <p>Process does not lend itself to a staged approach</p> <p>The top level is competition for budget (high level but robust and specific enough to compare schemes). Appraisal process at a lower level, towards design process selecting how you deliver (enough detail to make the decision)</p>

Table 5.1 Problems, causes of problems and solutions on the level of detail

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
<p>This is causing appraisals to include 'everything', therefore, costing too much and taking too much time</p> <p>The appraisal process has become too detailed and lost focus as a means of identifying how to spend money</p> <p>There is a huge amount of replicated/repeated study – there is lots of scope to improve the guidance</p> <p>There is too much money spent on the process, not enough on implementation with members of the public concerned about the proportion of resources spent on technical appraisal</p>	Y	N	<p>Wider: Agency always driving for more and demand more detail – no decision-making at an early stage – risk aversion – culture and approach of implementing authorities, how much time should be spent on the process – too much time is spent deciding not to do something</p> <p>No streamlining – getting bigger, not more focused</p> <p>Preparation of PARs and Strategies takes too much time and money and therefore there is less for implementation</p> <p>Recent raising of expectations and legislation needs to be reflected in the guidelines. NB not conducive to reducing development time or costs!</p>	<p>Guidance on appropriateness (need to ensure money well spent)</p> <p>It is necessary to ask 'how much money should be spent' and 'is it worth doing this job'? This is then an issue of whether it is resources based or appraisal led</p> <p>Aim has to be to inform good decision-making – what we have decided to do and what we did do. This cannot be judged without post project evaluation. One of the requirements of grant-in-aid is that post project appraisal is undertaken – but generally this is not done. The use of monitoring to determine what works and what does not work is required to have a learning process</p> <p>Spending should increase throughout the appraisal process, should not be spending too much early on</p> <p>High level screening (rough and ready appraisal) should be used to identify how the appraisal is built up. There is a need for a framework at an early stage. Guidance can be more prescriptive when looking in more detail. Need prescription when different people are undertaking the assessments for consistency – but only at key choice levels (do we or do we not defend?; and 'how much' do we defend)</p> <p>Benchmarking – fees and programme</p> <p>PAGs and Green Book need a section or explanation on 'How much should be spent on a particular appraisal situation'</p> <p>Early consideration on what might be a non-starter Determining what is appropriate in terms of collecting information for appraisal</p>

Table 5.1 Problems, causes of problems and solutions on the level of detail

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
				Pre-feasibility needs more money spent on it to avoid spending even more later – e.g. on scheme that may not be done (due to benefit cost ratio, priority score) – it needs to provide a basis that can be built on when looking at more detailed schemes
NRG is driving the detail that is required rather than the appraisal process determining what level of detail is needed to make the 'best' decision		Y	<p>Approvers do not understand the issues, leading to pressure for even greater certainty. Any weaknesses being identified tend to result in the appraisal being sent back for review – even if the weaknesses do not affect the overall decision-making</p> <p>Reports driven by needs of PAR (and PAR guidance). Is PAR guidance consistent with other guidance?</p> <p>NRG decision making rests only with the PAR and not the appendices. This is using only a very small amount of the information collected, collated and analysed during the study</p> <p>Guidance is also needed on who is making the decision and the criteria by which they are making that decision. CFMPs go to RFDCs (not NRG), while strategies go to NRG. There is, therefore, inconsistency. The key question is whose expectations have to be met? The RFDCs, CFMP panels and NRG need to talk to each other about quality of outputs. It is important that they act in the same way when reviewing plans and strategies – this is a key issue</p>	<p>The people who approve schemes need to know the guidance</p> <p>The person writing the PAR/Strategy needs to know the approver's expectations so that any documents can target the right issues. This should help the approvals rate as schemes are right first time, and avoid the need to be resubmitted a number of times</p> <p>There is a need for a common understanding and guidance to be used by practitioners and approvers</p> <p>Project managers need to be more informed as 'informed clients' and manage projects accordingly</p> <p>NRG advisory panel with external involvement</p> <p>Periodic NRG 'lessons learnt' report possibly prepared by designated person in NRG</p> <p>Need openness in decision process</p> <p>Need for prescriptive template for PAR documents</p> <p>Need for ownership by project team</p> <p>Training for both practitioners and decision-makers at all levels, with refreshers</p>

Table 5.1 Problems, causes of problems and solutions on the level of detail

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is uncertainty on the level of detail required for small schemes	Y	Y	<p>At the scheme and detailed design level, there is a degree of certainty and uncertainty is well-defined</p> <p>Appraisals are over detailed for smaller schemes</p> <p>No pre-feasibility study guidance (which could also be used for small schemes)</p> <p>There is an issue with the number of hoops that smaller schemes have to go through. Is there a risk management approach for different scales of projects to help decide the scale of appraisal?</p> <p>The guidance is not applicable to/inappropriate for small/low cost schemes</p> <p>There is no system for exercising judgement/proportionate ways of applying appraisal. For example, if there is a need to replace three groynes – should an appraisal be done?</p>	<p>Requires risk based approach. For small investment projects, the amount of effort put into the business case does not reflect the risk of getting it wrong</p> <p>De minimus and/or cut down approaches</p> <p>The guidelines must reflect the principles of IFRM to ensure sound management of assets. The existing guidelines are written for large capital schemes</p> <p>A pre-feasibility report could be used to drive methods and detail and be linked to type of approval required (i.e. agreement of strategy or approval of scheme)</p>
There is little understanding on how costs/benefits vary by appraisal, location, scale, timescales, etc.	Y	Y (mainly)	<p>Issues with team retention in developing CFMPs, SMPs – but we cannot control this</p> <p>How can we change behaviour in getting folk to feed back internally on their arguments about what worked/did not work</p>	<p>Need to improve on feedbacking and learning from feedback because typically we are all bad at this</p>

5.2 The guidance is too long, making it difficult to navigate through and complex

Most of the respondents agreed with the statement that the guidance is too long, making it difficult to navigate through and complex. A total of 69% (9 respondents) agreed completely or partly, while 15% (2 respondents) disagreed with the statement. Five of those that responded noted that this issue was quite important or very important since *'there is an opportunity to reduce cost of project appraisal, through efficiency improvements and reduced time spent liaising with the client to resolve queries.'* Some of the reasons among those supporting the statement are as follows:

- there is duplication of topics in different volumes – need to consult several volumes in order to get the full picture on a particular issue; and
- over complexity with documents; these tend to get longer as they become more comprehensive.

The respondents' views on the reasons were divided, although the vast majority thought that this was due to the guidance rather than wider issues. In particular:

- 50% of the respondents thought that this was due to the guidance or mainly to the guidance;
- 25% thought that this was due to wider issues; and
- 25% thought that this was due to both guidance and wider issues equally.

The reasons given on the guidance are as follows:

- politics and economics of flood risk management are changing continually, partly due to changes elsewhere in Government (e.g. Green Book) and partly due to new information (e.g. autumn 2000 damage data, new research on health effects of floods). Guidance documents and supplements have been issued in reactive manner, resulting in duplication and sometimes inconsistent information (e.g. data in MC Manual & Handbook); and
- the practice of CFMPs has largely evolved since the publication of the guidance.

Some of the changes proposed refer to the guidance (or wider) being more flexible to adapt to research and development, but also being easily accessible and directly relevant to the emerging practice of CFMPs. Possible options suggested are as follows:

- project appraisal meta-database: website/search engine, similar to Microsoft Help, containing list of all guidance documents and index of topics to direct practitioners to all relevant sections of the guidance;
- project appraisal reference book, containing latest guidance on all topics, re-issued every two years or so. Advantages: everything in one place; disadvantages: environmentally unsound, could be too large to handle,

would need supplementary notes for changes taking place between editions; and/or

- project appraisal handbook on internet (similar to HEC-RAS manual), available for reading online or printing. This would allow manual to be re-written and/or re-structured regularly without the need for distribution, for example, if a given topic becomes more significant over time or as new knowledge is generated by research.

The problems, their causes and the possible solutions to the problems are discussed during the workshops on the length and complexity of the guidance are included in Table 5.2, overleaf.

5.3 The expectations/aspirations of what an appraisal should include and of stakeholders and approvers are too high

Nine of the respondents (75%) agreed with the statement that the expectations/aspirations of what an appraisal should include and of stakeholders and approvers are too high. No respondent showed disagreement with the statement and all of those that responded that this was an important, very important or a key issue. One reason for this is the proportion of funding spent on project appraisal rather than construction is increasing.

Further reasons given among those that supported the statement are as follows:

- EA faces opposing objectives: streamlining requires the EA to reduce the proportion of expenditure on project development. Yet, a number of processes are required as project development increases, which leads to rising costs;
- some groups within the Environment Agency see the appraisal as the opportunity to achieve their goals and, thus, add their needs to the appraisal process. Then others wonder why appraisal is so expensive;
- the need to decide which is most important: quality or cost – cannot achieve the highest quality for the lowest budget – unless we develop more efficient processes;
- the ability to prove everything is not always cost effective (e.g. fragility curves on embankments can be many shapes and there is insufficient data to prove any). We must try and move away from tick boxes on forms; often the apparent accuracy is incorrect and deceptive. We must be able to use good engineering judgement;
- uncertainty is often forgotten when selecting the level of detail at which he appraisal should be carried out;

Table 5.2 Problems, causes of problems and solutions associated with the length and complexity of the guidance

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
The guidance is not applicable to small/low cost schemes – also concerns IDBs who often promote small schemes	Y	Y	<p>Appraisals are over detailed for smaller schemes. Guidance is inappropriate for smaller schemes – there is no system for exercising judgement/proportionate ways of applying appraisal</p> <p>It is necessary to ask ‘how much money should be spent’ and ‘is it worth doing this job’? This is then an issue of whether it is resources based or appraisal led</p> <p>The current system does not allow judgement to be exercised (e.g. EA Business Management System). For example, if there is a need to replace three groyne – should an appraisal be done?</p>	<p>Requires risk based approach. For small investment projects, the amount of effort put into the business case does not reflect the risk of getting it wrong.</p> <p>De minimus and/or cut down approaches</p> <p>The do-nothing should be considered at higher levels (strategy?) only. Whilst it is important to consider whether abandonment of maintenance or defences is an option, in most cases it is not a realistic one, particularly if social consequences is taken into account. Benefits compared with the ‘do-minimum’ would be a more meaningful economic measure. For smaller schemes, would cost-effectiveness be adequate? – maintenance could be done like this too</p> <p>Business as usual is a more sensible base for comparing options</p>
The guidance is difficult to navigate through	Y	Y	<p>Complexity and linkages</p> <p>Wider: differences in how guidance is interpreted and implemented</p>	<p>Needs to be easy to follow – short/concise bites. But existing content is good and should not be changed totally</p> <p>Need to consider financial thresholds – below £Xm a shorter PAR process; above £Xm a normal PAR process</p>
The guidance is too long/wordy/complex	Y	Y	<p>Complexity drives you to use consultants</p> <p>Lack of consistency</p> <p>PAG is currently a mixture of guidance and tools</p> <p>Too fragmented</p> <p>Not user oriented</p> <p>Better examples</p>	<p>General feeling that PAG series is well written and very useful</p> <p>Needs clearer linkages</p> <p>It is important that the length is a primary consideration when writing guidance - aim should be to reduce the length</p> <p>Consistency does not mean everything has to be done in the same prescriptive way</p>

Table 5.2 Problems, causes of problems and solutions associated with the length and complexity of the guidance

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Lack of overarching process/structure</p> <p>Guidance: multilayered, fragmented, uncoordinated – harder to prove not doing something than do something</p> <p>Moving goalposts, no framework</p> <p>Wider: differences in how guidance is interpreted and implemented</p>	<p>The guidance should not be bigger than it already is. If it gets longer/more wordy it is more likely to result in inconsistent application (more definitions mean there are likely to be more cases that do not fit)</p> <p>Guidance should be as short as it can to deliver essential requirements of the outcome</p> <p>Procedural document (overarching)</p> <p>Decision criteria – focused on when it is okay to stop</p> <p>Fitness for purpose</p> <p>It needs to be acknowledged that guidance and policy are different. There is a need for one set of definitive guidance that everyone works to. For example, the Environment Agency has its own interpretation of PAG4. It is important that the recipients of the appraisal, as well as the authors, are made repeatedly aware that it is only guidance and it should not be a substitute for the use of commonsense and engineering experience/judgement. It is essential to consider inclusion of a checklist of the minimum requirements that Defra (now Environment Agency) administrators will be looking for.</p>
The guidance is not specific or clear enough in some areas meaning judgement is required	Y	Y - attitudes	<p>Could one tool ever fit all situations?</p> <p>Strategy/CFMP/PAR guidance is inconsistent</p> <p>Wider issues drive inconsistency – guidance <u>allows</u> inconsistency</p> <p>Needs experienced users</p> <p>Current guidance contains some rules and some</p>	<p>The guidance needs to be flexible – the spreadsheets nearly always need to be changed (and can be)</p> <p>It is necessary to ensure that the appraisal meets the requirements of who is reviewing it</p> <p>The guidance needs to be aimed at different levels. The key issue is the detail at which you are working</p> <p>Outputs need to be prescriptive, but procedures do not.</p>

Table 5.2 Problems, causes of problems and solutions associated with the length and complexity of the guidance

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>guidance</p> <p>Need to keep CFMP and SMP guidance up to date</p> <p>Separate PAG volumes are not as well connected as a single volume</p> <p>Guidance: not a fixed environment. Need to be careful about introducing issues that are not purely related to appraisal guidance. Guidance tries to make one size fit all. Concern in terms of fit for purpose application. PAG guidance does not have continuous improvement</p> <p>Wider: attitude should be about 'fitness for purpose'. Issues with content</p>	<p>Bounds need to be set within the appraisal it has to stay (clear bounds would then avoid the need of having to go back to the beginning of the appraisal – if you step outside the bounds you have to justify why)</p> <p>It needs to be clear what the guidance is trying to do: outcomes need to be prescriptive (what you have to do) and tools should be defined (how you use guidance)</p> <p>Wider programme of training is required to implement, effectively, the training required</p> <p>A prescriptive framework would be helpful – with objectives (MSfW), metrics and a checklist. This would require Framework guidance and best practice</p> <p>Separate guidance from worked examples – allowing examples to be more easily updated</p> <p>Clarifying what is mandatory and what is guidance/good practice</p> <p>Need core elements with supplementary information separated out in presentation (what is essential, what is important, what is desirable)</p> <p>The way that/where guidance has been/is to be improved and needs to be highlighted</p> <p>Need to create and environment in consultant teams to succeed</p>
Too much jargon	N		Not an issue – workshop attendees did not agree with this issue	

- practitioners, approvers and stakeholder forget that the appraisal should only guide the decision making and should not provide a decision; and
- stakeholders tend to regard the strategic and long-term intentions of the CFMP as issues for the central government, and, therefore, stakeholders tend to respond to consultation by focussing on their own areas of interest which are not strategic.

Most of the respondents thought that this was due to wider issues. In particular:

- 78% thought that this was due to wider or mainly wider issues;
- 11% thought that this was due to both but mainly guidance; and
- 11% thought that this was due to both guidance and wider issues equally.

None of the respondents thought that this was due to guidance alone. The reasons given for wider issues include:

- in many cases the answer to the appraisal has already been selected even before the appraisal has been started. This, of course, raises the expectations;
- project appraisals are suffering from scope creep. New and revised guidance is issued, apparently without a 'guidance impact assessment' to assess the impact on the scope, quality, cost or duration of project appraisals; and
- the mechanics of the guidance are fine, it is the higher level issues which are important.

According to the respondents, some of the changes to the guidance (or wider) needed are as follows:

- 'guidance impact assessment' should be undertaken every time new or revised guidance is proposed, in order to assess the potential impact on quality, cost or time. If the cost of project appraisal is predicted to increase, two alternatives are possible. This involves either adjusting funding to take account of the proposed changes, or dropping another aspect of project appraisal to maintain constant cost;
- clear definition on what is and what is not expected in a PAR;
- more succinct guidance aimed at focussing CFMPs on strategic issues. The SEA process introduces extensive consultation on strategic issues to which stakeholders do not generally contribute. The SEA protracts the CFMP programme; and
- decide and explain the role of the guidance in terms of expectations and aspirations.

The problems, their causes and the possible solutions to the problems discussed during the workshops in terms of the expectations of those approving

appraisals and the aspirations of stakeholders are included in Table 5.3, overleaf.

5.4 Appraisals are not being used to identify the 'best' option, where this needs to be taken from the best bits of a number of different options'

Four of the respondents neither agreed nor disagreed with the statement; two respondents disagreed with the statement; while two others partly agreed.

The respondents argued their answer based on personal experience. Opinions were divided in the following manner:

- showing disagreement:
 - *'in my experience, we examine combined options and undertake mini-economic appraisals to identify the best options for each flood cell'; and*
 - *'addressing all the other needs of appraisal leaves little budget and time to properly consider all viable options'.*
- showing agreement:
 - *'some options such as the Ontario solution do not seem to be considered, nor are non structural solutions or changes to land use planning or building standards'; and*
 - *'best options in terms of economic, environmental and social impacts are put aside many times because they either not correspond to the preferred option in the minds of approvers, stakeholders or practitioners for a variety of reasons such as, cost too much money, do not represent enough investment, do not provide the levels of defence expected, etc.'*

However, few respondents gave reasons as to why this is happening with these being related to limited time/resources. All respondents regarded it as a quite important to very important issue (one on them stated that it was a key issue). Two respondents (13%) agreed that this was due to wider issues (not guidance specific).

Some of the proposed changes include considering non hard engineering solutions (e.g.: Foresight projects) and monitoring (e.g.: monitor how much time/cost is spent on this activity and/or monitor PA code).

The problems, causes and possible solutions to the problems discussed during the workshops in terms of a lack of optimisation of options are included in Table 5.4.

Table 5.3 Problems, causes of problems and solutions associated with the aspirations and expectation of approvers and stakeholders

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There are over-prescriptive requirements/ expectations	Y - low		<p>Although there were perceived over-prescriptive requirements, this was more to do with the bureaucratic approval process and those approving projects not understanding the guidance, which led those preparing projects to include everything rather than just what is important to that project</p> <p>The approval process (e.g. through NRG) is focused on the PAR document as the output (not even the appendices). Data that has been used to feed into decision-making is lost. The Environment Agency only keeps the PAR in its archive (plus EIA for legal reasons).</p> <p>Expectations vary because of lack of clarity about purpose of appraisal where CFMP/SMP ends/strategy ends/PAR ends – what is the role of pre-feasibility?</p> <p>Political aspects are not captured in the appraisal process</p> <p>Political influence can raise expectations</p> <p>The guidance does not specify the output leading to uncertainty, driver for perfection, perception of what the goal is/may be, boundaries of guidance are not clear – some are specific, some are open</p> <p>Studying everything to death – cannot see the wood for the trees</p> <p>Wider: interpretation by approving authority – expectation of approval and support throughout</p> <p>There is a desire to have every risk pin-pointed</p>	<p>Need to provide audit trail of thought processes which is a process requirement rather than a guidance issue</p> <p>Greater emphasis on PARs that are ‘fit for purpose’</p> <p>Earlier involvement from NRG/PAB</p> <p>Project Executive roles and responsibilities to be reinforced – better links with NRG/PAB</p> <p>Need guidance on purpose – definition of outputs (products) – template or checklist</p> <p>Guidance on what are core aspects and what are sensitivities</p> <p>Discipline and power of consent</p> <p>Approvers need to know the guidance</p>

Table 5.3 Problems, causes of problems and solutions associated with the aspirations and expectation of approvers and stakeholders

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Approvers expect to be approving a scheme – difficulty in how to approve a plan</p> <p>Mis-match in understanding between NRG, PAB and practitioner</p> <p>It is important that appraisal is not seen as a hoop to go through to get the required money. It should be about making the best decision. This implies a degree of specialism, those who are willing to use their professional judgement to make assumptions and to justify them</p>	
<p>Aspirations/expectations of stakeholders are too great</p> <p>Communities with experience and knowledge (or huge publicity such as Boscastle) have more clout with decision-makers than equally deserving but less informed communities</p>	Y - high	Y	<p>Guidance not clear enough</p> <p>Area teams sign off before NRG/Defra – seen to be a key customer. The number of people signing off an appraisal slows it all down</p> <p>Only occurs where communication/stakeholder involvement has been managed badly</p> <p>Mainly relates to CFMPs/strategies – due to CFMP/strategy/project not being done together – where does one end and the next start?</p> <p>Feedback is not as good as it should be (i.e. what will the state provide?, what am I responsible for?). NEECA PAR Quality Group – issue is limited feedback on PARs to learn from improving PARs</p> <p>Project managers ‘scared’ of failure. Failure of getting approval from NRG/Directors therefore time and money is spent on trying to achieve a ‘perfect’ PAR</p>	<p>Better guidance on how to engage and manage stakeholders and the consultation process. Need to be clear who the stakeholders are: public, statutory organisations, etc.</p> <p>Focus on appropriate stakeholder engagement</p> <p>Need for a hierarchy of decision process (order of priority) – indication of whether it is worth going back if criteria change</p> <p>Stakeholders need to be brought into the process early on. They can help bring in perceptions of what is important and can help identify the do-nothing option in a realistic way</p> <p>Selling to stakeholders has to be a high priority</p> <p>There needs to be guidance on how to manage public engagement, but also transparency for stakeholders to ensure they are engaged at the right time. It is important to avoid stakeholder fatigue</p> <p>Improved circulation of feedback</p>

Table 5.3 Problems, causes of problems and solutions associated with the aspirations and expectation of approvers and stakeholders

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Public engagement can often lead to lay disagreement with professional judgement, especially when they are personally affected. Communities at risk of flooding (CAROFs) need to recognise that most technical matters require professionals, but that the results had to be transparent with peer review forming an integral part of the approach</p> <p>Public expectation is do-minimum means never fail</p> <p>NRG could improve in disseminating feedback on PAR issue to local authorities</p>	<p>Public awareness needs to be considered. With the new guidance and new approaches people do not know how decisions are made, are often overburdened with questionnaires, meetings, etc. for the same defence area and still do not know where to go to get themselves and their concerns heard</p> <p>People with power to approve projects need to be involved much earlier. This would allow issues to be discussed early on in the process</p> <p>There is a need to emphasise the importance of starting with an open mind, but that this will be difficult where those involved in the appraisal have witnessed first-hand the misery caused by flooding</p>
Available budgets do not meet expectations of what can be done in an appraisal		Y	<p>Guidelines are not delivering enough technical appraisal – judgement is needed with hydraulic modelling, which is not reflected in appraisal. There is a black box where appraisal does not show a good technical solution</p> <p>EA Area staff do not appreciate what the appraisal process entails</p>	Need for review of Area team/client involvement – need education and better understanding of what the problem is and why there are delays at this stage. Also, Area teams are not informed on what the process is and how it can be used effectively
Other drivers, e.g. ABI		Y	Perception that there are separate drivers	ABI influence should be through Government
Need to better communicate big policies and application/relationships with legislation and its effect on an appraisal	Y	Y	Big issue options like community relocation are prevented from being included in an appraisal currently because it is not considered as a (politically) acceptable approach	Adaptation toolkit may help

Table 5.3 Problems, causes of problems and solutions associated with the aspirations and expectation of approvers and stakeholders

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Issue with different operating authorities, e.g. coastal or flood risk authorities working up separate schemes with varying priority scores	Y	Y	PAG does not help with an integrated approach	

Table 5.4 Problems, causes of problems and solutions associated with the lack of optimisation in options appraisal

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is a lack of a learning process through appraisal leading to regional inconsistencies	Y – medium	?	<p>All schemes/appraisals are different</p> <p>This may be linked to skills/lack of skills – flexible approach requires skills and interpretation of guidance requires skills</p> <p>A key issue is optimisation – what does it mean? PAG2 includes lots of references to the desirability of optimal solutions but very little about what this means. This needs to be explained or it will not be applied</p> <p>Need a clear understanding of what a PAR/strategy is doing – optimisation of investment?</p> <p>Analysis as it is currently undertaken gives best economic option – not necessarily best environmental option</p> <p>Appraisal is seen as a hoop to go through to get the required money</p>	<p>Use of examples and library/database of historic reports would be helpful</p> <p>Need to be able to take better account of non-structural solutions</p> <p>Need specific guidance on what optimisation entails in PAG2 as a clearer definition and explanation</p> <p>Appraisal should be about making the best decision. This implies a degree of specialism, those who are willing to use their professional judgement to make assumptions and to justify them</p>

Table 5.4 Problems, causes of problems and solutions associated with the lack of optimisation in options appraisal

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Lack of understanding of the guidance and the decision coming out of it by stakeholders	Y	Y	Communities at risk of flooding (CAROFs) as they will usually only have to study the guidance once	<p>There is an overwhelming need for an umbrella document accessible to all on optimisation and which includes clear distinction between strategy and specific scheme appraisal. This will allow people to draw their own conclusions</p> <p>It is important to make the process more transparent and to highlight that policy is fluid. Policy clarification and development is needed more urgently than improved guidance</p>
Appraisals are not being used to identify the 'best' option, where this needs to be taken from the best bits of a number of different options	Y	Y - mainly	<p>Laziness/limited resources and delivery pressures are restricting considerations and flexibility. There is also an issue of technical capability</p> <p>Not currently looking at wider and bigger and novel options, e.g. options of resettlement of communities, treatment of development control. No consideration of flood warning or flood resilience</p> <p>Within the spirit of PAG3, there is no reason why the 'best' option cannot be a composite of different options. The guidance does not say this should not be done, but it could encourage it more</p> <p>Options such as relocating communities, flood warning and resilience are not being considered.</p> <p>Guidance does not provide enough of a lead – current PAGs suggest identifying options and comparing them rather than providing a process that will lead to the 'right' solution</p> <p>Can be more expensive and time-consuming to appraise really good composite schemes</p>	<p>Need to improve expectations to look at option combinations</p> <p>Need to consider novel ways of reducing flood risk at different levels (if consistency is achievable, then OK)</p> <p>Greater alignment between guidance and 'Creating a Better Place' (Environment Agency's Corporate Strategy)</p> <p>Need for a feedback mechanism – to help avoid blind alleys and missed opportunities, must be systematic and a formal part of the process</p> <p>Need to engage planners more effectively</p> <p>Need to be confident in pursuing opportunities and not allowing the process to get in the way of really good solutions. Avoid being mechanistic</p> <p>Better encouragement within the guidance could help improve links between structural and non-structural solutions</p> <p>It is easier (and cheaper) to just do the comparison of options and there is also pressure to get the scheme built.</p>

Table 5.4 Problems, causes of problems and solutions associated with the lack of optimisation in options appraisal

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			Problem of mechanistic option development – those doing the appraisal are often too close to it and not in a position to stand back	<p>It is important that the problem and impacts are fully defined</p> <p>It is important, though, that every additional pound required by a composite (most sustainable) option is well spent. The decision rule may then go against the composite option as it might not have an incremental benefit-cost ratio of 3. MCA should bring in the environmental and social issues so this issue may reduce, but Defra need to consider how the decision rule needs to be revised</p>
No way of evaluating appraisals		Y		Need to be collecting data on what were the actual costs of a flood – then can compare with MCM estimated damages and look for specific factors that may make costs greater (e.g. remoteness of Carlisle)

5.5 There is a lack of skills to apply the guidance and it can be difficult to draw on expertise from other fields

Most (63%) of the respondents agreed with the above statement. Of those that responded (8), 50% agreed partly and 17% agreed completely. Some 47% of the interviewees did not answer this question.

The reasons given for this include:

- there are skills shortages within the industry; and
- lack of skilled staff.

Knowledge and experience takes time to develop due to extent of guidance, which needs to be maintained by regular workload. In practice, many people have a reasonable working knowledge but there are few experts. For example:

- risk assessment requires an understanding of the principles of risk and probabilities whilst the economic assessment requires the knowledge of basic economic principles;
- the guidance sometimes gives the impression that the various appraisal stages/steps can be done by anyone with no particular expertise when that is not necessarily the case; and
- good appraisal requires a range of skills which are not always available. Maybe more guidance on the composition of these teams could be provided.

All respondents noted that the lack of skills was a key issue, a quite important or a very important issue; this is because a lack of specialist skills may affect quality or cost of appraisal. Only one respondent stated that it was not very important.

A wide range of views were given when respondents were asked about the reasons why there is a lack of skills to apply the guidance. None of the respondents thought that this was due to the guidance alone.

Among the reasons given are:

- discontinuity of workload inhibits development of specialist skills; and
- perhaps it is important to ensure that graduates get a wide range of experience, rather than being labelled as 'modeller' too early.

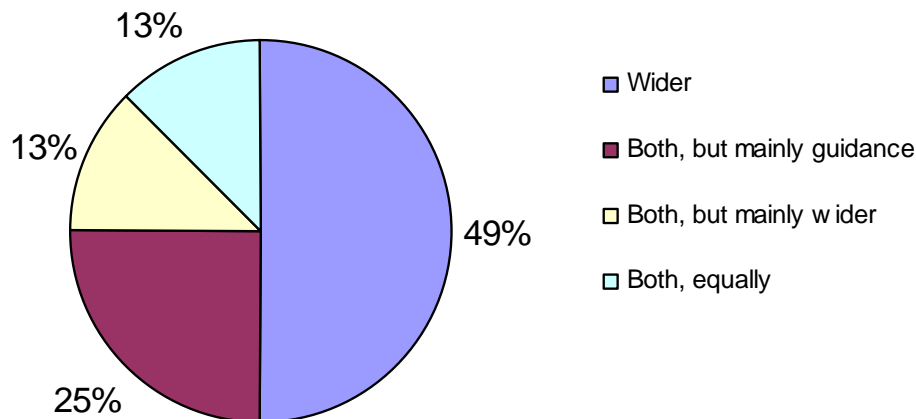


Figure 5.2 Do you believe that the issue 'there is a lack of skills to apply the guidance and it can be difficult to draw on expertise from other fields' is caused by a problem with the guidance or as a result of other/wider issues (not guidance specific)?

The proposals for changes are as follows:

- support the development of specialist skills through continuity of workload, then use those specialists to provide a national project appraisal advisory service. This could be a free or subscription service;
- industry needs to ensure rounded training; and
- re-work from scratch.

The problems, causes and possible solutions to the problems discussed during the workshops in terms of a lack of skills and expertise are included in Table 5.5, overleaf.

5.6 More worked examples are required for specific situations

Figure 5.3 shows respondents' views on whether more worked examples are needed. Evidently, the vast majority is of the opinion that more examples are required.

Some of the reasons behind the opinion that more examples are required in the FCDPAG series are as follows:

- the worked examples provided with FCDPAG3 spreadsheets are outdated;
- the existing four worked examples of the use of the FCDPAG spreadsheets needs increasing to cover other situations; and
- although, some argued that this was not related to the examples, but to the lack of understanding of the level of detail required on certain issues.

Table 5.5 Problems, causes of problems and solutions associated with the lack of skills and expertise

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is a lack of skills to apply the guidance	Y	Y – high-medium	<p>Lack of continuity and being able to be an ‘expert’ as people are moved around</p> <p>Skills shortage – but we do not manage our resources well. It takes time for new starters to get up to speed. There is concern over step-by-step guides because appraisal needs judgement built on experience</p> <p>No standard training materials</p> <p>Little training</p> <p>Lack of partnerships/collaboration (and time to develop them)</p> <p>Guidance: lack of consistency and clarity, worked examples currently included are too obvious</p> <p>Wider: problems at both implementation and approval stages</p> <p>Concern that there is also lack of capacity, e.g. in LAs, officers have many other competing tasks</p>	<p>SFRM.co.uk – gives examples of good practice</p> <p>More training and training materials</p> <p>Need to encourage others to build work/collaboration into their work plans</p> <p>Examples needed to reflect the nitty-gritty/good and bad</p> <p>Lessons learnt feedback</p> <p>Need for appropriate training</p>
Use of guidance by those who do not have sufficient experience		Y	<p>This is a management issue on how to manage the people who are undertaking the appraisal</p> <p>Inconsistency is driven more by corporate/individual behaviour rather than guidance</p> <p>Deliberate/unwitting exploitations of the uncertainty (priority score?) – uncertainties in modelling are not recognised</p>	<p>Need for less experienced staff to be closely monitored</p> <p>Close management of less experienced staff</p> <p>Separate guidance from examples</p> <p>More examples with reference to other information</p> <p>Appropriate training on application of guidance, including what is new</p>

Table 5.5 Problems, causes of problems and solutions associated with the lack of skills and expertise

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Junior staff have to learn</p> <p>There is a skills gap with not enough experts in social sciences. Guidance on this will not make those conducting the appraisal into experts. However, it is important that guidance does not tell us which experts to consult. It is also essential that we avoid creating specialists whose role is to undertake appraisals – this would miss the point of the appraisal process</p> <p>Not guidance that is the problem – often Environment Agency could improve managing ‘fit for purpose’ aspects of appraisals, e.g. preparation of a good brief</p> <p>You can never get a level playing field with too little prescription</p> <p>Does present guidance reflect the current state of knowledge, or is there a ‘catch-up’ delay involved?</p>	<p>Need right mix of experience in project team. Consultants need PAR ‘super experts’ to advise</p> <p>Need to share technical feedback with fellow consultants</p> <p>Building capacity of staff to better consider these issues</p>
Barriers between different sectors/fields	Y	Y	<p>MCA can cut across barriers</p> <p>There is little useful guidance on how to incorporate environmental/social impacts and at different scales</p> <p>Local authorities are short of expertise</p> <p>No look across to other public sector organisations on how this can link up</p> <p>Time lag issues</p>	<p>Clear guidance needed for consistent approach</p> <p>Need to identify issues at programme, rather than strategy and scheme, level – needs to be on a systematic basis, rather than tackling them as they arise</p> <p>Need to be proactive</p> <p>Widespread use of benefits transfer – need for development of the techniques for environmental and social issues</p>

Table 5.5 Problems, causes of problems and solutions associated with the lack of skills and expertise

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Skills shortage (identification of what skills are missing and how to get people to do the work)</p> <p>No strong central leadership on the development of techniques (particularly for environmental and social issues)</p> <p>Lack of social scientists? – there is plenty of expertise there, perhaps expensive to engage it</p> <p>How to know when to engage an expert? Main difficulty is making first links with new consultees</p> <p>It can be difficult to draw on expertise from different fields to make an appraisal more comprehensive</p>	<p>Need to focus experts on core issues</p> <p>Consolidate a core resource of skilled, trained appraisers who can exercise judgement as well as engage specialists</p> <p>Need for integration with planning for MSfW – planners have not traditionally been involved in appraisal. There is potential for planners to take account of ‘different’ options and to give a way of implementing it – e.g. relocation of a village</p> <p>The Land Use Plan needs to be linked with the high level strategy</p>
There is a lack of a learning process through appraisal	Y	Y	This may be linked to skills – flexible approach and interpretation of guidance require skills	

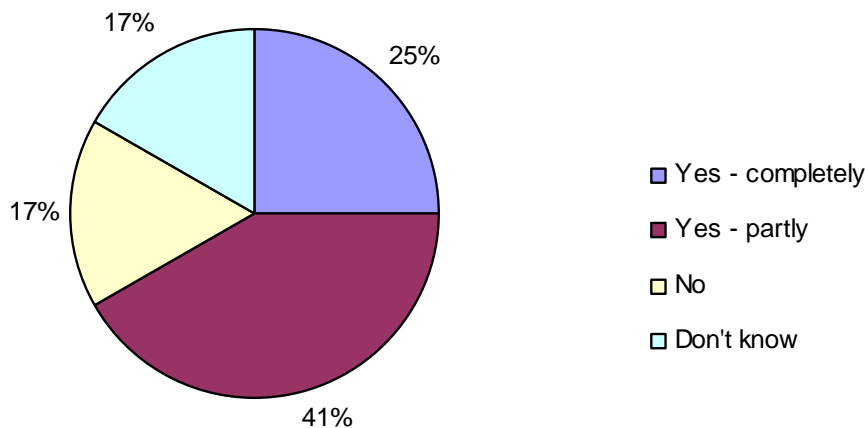


Figure 5.3 Comment: 'more worked examples are required for specific situations'. Do you agree with this comment?

Five respondents argued that this was due to the guidance; two responded that this was due to wider issues; and only one stated that this was due to both aspects. One of the potential reasons given for the former is that the guidance has been updated in stages, without corresponding revision of worked examples. The proposed changes are as follows:

- to provide a standard set of worked examples which are updated every time the guidance is revised; and
- to include more worked examples.

The changes are important so that there is an acceptable approach to specific types of appraisal, particularly for inexperienced staff and efficiency and consistency is improved. One respondent considered that this was not an important issue altogether.

The problems, causes of the problems and possible solutions discussed in the workshops in terms of the need for more worked examples are included in Table 5.6.

5.7 It is difficult to keep up with/find the latest version of guidance/supplementary notes

Around 66% of the respondents (6) though that it was difficult to keep up to date with the latest version of guidance/supplementary notes:

'Although updates are issued to operating authorities, consultants generally have to find out for themselves through the Defra website.'

'The volume of material with which practitioners are expected to be familiar is growing and changing rapidly.'

Table 5.6 Problems, causes of problems and solutions associated with the need for more worked examples

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Need more worked examples for specific situations	Y – mainly	Y – slightly	<p>Too often guidance does not ‘nail down’ the issue – leaving a number of ‘escape routes’</p> <p>Issue of how guidance is specifically applied</p> <p>Valuing habitat, environmental creation, etc.</p> <p>Danger that more examples will stifle innovation, e.g. when spreadsheets are provided it can be hard to innovate</p>	<p>Worked examples need to be used to demonstrate the process, not to give a process to be followed for every situation. It is important to avoid them being used counter-productively (e.g. trying to fit every project into one or other of the worked examples)</p> <p>There is a clamour for good examples, but it needs to be clear why these are being provided. It should not be an attempt to make all appraisals conform to the same approach</p> <p>Use of a checklist instead of worked examples</p> <p>Provide more examples in a separate document</p> <p>Web-based to enable rapid update and knowledge management</p> <p>Need for more flexibility, rather than constraining approach</p> <p>Need to communicate <u>why</u> examples are good – should not stop people being innovative – balance between innovation and consistency needs to be struck</p> <p>Need for borderline examples – showing why/why not justified</p> <p>Good appraisals should be made use of, e.g. in a library of reports. This could include different cost levels of projects (small-scale to expensive) and could encourage learning through good examples</p>

Another respondent argued that the Defra website provided good information on current guidance, despite the effort required to keep track.

Most of the respondents thought that this was mainly due to wider issues, such as occasional supplementary guidance being difficult to keep up dated. Other reasons include:

- EA does not manage this at all for its staff;
- too much material to assimilate successfully;
- poor EA procedures to communicate; and
- the time requirements.

The suggested changes are as follows:

- a dedicated appraisal website, possibly with notification when updates are issued; and
- an E-mail list for those undertaking studies.

Most of the respondents thought that this was a quite important, important or a key issue and only one respondent thought that this was not a very important issue. Some 65% of those surveyed did not answer the question.

The problems, causes of the problems and possible solutions discussed in the workshops in terms of the difficulty of keeping up with the latest versions of guidance are included in Table 5.7.

5.8 It is important to avoid the guidance being prescriptive (handle turning) and the perception that the rules are constantly changing

In total, 73% of the respondents agreed with the statement, the equivalent of eight respondents; and only two respondents disagreed with it. This is because most projects have some unique aspects; one size fits all approach unlikely to be appropriate. However, prescriptive guidance ensures consistent approach, but process must be sufficiently challenging to ensure that the work is thought through and to maintain interest in the job.

On guidance:

'Project appraisal requires intelligent and creative staff who will be more interested in technical challenges than 'handle turning' analysis. There is a risk of losing staff to other fields if project appraisal becomes too prescriptive.'

With regard to wider issues:

'Again mechanics is OK, it is the wider problems of priority scores etc which cause the problem'

Table 5.7 Problems, causes of problems and solutions associated with the difficulty of keeping up with the latest versions of guidance

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
It is difficult to keep up with/find the latest versions/supplementary notes	Y		<p>Not agreed that this was a guidance issue, but there were concerns that new versions are produced when appraisals are already part way through using the old versions (e.g. all of the revised FCDPAG3 spreadsheet templates incorporating the variable discount rate)</p> <p>The main difficulty is when a new version arrives in the middle of a project. With the Environment Agency guidelines, it is not always clear what has been changed</p> <p>Problem is more related to non-Defra publications – e.g. Environment Agency AMS, etc.</p> <p>Defra slow in introducing the latest guidance</p> <p>2003/2006 new publications keep on changing recommendations</p>	<p>Guidance needs to be succinct in core principles and statements to deal with change. (Web based publication to keep pace?)</p> <p>Clear ownership of processes, documentation and communication</p> <p>Control of update system (e.g. web)- updates need to be easily accessible</p> <p>Updating of guidance and the timing of updates needs to be co-ordinated with the development and revision of CFMPs, SMPs, strategies, etc. At the moment, the revision of plans and strategies usually finds that the goalposts have moved. There is a need to clarify when reviews need to be made, for example, after a particular event</p> <p>Use of a guidance website could update facts, prescriptions and set nationally applicable rules, and update people on changes</p>
New methodologies still need to be tried and tested and then incorporated into flexible open guidance manuals which respond to change and innovations				
There is a perception that the 'rules' are constantly changing			<p>People's perceptions are changing, people's emerging knowledge might also be changing</p> <p>Different levels need to have same/similar pressures</p>	<p>Rules not changing but process is (from Defra to Environment Agency)</p> <p>Formal 'change management' process</p>

Table 5.7 Problems, causes of problems and solutions associated with the difficulty of keeping up with the latest versions of guidance

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Currently the differences are not sufficiently explained in one place</p> <p>There is concern that we are answering the same question at the three levels (issues then exist of consistency problems when tools deal with different levels). Conversely, there are also concerns when answering different questions at the three levels – here, issues exist if the differences are not properly explained</p> <p>Guidance is evolving (MSfW) Process/policy/stakeholder engagement issues</p> <p>Do NRG know what they want?</p> <p>Lack of consistency of interpretation of existing guidance on project appraisal. No clear overarching guidance</p>	<p>Need to spend more time working on guidance clarity as well as guidance content, e.g. must know, should know, could know principle</p> <p>There is a need for updating to be considered in more detail. If core elements (i.e. those that are fundamental) are being continually updated, it has to be questioned as to whether this is a knee-jerk reaction. Alternatively, if updates have to be made too often, it suggests that the approach was not correct in the first place. It is essential that there is filtering on how often updates are to be made.</p> <p>Need space to allow understanding to develop in order to work. Every so often, need to review what has happened and clarify where necessary</p> <p>Overarching policy document needed that is reviewed at the same time as the Environment Agency's Corporate Strategy</p>
Policy keeps changing, guidance has to catch up and is, therefore, also constantly changing			<p>Delay in disseminating Defra guidance</p> <p>Appraisal process takes so long that guidance and policies have changed in the interim</p> <p>Moving goalposts – never-ending process always adding on information</p>	<p>Periodic (12 month or 2 yearly reviews) could be used with changes reported through a dedicated web-site</p>
Move from role of Defra to Environment Agency			<p>Those in Environment Agency reviewing and approving documents may not have sufficient understanding</p>	<p>Training and ensuring that determining board has appropriate skills</p>
Change of perception of PAG during lifetime of documents				

Table 5.7 Problems, causes of problems and solutions associated with the difficulty of keeping up with the latest versions of guidance

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
The Habitats Directives meant that the rules did change			But mainly it is a perception issue – potentially filtering down from the NRG reviews leading to precedents being set. Any sudden change to have to capture new issues results in a loss of flexibility	<ul style="list-style-type: none"> Need to avoid creating precedents Need to address mis-match – joint training Need intelligent client

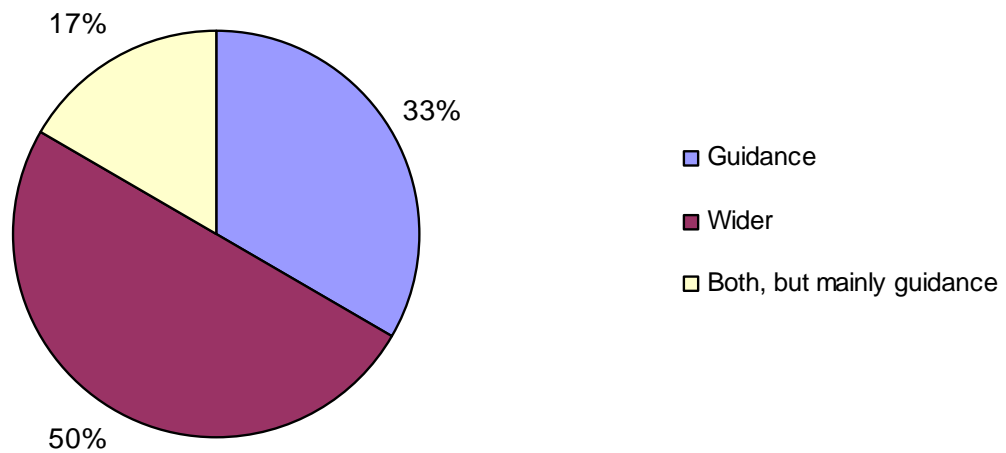


Figure 5.4 Do you believe that the issue 'it is important to avoid the guidance being prescriptive (handle turning) and the perception that the rules are constantly changing' is caused by a problem with the guidance or as a result of other/wider issues (not guidance specific)?

However, few changes were suggested. Some changes include avoiding black boxes and allowing for more expert judgement and 'lateral thinking'.

Most of the respondents did not express an opinion about the importance of the issue. From the seven that did express an opinion, five thought that this is an important or very important issue; and two that it was not very important. The reasons for being important include:

- the risk of project appraisal staff becoming disillusioned, particularly given long lead time between appraisal and construction and low level of tangible outcomes; and
- the impression that, at times, all appraisals should be the same, although this is not a simple task.

The problems, causes of the problems and possible solutions discussed in the workshops in terms of avoiding the perception that the guidance is prescriptive are included in Table 5.8, overleaf.

Table 5.8 Problems, causes of problems and solutions associated with the need to avoid the guidance becoming prescriptive

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
The guidance is too prescriptive	Y		Can be too prescriptive if not understood	Need to clarify what is guidance, what is an instruction, what is good practice
There are over-prescriptive requirements/expectations	Y - low	Y	Although these were perceived as over-prescriptive requirements the discussion was that this was more to do with bureaucratic approval process and those approving projects not understanding the guidance, leading those preparing projects to include everything rather than just what is important to that project	Need to provide audit trail of thought processes, which is a process requirement rather than a guidance issue
How to avoid the perception that guidance results in handle turning	Y	Y	<p>Linked to issues on prescriptiveness</p> <p>There is an attitude from reviewers that appraisals 'must comply with guidance' and a perception that it is either handle turning or not. Reviewers do not always understand why a specific requirement has to be there, they just want to see it</p> <p>Confusion over what is important in each of the manuals, etc.</p> <p>Need to emphasise <u>why</u> guidance is there</p> <p>Not clear what is prescriptive</p> <p>Effects of assumptions of do-nothing can be significant in outcome</p> <p>Problem explained as being a bit like jumping around a show jumping arena – you know the height of the fences, but how do you get over the 12 foot fence at the end?</p> <p>Not sure how to manage the complex CFMPs/SMPs/strategies/schemes that are on the horizon</p>	<p>Need the core principles set out (framework)</p> <p>Need to refer back to Treasury rules</p> <p>Need to say bits are mandatory and others are flexible</p> <p>Need for good explanation in the introduction</p> <p>Need for early stage checklist of assumptions for the do-nothing option key choices</p> <p>Evolutionary elements are needed to create real change, e.g. gateways/filters to help you decide how much further to go and when to stop (how to pull out 'no brainers' and 'non-starters' to focus on the more complex investment problems)</p> <p>Need to define what is core and where there is a degree of freedom and that professional judgement has to be exercised</p> <p>This could be a form of decision tree approach</p>

5.9 There is no guidance on how to include environmental and social issues, what should be included, how far impacts should be monetised and there is concern that inclusion of environmental and social issues may not be accepted at the approval stage

Eight out of eleven respondents agreed with the statement that there is no guidance on how to include environmental and social issues:

'The perception is that at the approval stage if the basic economic outcome for an individual scheme is not the best when compared with others it will not progress. Priority scores are fundamentally economic measures.'

However:

'There is also a danger that environmental issues may dominate thanks to the way in which England has chosen to transpose the EU Water Framework Directive. It is not holistic and there is no consultation with the insurance industry which ends up paying the bills. Scotland has done things very differently.'

One respondent noted that guidance is available (in FCDPAG3 supplements and FCDPAG4, as well as English Nature documents); however, these could be more accessible.

Some 7 respondents gave their views on the reasons for this. Figure 5.5 shows the views of those that responded.

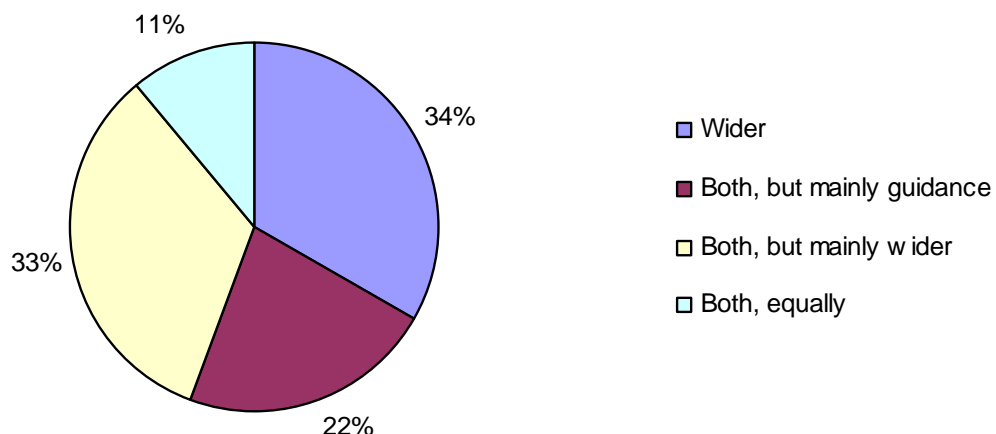


Figure 5.5 Do you believe that the issue 'there is no guidance on how to include environmental and social issues, what should be included, how far impacts should be monetised and there is concern that inclusion of environmental and social issues may not be accepted at the approval stage' is caused by a problem with the guidance or as a result of other/wider issues (not guidance specific)?

Wider issues relate to:

- PAG3 guidance;
- previous practice: Defra regional engineers have normally paid less attention to environmental and social issues than to economic issues;
- lack of acceptance on the part of the approvers of some of the new techniques that can be used to tackle this issue; and
- Damage to the built environment is still the priority.

Some changes suggested include:

- more engineering/environmental judgement based on good science;
- guidance on the Importance of Environmental and Social Issues to be included and approvers to be educated on its importance; and
- new developments (e.g. valuation) and techniques (e.g. MCA) should be included in the guidance as soon as possible, even if just through a supplementary note.

Some 26% of those that responded thought that this is a very important, an important and/or a key issue to be resolved. Only one respondent thought that this was not an important issue that needs solving. This is because:

- it could be hindering the selection of the truly preferred option and therefore hindering good decision making;
- need to achieve a balanced project appraisal; and
- the Environment is becoming more important and this would help encouraging environmental enhancements as scheme goals.

The problems, causes of the problems and possible solutions discussed in the workshops in terms of how to include social and environmental issues are given in Table 5.9 overleaf.

Table 5.9 Problems, causes of problems and solutions associated with the inclusion of social and environmental issues

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is no guidance on how far impacts should be monetised	Y - medium	Y	<p>What is the unit of measurement? – if money is used, how will it be justified – we cannot measure ‘happiness’ or ‘hope’ in money terms</p> <p>There is also the potential that reducing flood risk could act as a prime for many other projects (regeneration), which cannot be captured in the appraisal at the moment (guidance does not allow it)</p> <p>Not everything can have a money value ascribed to it</p> <p>Guidance is available, but is not currently tailored to flood risk management needs</p> <p>There is inconsistency at the moment - systems can be distorted. The balance is too biased towards recreational benefits</p>	<p>(Can the guidelines be updated without answers on MCA and Sugden?)</p> <p>Guidance needs to be tailored to flood risk management</p> <p>Need transparent use of ‘balance sheet’ – like Appraisal Summary Table so that not all attributes are costed through monetary valuation but can still be taken account of in decision-making – those that are monetised are then not ‘lost’ in the overall estimate of benefits</p> <p>A consistent national approach is needed, which is more specific about the topics that are to be covered and how</p> <p>Guidance and training is required</p>
There is no guidance on how to include environmental and social issues	Y - high	Y	<p>There is guidance (e.g. PAG5) but it is very general – is there a need for a more formal scoping method to identify whether there are any environmental/social impacts?</p> <p>What is the unit of measurement – the use of different units makes it difficult to balance environmental/social impacts with economic impacts – should we be looking in qualitative or quantitative terms – that is the biggest problem E.g. social cohesion (what is the impact of losing one village on another, loss of shop/post office, etc. – this is difficult to measure even for the first village)</p>	<p>It may be useful to have a series of tables asking whether there are impacts on a particular type of asset – if not, there is no need to carry on</p> <p>What information is the decision going to be based on? Is the information available – the availability of base data is likely to be a key issue</p> <p>Need Defra/Wag policy objectives plus indicators plus targets (plus priorities) – needs to link with ODPM policy and RSS/LDF</p> <p>CFMPs and SMPs are attempting to use sustainable development criteria</p>

Table 5.9 Problems, causes of problems and solutions associated with the inclusion of social and environmental issues

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>The PAGs include lots of qualifiers which gives flexibility, but they could also be interpreted as get out clauses</p> <p>Environment – PAG5 – perceived as a bolt on approach</p> <p>Environmental Assessment is difficult to integrate into the decision-making process; for social issues there is a even less robust process</p> <p>There is guidance on environmental issues but it is not clear how to use it in decision-making</p> <p>Social issues: policy and guidance are lacking</p> <p>Social and environmental objectives are not clear – what does the objective to manage risk to people really mean?</p> <p>There is a skills gap with not enough experts in social sciences</p> <p>Wider: should we be able to spend FRM money on environmental enhancements?</p> <p>Limited influence of social and environmental issues on priority score</p> <p>Vagueness about environmental/social issues. Are the identified issues in the Guidance the most relevant?</p> <p>Environmental and social aspects are only a bolt-on – technical aspects in the guidance is a given</p>	<p>Appraisal, priorities and funding must all line-up</p> <p>Supplementary guidance is needed on social issues</p> <p>The goalposts are unclear – they need to be clarified – how important are environmental/social issues now in terms of decision-making – how important will they be in the future?</p> <p>Need to avoid environmental and social issues being seen as coming in at the end (too late)</p> <p>Policy is needed on social issues and on spending money on environmental enhancement</p> <p>Training is required on how to include non-monetised benefits – to what extent do they need to be monetised?</p> <p>Need for a checklist to guide people assessing environmental (and social) issues</p> <p>Need for a consistent approach and explanation of how environmental and social issues are to be incorporated into a PAR, and how they will contribute to decisions of allocations of limited funds</p> <p>Need better balance between environmental and social issues and other issues such as property damage</p>

Table 5.9 Problems, causes of problems and solutions associated with the inclusion of social and environmental issues

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>What is acceptable risk?</p> <p>There is a whole raft of issues/benefits that are not currently being included in the appraisals, such that the overall environmental and social benefits of a scheme are under-estimated. For example, when looking back at a non-structural scheme after it has been implemented, it is clear that there are benefits such as improved amenity, reduction in crime, etc. Such benefits are not captured as there is little evidence – they can only be seen after a scheme has been implemented and are difficult to predict in advance. The key difficulty is the certainty of deliverables. With a wall, there is certainty. If you are creating something which has the potential for benefits, how are those benefits to be measured? Similarly, impacts on communities are not included</p> <p>A discounted cash flow approach for coastal erosion cases might be used. Other issues also need to be included such as recreational losses, loss to quality of life. Investments come too late to counteract the value of the loss (i.e. school going over the cliff!)</p> <p>There is a tendency to throw out social/environmental values and issues because there is no clarity on how to measure these, no commonly accepted approach, no common assessment procedure and the difficulties in quantifying qualitative measurements</p>	

Table 5.9 Problems, causes of problems and solutions associated with the inclusion of social and environmental issues

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Risk that appraisals including non-monetised environmental and social issues are not accepted		Y - high	<p>A PAR based on social/environmental issues may not be considered as favourably as one containing property damage issues. Why and how can social and environmental impacts be considered as paramount factors?</p> <p>NRG is a constraint – could be active in helping ensure environmental/social issues are considered. People are not willing to put forward higher cost schemes with environmental benefits because they do not want their schemes to be turned down</p> <p>Professionals are not being allowed to exercise their judgement – what is given as ‘might’ in the guidance is interpreted as ‘must’ at the approval stage. NRG are not flexible enough</p> <p>Non-monetised issues may not be presented well</p> <p>Lack of confidence in submitting a fully transparent business case</p> <p>FCERM is aimed at risks to people but social issues are not explicitly considered</p> <p>Value of health impacts is very low (£200 per property per year)</p> <p>Community impacts are difficult to assess but may be very important</p>	<p>Defra to issue guidance on this area</p> <p>The Multi-Coloured Manual should be cut down to size, and realigned to ensure that emphasis is given equally to environmental and social issues as well as property damage etc.</p> <p>Need to go back to the objectives of MSfW – there is the potential to start new guidance from the top-down, therefore, reducing the need to redo work as this will have been undertaken at a higher level</p> <p>Include these and ensure effective presentation, e.g. in AST, balance sheet type approach to improve transparency</p> <p>NRG have to be more flexible, open-minded and less risk averse!</p> <p>Clear policy and guidance is required, with training</p> <p>Need to move to objective led approach – but how to compare different objectives?</p> <p>Consideration of blight?</p>
No clear definition of sustainable SMP2 Guidance)	Y		In community safety and coast protection PARs there is no clear procedure to measure and weight the loss of community infrastructure and	Needs to be more consistency/guidance in defining ‘community value’

Table 5.9 Problems, causes of problems and solutions associated with the inclusion of social and environmental issues

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>cohesion, as the school, the post office, etc. are washed away</p> <p>There is a limited reference to sustainability in PAGs because they were written before sustainability became an accepted issue</p>	Need more equitable comparability criteria between communities and a transparent system
How can social impacts be included?	Y	Y	<p>The cost of risk of life needs to be included</p> <p>How are social issues going to be woven into decision-making and the appraisal process?</p> <p>The EA have always prioritised their investment, but there has not been an equitable or transparent process</p>	<p>Need to resolve at source what is done with loss of life</p> <p>Needs guidance at the policy level rather than ‘challenge’ at the project level. It was considered that the Environment Agency have not yet been tested on the loss of life issue. For example, where a decision is made to do something (or not do something) which results in drowning, etc.</p>
Indicative standards	Y		The first issue raised was inconsistency being a major problem, particularly in terms of local communities when there is compartmentalisation. There is an equity/social issue in terms of compartmentalisation such that indicative standards could be thought of as a measure of social equity	
Priority score allows a maximum of 10 or so for environmental/social impacts	Y	Y	There is a potential issue of double counting if social issues are included in the priority score (e.g. index of deprivation). This should not be a problem if they are being used in separate processes, i.e. equity multiplier is used in the appraisal and deprivation index used for prioritisation	<p>Prioritisation must mimic the appraisal</p> <p>Priority score, appraisal, etc. need to be lined up correctly – prioritisation should not just be on economics</p>

Table 5.9 Problems, causes of problems and solutions associated with the inclusion of social and environmental issues

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Equity/distributional issues are not taken into account	Y	Y	There are currently lots of different methods to take account of equity, what tends to happen is people use the approach that is most likely to push their scheme ahead. This highlights the problems that are faced when trying to take account of equity. It is important to know what is the driver – if it is economics then one set of solution is likely to provide the best approach, if using social issues as the driver, a different set of outcomes would result.	<p>The ‘Sugden’ approach is likely to be useful as there may be a large number of schemes that will become viable as local businesses/people get together to provide a contribution. However, this could preferentially benefit wealthier communities (providing the additional contribution to increase the benefit-cost ratio such that the scheme would go ahead). This could affect poorer areas who could not afford the input required to increase the benefit-cost ratio. However, the equity multiplier approach could then be applied to avoid poorer communities continuing to be disadvantaged. It would have to be applied in all cases, including wealthy communities. However, wealthier communities tend to have more political pressure and louder voices</p> <p>It will be important to take account of the population that is being protected, e.g. the issue of protecting one property worth £1 million, rather than 50 with a combined worth of £0.9 million</p> <p>It is essential that there is not a long-list of approaches that can be selected from, as this is likely to favour all schemes</p> <p>Equity is more of a political issue than a FCERM issue. Hopefully, over time, the money needed to provide what we want to provide will be forthcoming. This raises the political question of ‘do we want to protect everyone?’.</p>

5.10 Organisational inertia means that the most sustainable solution (which may be non-structural) is not being selected as the preferred option

Figure 5.6 shows respondents views on organisational inertia.

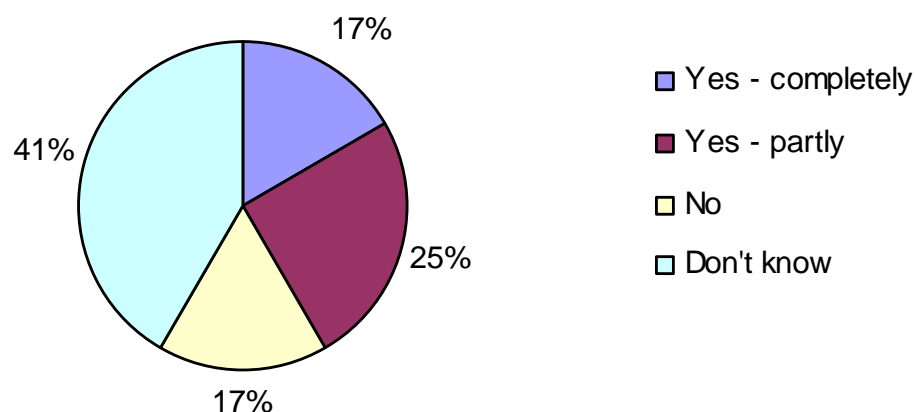


Figure 5.6 Comment: 'organisational inertia means that the most sustainable solution (which may be non-structural) is not being selected as the preferred option'. Do you agree with this comment?

The reasons for the majority of respondents agreeing with the statement on the most sustainable solution are as follows:

- often it is very difficult to deliver non-structural projects ; and
- “Treasury Rules” are not always visible and do not apply across the UK, e.g. Scotland.

Respondents that thought that this was due to wider, or mainly, wider issues, suggested that:

- in reality it is often very difficult to deliver managed realignment (for example) and it is often easier for many to avoid the issue; and
- civil engineers assume civil engineering solutions. The process is still framed around hard engineering solutions.

The suggested changes include:

- guidance on delivery of unusual projects, financial mechanisms, long term planning; and
- give priority to sustainable flood management, as in Scotland.

One respondent added that changes to the approving bodies were required. All the respondents thought that this was either quite important, important or a key issue.

The problems, causes of the problems and possible solutions discussed in the workshops in terms of organisational inertia and the consideration of non-structural solutions are given in Table 5.10, overleaf.

5.11 There is currently no consideration of scenarios or links with policy changes such as Making Space for Water, Foresight, climate change and the Water Framework Directive

Two thirds of the respondents agreed with the statement that there is currently no consideration of scenarios or links with policy changes. One third disagreed, and one third were unable to answer. The response rate for this question was 52%, i.e. 12 respondents.

Some of the views include:

- lack of joined-up thinking leads to discrepancy between policy, research outcomes and guidance. For example, project appraisal period has been extended from 50 to 100 years, but climate change guidance has not been extended in parallel;
- the EU Solvency II Directive, the ABI Statement of Principles, the EU Flood Directive, and issues such as the Olympic village site (35,000 new homes in floodplain) and Thames Gateway; and
- the refusal to modify building regulations which would help make buildings more resilient, not taking into account the data from the National Flood Insurance Database, lack of acknowledgement over the moves being made in Sweden or Norway, the successes in Ontario, or the detailed research in Australia.

One respondent stated the following:

'All this displays a parochial blinkered approach. Some insurance companies feel they can no longer afford to condone such an approach'

Table 5.10 Problems, causes of problems and solutions associated with organisational inertia and the consideration of non-structural solutions

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Organisational inertia that favours the 'tried and trusted'	Y	Y	<p>There are traditional conservative views and historical practice, but also the perception of consultees – they like to see a defence, therefore, care is needed when promoting schemes such as washlands</p> <p>Are we looking forwards enough to deal with 'sustainable' – the focus is on the next 10 years</p> <p>The guidelines are not based on sustainability criteria</p> <p>PAG does not encourage consideration of non-structural approaches – <u>but</u> we tend toward capital and structural solutions</p> <p>The separation of capital and maintenance funding does not help (i.e. other operators) – Grant-in-Aid could help overcome some of the reluctance to follow non-structural routes</p> <p>Strategic and technical plans must work in combination</p> <p>Partnering is difficult and risky, but is required by MSfW</p> <p>Difficult to quantify benefit of non-structural solutions</p> <p>People prefer to avoid court procedures, public enquires, etc. so stick to the tried and tested which tends to avoid protracted arrangements</p>	<p>Guidance required on how to appraise e.g. flood warning projects as an option, washlands, and compare with harder solutions</p> <p>It is necessary to consult in a meaningful way – needs education and selling of benefits of sustainable solutions</p> <p>There is a need for planners to 'own' the problem (but planning base data is very poor)</p> <p>Guidance needs to promote non-structural, whole-life costs, etc.</p> <p>CFMPs must work properly</p> <p>Action plans are required, with more closer working with regional planning bodies – partnership approaches</p> <p>Need to better define what a 'scheme' is and how to quantify the benefits of non-structural solutions</p> <p>There is a need to consider other scenarios than just carrying on defending, e.g. retreat to the hills, to avoid skewing investment decisions. Stopping development behind the defences is one way of stopping the continual increase in consequences</p>
Non-structural issues are not included in early PAR planning stage	Y		The change in emphasis from reactive flood defence to proactive flood risk management had not been matched by sufficient Guidance (re Policy 2003)	Need to be able to take better account of non-structural solutions

Table 5.10 Problems, causes of problems and solutions associated with organisational inertia and the consideration of non-structural solutions

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>PAR approval process may not fund a do-nothing or non-structural approach. This is a screening issue, and is related to the lack of emphasis given to environmental/social issues and the low capacity of decision-makers in understanding new (un-tried and un-tested) approaches.</p> <p>Lack of clarity and transparency about the Institutional Framework of Appraisals processing</p>	<p>The guidance needs to be flexible and responsive to external changes/policies etc</p> <p>Need to better clarify the move from flood defence (FD) to flood risk management (FRM) and guidance should reflect this change</p> <p>The current change from FD to FRM will necessarily change the tried and trusted approach</p> <p>Guidance should encourage the risk-based approach more than it currently does to make more use of new methods</p> <p>The guidance needs to look at how assets are managed and how whole life investment can be used to get the most out of any particular asset; we are not just considering new assets. There is emerging thinking on how to do this, therefore, the guidance needs to take this into account. The economic appraisal on asset management is different from that for higher standards, with the decision more concerned with when you need to replace the asset</p>
Integrated urban drainage, sewer flooding, wash off		Y	<p>Integrated drainage schemes – thunderstorms overwhelming local drainage systems – different standards of protection are used in sewerage design – there is no statutory standard. This can lead to major social issues</p> <p>The only control on surface water disposal is from new developments – controlled by planning authorities</p>	<p>Developers must consult with water companies over sewage connections (recent requirement)</p>

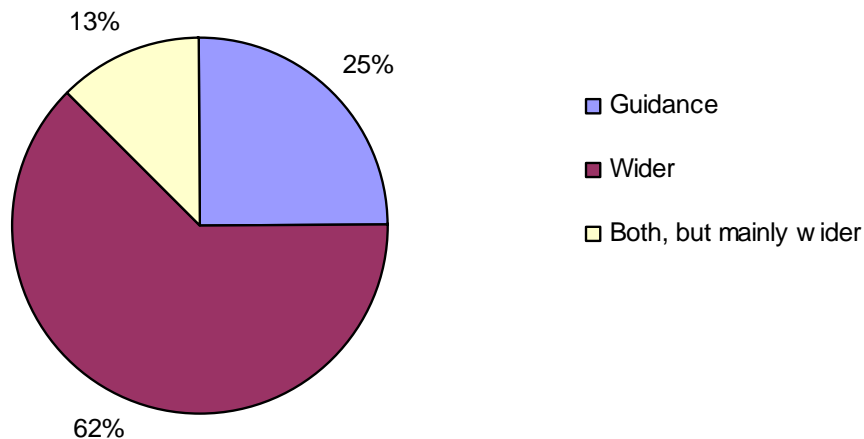


Figure 5.7 Do you believe that the issue 'there is currently no consideration of scenarios or links with policy changes such as Making Space for Water, Foresight and the Water Framework Directive. Climate change (e.g. for the fluvial environment) has limited guidance, extreme events (catastrophes) are not taken into account and it is difficult to predict what will happen over 100 years' is caused by a problem with the guidance or as a result of other/wider issues (not guidance specific)?

Views were divided as to the reasons behind this lack of consideration.

Wider issues include:

- different organisations being responsible for policy, guidance and research; and
- different approach between industry and Government.

As for the guidance:

- guidance can not constantly be updated, there will be times when it is behind the times.

Proposed changes include:

- co-ordination of all aspects of flood risk management required, probably led by Defra, to ensure that any changes are addressed across the board;
- more suggestions on the options to be considered and the way they could be delivered; and
- make guidance a living document (include climate change).

Another respondent suggested starting over and rewriting the guidance from scratch.

All respondents thought this was an important, quite important or a key issue. The reasons given include:

- horizon scanning needed to ensure that all new and forthcoming issues are taken into account, to reduce risk to public, target expenditure appropriately and avoid embarrassment. Consistent policy and guidance should set the standard for practitioners (lead by example), ensure a consistent approach to appraisal and to avoid wastage due to confusion;
- issues are central to flood and coastal erosion risk management; and
- most of those undertaking appraisals do have this in mind; although, a 100 year horizon is a major challenge.

The problems, causes and possible solutions to the problems discussed in the workshops in terms of the use of scenarios and links with policy changes are given in Table 5.11, overleaf.

5.12 There is a lack of guidance on how to deal with uncertainty, the large degree of uncertainty in the do-nothing baseline and how to undertake sensitivity analysis

Only 17% of the respondents disagreed with the statement that there is a lack of guidance on how to deal with uncertainty. The response rate for this question was 52%, i.e. 12 respondents.

Some of the views include:

- assessment of threshold flood and standard of protection is confusing and status of fluvial freeboard guidance is unclear. Rule of thumb for freeboard varies between EA Regions and Areas;
- definition of the do-nothing scenario is difficult and prone to wide variation, e.g. proportion of structure blockage, impact on EA functions outside flood defence (e.g. Development Control);
- the 'do-nothing' option is usually unreal, often illegal and provides a very bad way of prioritising between schemes. Do-nothing should be considered in the appraisal (as it may be the best thing to do) but must not be used to prioritise schemes; and
- uncertainties over 100 years are large, and yet forecasts often show a single outcome -- uncertainties need to be communicated better.

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Links with policy changes have not been made	Y	Y	<p>The change in emphasis from reactive flood defence to proactive flood risk management has not been matched by sufficient guidance (re Policy 2003)</p> <p>Guidance was written before MSfW, Foresight, etc. happened, therefore, the guidance does not support these</p> <p>Reactive adjustment to change – new policies always means that guidance is transitional – moving from what we have done in the past to what we will do in the future</p> <p>Guidance has not kept up with Government policy</p> <p>There is the potential that expectations are raised that we are building for the future now, when the economic case may result in it being best to build later</p> <p>Practitioners latch onto 'bits' of policy before clear Defra/EA policy is formed</p> <p>There is a limited reference to sustainability in PAGs because they were written before sustainability became an accepted issue</p>	<p>Need to better clarify the move from flood defence (FD) to flood risk management (FRM) and guidance should reflect this change</p> <p>Twelve month review to match guidance to new strategy/policy</p> <p>Danger of a 'loose leaf' approach</p> <p>Consult website for changes. A single contact point to go to for updating (targeted/ manageable) not Defra web-site, but specially developed site such as a specific guidance site, for example www.sfrm.co.uk, potentially to supplement guidance and help update PARs. How to avoid overload? Need prescription on the same rules that are to be applied nationally</p> <p>Defra – institutional size makes it hard to change data on web-sites easily and to find specific data easily (EA is the same). EA to be more proactive re: policy development and engaging policy makers and practitioners</p> <p>Guidance to include new areas, e.g. frequently asked questions (e.g. how if WFD addressed, etc.), plus some traditional guidance</p> <p>Need discipline to stick with current practice until new policies have been thoroughly worked through to give consistent approach and operational guidance provided – need to speed up the inclusion of new policies to help avoid an ad hoc drift to inclusion of policy changes</p> <p>Need to manage expectations and inform decision-makers accordingly</p>

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Need for updating in line with Making Space for Water, Foresight, Water Framework Directive, etc.	Y	Y	<p>Foresight Agenda/Risk in PAGs: physical risks vs. values placed on changes. The problem is in assessing risks in FRM to human life, and how to quantify value of each life</p> <p>Communities with experience and knowledge (or huge publicity such as Boscastle) have more clout with decision-makers than equally deserving but less informed communities</p> <p>Coastal vs. fluvial PARs: Calculation of benefits for people is different as the larger social impact of losing a property over a cliff with no redress had a greater impact than recurrent or occasional flood damage</p> <p>NCPMS is focused on the capital programme, but is starting to look at other toolkits. The guidance has not kept up with this move away from capital schemes. The move now is towards multi-agency plans. MSfW is advertised as a cross-government document. Flood risk management cannot be considered as a single issue, it has to look wider</p> <p>Links with other interests, e.g. ABI, PPS25 are also important. Not all of these interests are pulling in the same direction. For example, the ABI is pushing for a standard of 1 in 75, but the indicative standard is 1 in 50 for urban areas. There is a major social issue if communities are unable to get insurance. If a new indicative standard is set at 1 in 75, what is to stop the ABI then asking for a 1 in 100 standard?</p>	<p>Need one strategy for an area which covers all policies. Production of one master document for an area. Need to collate different guidance manuals into one policy approach and one useable document (to allow for interpretation of different policies)</p> <p>Need one strategy report (like WFD) – for fluvial and for coastal</p> <p>There needs to be greater clarity for the public as to what is being produced by following PAG3, but need to avoid consultation overload</p> <p>Defra still focuses on policies and EA on allocations. There were some questions as to their different roles</p> <p>In 5-10 years time (once the number of new policies and strategies slows down (hopefully)), there needs to be a synchronised approach – currently schemes and strategies are being developed before policy</p> <p>One such issue was the real challenge to separate guidance from ‘defective’ policy. There is a need to educate policy evolution and to get an external understanding between guidance and policy. There also needs to be a process for complaints to be addressed to the appropriate people.</p> <p>Guidance and policy are inconsistent Guidance has grown/developed but there is a mismatch with policy</p> <p>Need greater co-ordination</p>

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			Policy keeps changing; guidance has to catch up and is, therefore, also constantly changing. Periodic (12 month or 2 yearly reviews) could be used with changes reported through a dedicated web-site	
Climate change is hardly taken into account	Y	Y	<p>There is little guidance on dealing with climate change for the fluvial environment</p> <p>For coasts, the guidance is prescriptive, but this is not the case for rivers. There is inconsistency in the fluvial situation – development control guidance is inconsistent with flood risk management guidance</p> <p>There is lots of guidance but it is inconsistent (this has been recognised and changes are being made)</p> <p>Science – uncertainty</p> <p>Robust/future-proofing/flexibility for future changes</p> <p>Guidance does not address what to do if the outcome is shown as sensitive</p> <p>PAG sensitivity test is not consistent with PPG25</p> <p>Building in climate change now might be economical for one scheme, but doing so may take money away from a second scheme</p>	<p>Guidance to provide non-prejudicial solutions (no regrets) – we need long-term ‘no regrets decisions’ – we need to be able to adapt</p> <p>Need to identify best solution at the time (sensitivity and scenario)</p> <p>Design schemes for flexibility to adapt rather than trying to solve all of the problems now</p> <p>Update guidance to ensure consistency</p>

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Is the 20% figure for increases in river flows refined enough?	Y	Y	<p>20% to cover 50 years – do you add 20% still after 25 years? Who is assessing climate change? Also, is it 20% from 2000? PPS25 draft consultation suggests an increase in peak flow allowance of up to 20% for a given return period by 2050 and 30% by 2110 (pg 24 of 99). This is a precautionary estimate (one of the highest predicted figures), but which climate change model is it based on? Using different models, you can get very different results. Issue of how to deal with a 20% adjustment for fluvial flows when this cannot be accommodated in valley floors again raised the need for linkages with land use planning, with consideration given to whether the 20% figure is causing blight of land. A question was asked as to the relationship between the 20% figure and the UKCIP scenarios</p> <p>Appraisals over 100 year period – is it a straight line – do we have 40% (as from Defra) or after 50 years?</p> <p>What happens if there is a new recommendation of 30%? Are the implications of this understood? The estimate of 20% is driving some CFMP policy directions and could be blighting land that could have been important for development</p> <p>The guidance does not indicate where/how policies feed down into strategies. There is a need for a logical sequence of steps for delivering flood risk management in the way that MSfW intends</p>	<p>One approach could be to consider what is the natural capacity of the valley floor – is there a need to open up the river system – trying to persuade people to make space for water – for flood conveyance, amenity, etc. – but economics is ultimately decision-making criteria – cannot make current generations pay for reductions in risk in the future</p> <p>Could plot log-log valley width versus capacity – the cusp on the curve may help identify the ‘best’ outcome. This should be done at the high level – it has to be sorted out at the high level, cannot be considered at the project level, therefore, need different guidance at the different levels</p>

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
<p>Scenarios are not covered in guidance</p> <p>Social and economic change, political change need to be included</p>	Y	Y	<p>There was considerable discussion over the use of scenarios. One group considered that scenarios should not be used as projects have to be comparable. Another group considered that scenarios have to be used, but at the policy level (between SMP and strategy level)</p> <p>One of the issues raised in terms of scenarios was how to deal with the situation where different scenarios provide different 'answers'. It was considered that this could provide an indication of how much we will need to use adaptable solutions – so we can deal with the impacts under different scenarios should they arise in the future. It was identified that the scenarios have to deal with precautionarity, much of which is to do with land use. Scenarios have to look at social and economic change as well as climate change.</p> <p>One of the key problems with scenarios is that you can get land blight, which then raises the issue of compensation. Two aspects of appraisal need to be distinguished: strategy and scheme appraisal, and planning for flood risk management (used to identify the extra space that is needed). This type of approach requires planning and flood risk management to collaborate</p> <p>How do we want to use them – what do we want to test, etc.?</p> <p>PAG guidance tends to focus on options – need to look at bigger picture</p>	<p>Terminology, definitions need to be clear</p> <p>Need to choose different drivers, because they are good for sensitivity but justifying a scheme may require lots of scenarios rather than worse case. Need to stick to a benchmark to justify spending money, such as sea level rise – need national levels</p> <p>The process has to be iterative, with scenarios feeding into the decision process, testing for flexibility. The appraisal has to be based on current information on economics, time series, etc., using 'what-ifs' to test if an option is flexible and adaptable.</p> <p>There is no discussion on scenario analysis - broader concepts are missing from the guidance. For example, if you can't retreat/erode to reach a stable coastline and if this matters, it should be picked up. It may be necessary to plan over longer timescales (e.g. if would lose 60% of village in 100 years and 100% in 150 years – need to know if after 100 years would look again at intervention or is it too late for the village?)</p> <p>If Defra wants rules to be followed, they must define them but consultants, etc. can develop new methods that can feed into the approach</p> <p>Need to propose options that are adaptable and avoid irreversible options</p> <p>Use of 'what-ifs' – these have to be asked when setting the problem – based on today's circumstances but need to discuss with economists – could involve a bit of extra money now to save a lot in the future</p>

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Could spend a lot of appraisal money dreaming up different scenarios – guidance is a bit open-ended</p> <p>Risk of being distracted from main objective</p>	<p>Need agreed criteria on what we are testing, etc.</p> <p>Better to design for flexibility rather than try to do too much analysis</p>
Habitats Directive determines FD now, what will in future?		Y	<p>We are currently looking at protecting what is there now – not about facilitating new development – Highways Agency can provide for new development</p> <p>This comes back to who should be contributing (e.g. regeneration) – how can these benefits be brought into appraisal – links back to the units of measurement</p>	<p>If we are truly looking at MSfW, we need to look at future developments</p> <p>Social impacts are much more difficult than environmental to measure</p>
Inconsistency introduced with treating uncertainty, e.g. climate change	Y		<p>Topics like climate change are treated differently in different appraisals, e.g. advice in appraisal is conflicting with PPS25. What should be selected?</p>	<p>Defra-ODPM linked policy making needs to be improved</p>
What is the future – economic, social, climate change?		Y	<p>What is the current capacity – is it possible to deal with impacts of climate change under different scenarios?</p> <p>Previously everything has been assumed to be static (e.g. static time series were used to determine standards being provided). We now recognise the need for precautionarity. The argument is then how does the standard change with climate change – need to avoid irreversible decisions – e.g. need to identify need to reserve space/land</p> <p>Drivers of flooding have to be recognised. People have to be told if there are no engineering options</p>	<p>CFMPs have shown areas that are critical to downstream management – this has to feed into the policies to be applied at the strategy/scheme level</p> <p>Focus has to be on pathways and receptors – people need to be incentivised to use what options are available to them (flood warning, resilience)</p>

Table 5.11 Problems, causes of problems and solutions associated with the use of scenarios and links with policy changes

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Schemes tend to promote regeneration, but the benefits of regeneration cannot be taken into account</p> <p>Issues with measures to manage climate change that are not in our control, e.g. upland land management</p>	
Treatment of risk	Y		Needs review of PAG4, this is quite good in displaying issue of risk, but assumption is one of risk neutrality – households are not risk neutral	Need a similar approach to risk management of benefits as for risk management of PAR costs
External risk – the big flood throws guidance out of the window – knee jerk political reaction		Y	Will arise at times of big floods	<p>Need to get CFMPs/SMPs in place to set strategy</p> <p>Need to better inform people, better communications with communities</p>
Need long term approach – guidance tries to keep the short and long term approaches too linked – could be separated	Y	Y	Long term view versus short term view – guidance does not separate these out – need to know what to do at both timescales	Need to consider important things to do in long term view (CFMPs?, etc.) – this is different to the short-term view
Capping sea level rise benefits	Y		Uncertain in how to deal with sea level rise	

The views were split as to the reasons for this lack of guidance:

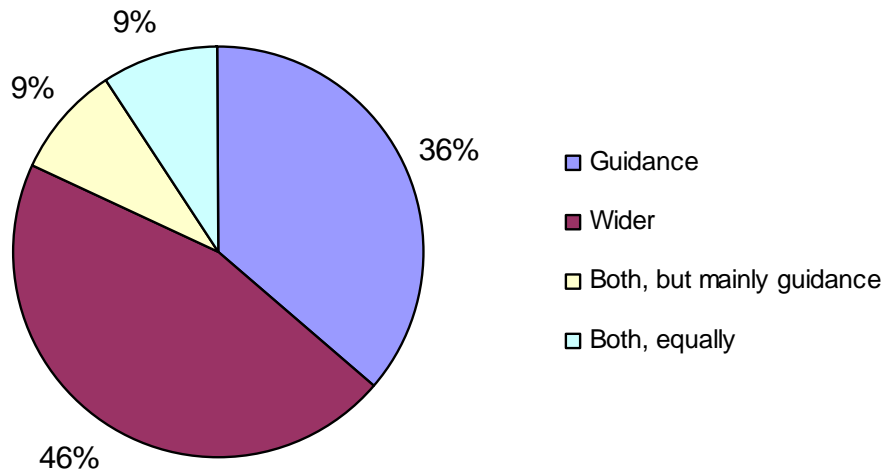


Figure 5.8 Do you believe that the issue 'there is a lack of guidance on how to deal with uncertainty, the large degree of uncertainty in the do-nothing baseline and how to undertake sensitivity analysis' is caused by a problem with the guidance or as a result of other/wider issues (not guidance specific)?

Some of the views expressed are:

- guidance is vague and lacks detail;
- there is a high degree of uncertainty in the do-nothing baseline; and it is sometimes 'manipulated' high to obtain the priority score. If this is the consensus then it is not a good way to prioritise schemes;
- there is a lack of understanding of the implications of uncertainty and how these can be tested with sensitivity analysis. There is also a lack of information on uncertainty filtering through the stages of the appraisal processes. For example, in the economic assessment, uncertainty in modelling is almost forgotten in the assessment of the damages; and
- for sensitivity testing the guidance gives a general guide on the range of possibilities to be considered by relies essentially on experience and judgement. There is scope for giving more specific advice. For example, at pre-feasibility stage the use of 60% bias is prescriptive but the guidance makes no recommendations on the percentage increase in costs or benefits to be applied.

Moreover:

- the do-nothing option is a difficult concept and there is little guidance on what it means.

As a result, respondents have suggested the inclusion of:

- worked examples;
- changes to the method of prioritisation;
- more specific suggestions for sensitivity testing;
- realistic examples of what a do-nothing scenario could look like; and
- research to develop methods to improve the guidance.

Most respondents considered that the lack of guidance on uncertainty and do-nothing was a very important issue (36% of respondents) or a key issue (45% of respondents). Only 18% considered that this issue was not important.

The reasons given for being a very important or a key issue are as follows:

- potential impact on viability of schemes is significant. The do-nothing scenario is fundamental part of options appraisal, while uncertainty can have large impact on height and extent of defences and hence cost;
- to assist in ensuring parity between schemes; and
- to assist in producing realistic estimates of do-nothing damages.

The problems, causes of the problems and possible solutions discussed in the workshops in terms of how to deal with uncertainty are given in Table 5.12 overleaf.

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is concern about uncertainty in predicting 100 years ahead	Y	Y	<p>Predicting maintenance costs over 100 years is difficult</p> <p>Climate change, development, local economy, future works, legislation</p> <p>Guidance tends to forget this!</p> <p>Theory versus practicality (e.g. is London sustainable?)</p> <p>There are bigger decisions to be made before we should get too involved</p> <p>Assumption of 100 year rather than longest lived asset</p> <p>Climate change – 50 year timescale means there is disparity in the appraisal periods</p> <p>Level of detail on climate change</p> <p>Practitioners tend to stick to what they know, e.g. future build</p> <p>Discrepancy between fluvial/coastal climate change and sensitivity</p> <p>Too many parameters can change/lack of detail over longer-term</p> <p>Economic guidance is based on what is there now – but places and flood risks change. Therefore, best solution now may not be in future as things change</p>	<p>Future scenarios should all be applied in the same way, therefore, prescriptions should be used nationally</p> <p>Look at splitting points in scenarios – use these to plan ahead, adaptability (e.g. for future increases in wall heights, build deeper foundations now)</p> <p>Can use past trends to inform future changes (e.g. there are patterns to settlement growth). Trends may show where things might be going, but can also use scenarios to investigate what might happen in a different direction. This can provide the evidence of why a change of direction is required – this is not coming into CFMPs in enough detail (need for links with high level planning)</p> <p>Need to take account of sustainable development objectives – to prioritise and to look at adaptable solutions to scenarios</p> <p>Highlights importance of designing for flexibility</p> <p>New guidance on climate change</p> <p>Need to look at gathering more data</p> <p>Need to undertake sensitivity/scenario analysis at start of project (not at end just to complete a tick box) – should lead to selection of an adaptable, flexible, resilient scheme</p> <p>Local plans are to include flood risk assessments – but most local authorities are not in a position to do them. ODPM is developing guidelines for flood risk assessments</p>

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Uncertainty versus prediction (contingencies as opposed to risk). In schemes, you allow for improvements (i.e. Kings Lynn). Include predictions with best guess approach</p> <p>Change in land use, i.e. SSSIs and new costs involved</p> <p>Extrapolating 50 years is far enough for economics – but there is an issue in terms of avoiding irreversibility – need to get the message over on what will happen over 100 years. There is little effect on the benefit-cost ratio after 50 years and it is very difficult to predict 100 years ahead (need to second guess a lot of the time) <u>but</u> if previous generations had thought forward 100 years, they may not have built where they did</p> <p>There are political decisions that limit the extent to which looking 100 years ahead can change what we would do now (wider issue). Even if a technical justification could be made for providing protection for 100 yrs political decisions may override the technical decision</p>	
There is a lack of clarity/weight on extreme events - some consideration is given, but maybe not as explicit as it could be	Y	Y	<p>Not taking account of above standard events – need to avoid building defences that collapse</p> <p>Over-design standard events – time, duration and extent</p> <p>Additional social and environmental impact from large events</p> <p>Extreme events are not just more of the same</p>	<p>The spreadsheets need to be changed – does this need guidance?</p> <p>Unpredictable events cannot be written into PAR. How much consideration do you give to unpredictability (FD versus FRM)</p> <p>Consider wider issues and at strategy level – sensitivity analysis</p>

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>Current guidance tells you to think about it, but now what should actually be done</p> <p>No consideration of time to respond to emergency or where we cannot do too much about it</p> <p>All standards of event are considered/appraised in the same way, but certain catchments and events require a different response, therefore, risk to life is greater</p> <p>More confidence in predicting impacts under lower return period events – more data are available</p> <p>Assumption of regular spacing of flood events</p> <p>When is it appropriate to look at maximum events? Cannot practically design against extremities</p> <p>Contribute little to AAD, therefore ignored</p> <p>Do we model extreme events or interpolate? Should we be looking at them in cases of hospitals, etc. in high risk areas</p> <p>Projects focus on their own areas, therefore, do not consider wider implications of a major event</p> <p>What happens when a standard provided is exceeded (guidance is included for fluvial events). The emphasis on looking at extreme events is in the guidance. Does the cost of providing a defence that may be more resilient against events that exceed the standard being provided have to be included in the costs of the option</p>	<p>Is there a need to bring in catastrophic failure? This could be picked up in design through the risk assessment and in how to mitigate for extreme events. For example, could decide to wait before revetting against extreme events until later, when risk is greater</p> <p>This has to be done at the level of flood risk management (not project appraisal). Have to move to looking at the planning system and whether we can identify projects to manage flood risk – planning projects</p> <p>MSfW needs to make stronger links between flooding and land use. Engineering remains important but land use is becoming more and more important – scenarios can be used to demonstrate what may happen</p> <p>Needs to be more explicit in the guidance and linked with resilience/resistance, what to actually do</p> <p>Schemes could be designed after taking account of exceedance events (not fully in current guidance)</p> <p>Need to focus on the consequences of extreme events, e.g. as is done for assessing impacts of dam breaks in terms of reservoir design</p> <p>Resilience measures/procedures need to be built in so communities can survive. Need to assess risk to target need</p> <p>CFMPs/SMPs should be considering catastrophic events – cannot be considered at strategy/scheme level</p>

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
There is a lack of guidance on how to deal with uncertainty	Y		<p>Risks in data and benefit assessment are not always thought through. Main emphasis is on risks to project <u>costs</u> only. PAG4 as a separate document does not help</p> <p>Very little uncertainty of SMP checking</p> <p>Risks are not integrated within the guidance</p> <p>Denial that uncertainty exists</p> <p>At times, it is not necessary to do the analysis – e.g. high quality data. Quality score – start but not ideal</p> <p>No real guidance on when/what to analyse. Targeting sensitivity tests towards schemes when extra work is justified – things can change that are out of our control</p> <p>Last piece of analysis – time/budget tight</p> <p>No process guidance on damage calculation – uncertainty – single deterministic answer –</p> <p>Lots of detail on how to deal with uncertainty surrounding costs, but cultural problem is coping with the uncertainty on the damage side – how do we deal with it if we have a range of do-nothing?</p> <p>The current guidance assumes total technical competence can be used to get the ‘right’ answer.</p> <p>Sensitivity analyses being undertaken do not always test the key areas of uncertainty</p>	<p>Practitioners have the experience to make appropriate assumptions – this should not be lost</p> <p>There are two different levels of uncertainty:</p> <ul style="list-style-type: none"> - lack of prescription at a high level is a problem - natural uncertainty from the real world is ok <p>Guidance to tell you what model to use should not be developed or what levels of accuracy should be in input data</p> <p>When comparing options, the degree of natural uncertainty is less important as long as the same level of natural uncertainty is applied to all – this should be clearly defined in the guidance and should comply with current policies</p> <p>Bring risk, sensitivity, uncertainty into guidance rather than a separate document</p> <p>Do earlier in the project – sensitivity analysis should be defined at the beginning (i.e. boundaries) rather than at the end</p> <p>Sensitivity analysis needs to be focused on where uncertainty may affect the choice of option (should you choose a more expensive scheme if it is less uncertain?) – it needs to inform the decision-maker and address robustness</p> <p>Guidance on what and when and on limits of change</p> <p>Selection of key parameters to assess – linked to quality score to target where to do the sensitivity analysis</p>

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			Use of spreadsheets and sensitivity being lost	<p>FCERM can learn from others, for example, British Waterways in terms of moving to a risk-oriented approach. This then allows better value solutions to be identified that can accommodate a change in risk over time (e.g. do not build deeper foundations now, but take a higher risk later). Such an approach means the issue of risk sharing becomes important (between the Environment Agency and their consultants) and requires an answer to the questions of 'what exactly are we defending and how big a risk are we taking?'</p> <p>Need to allow for capacity to change wall/banks in future</p> <p>Need to provide guidance on level of detail required for uncertainty at the different stages (SMP/Strategy/Scheme)</p> <p>Need guidance on providing cross-cutting solutions to all problems</p> <p>Need to undertake sufficient analysis to prove the robustness of the scheme (knowing when to stop)</p> <p>There is a need to encourage the use of switching values and scenario analysis, such that they are carried out to a greater extent</p>
Uncertainty of the do-nothing option	Y	Y	<p>What is in the do-nothing – what is included/excluded?</p> <p>Do-nothing is unrealistic, especially for urban fluvial</p> <p>Limits of do-nothing are not fully explained</p> <p>Clear capping limits are required</p>	<p>Need to discuss and agree in risk workshops early on in the process</p> <p>Assumptions of do-nothing need to be reviewed early on, e.g. risk workshops (to (a) determine scope of do-nothing assumptions and problem uncertainty ; and (b) compare risks and uncertainties of options short-list – similar to Risk 2.2 but for flood risks, not costs)</p>

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>The do-nothing damages are often completely false. The extent to which they reflect what would actually happen varies but can be extended to a complete disaster situation to help justify doing something. The use of the business as usual scenario, however, would reward those who do not maintain their defences.</p> <p>The technique is flawed because of the need to compare with the do-nothing scenario. The approach to assessing the do-nothing option is subjective and a lot of time and money is spent on it (potentially wasted at the project level). The whole tone needs revising</p> <p>There is very little guidance on how to assess do-nothing</p> <p>Look at failure rather than levels</p> <p>Definition of life/blockage/mannings, etc.</p> <p>Incorrect/inaccurate assumptions could lead to the incorrect preferred option (or no option at all) being selected</p> <p>The technique is flawed because of the need to compare with the do-nothing scenario. The approach to assessing the do-nothing option is subjective and a lot of time and money is spent on it (potentially wasted at the project level). The whole tone needs revising</p> <p>Looking at how defences deteriorate/ consequences of failure</p>	<p>The do-nothing should be considered at higher levels (strategy?) only. Whilst it is important to consider whether abandonment of maintenance or defences is an option, in most cases it is not a realistic one, particularly if social consequences is taken into account.</p> <p>Benefits compared with the 'do-minimum' would be a more meaningful economic measure. For smaller schemes, would cost-effectiveness be adequate? – maintenance could be done like this too</p> <p>Business as usual is a more sensible base for comparing options</p>

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
			<p>The do-nothing option is a particular problem for maintenance schemes. Clarification is needed on how to model the consequences of do-nothing. Currently, one person will decide on one set of events; a different person or different office would use a completely different set of assumptions. Without maintenance, many structures would fail within days – that would be a genuine do-nothing. There is also the question of whether we can really do-nothing – PAG includes the need to consider duty of care</p> <p>The do-nothing should be considered at higher levels (strategy?) only. Whilst it is important to consider whether abandonment of maintenance or defences is an option, in most cases it is not a realistic one, particularly if social consequences is taken into account. Benefits compared with the ‘do-minimum’ would be a more meaningful economic measure. For smaller schemes, would cost-effectiveness be adequate? – maintenance could be done like this too</p>	
Is do-nothing (walk away) always a zero cost option?	Y	Y	<p>Treatment of contaminated land, making structures safe, etc.</p> <p>The guidance makes it difficult to take some of the costs (e.g. legal costs, cost of making structures safe, etc.) into account in the do-nothing option, although many issues can be included as dis-benefits.</p>	

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Optimism bias	Y		Gateway issues – lax at this stage – need to ask why No checks/balances at tender stage within local authorities	Stronger gateways are required
There is no clear definition of what each level (SMP, strategy, scheme) should be doing and how to deal with uncertainty within each level	Y	Y	SMP appraisal perceived as not linked to project appraisal but no evidence SMP do-minimum (no active intervention) versus project appraisal (do-nothing) Issues of not communicating purposes of appraisal Under the national programme, CFMP and SMP look at the consequence of failure Under Nafra/Rasp/NadNac, SMPs (SEA) overall process expectations – then economic tools look at if the ideas are possible. CFMPs have a model but no costed plans	Possibly framing guidance better and being clear on <u>why</u> as well
Treatment of uncertainty at different levels of appraisal	Y	Y	No/little understanding of cause and effects No validity in the assumptions behind forcing factors	Give an absolute 20% factor – is not correct but at least it is a clear rule Sensitivity testing – still valid as the factor may change a ranking of options based on local circumstances – this point was hotly debated!
Lack of clarity on how we express uncertainty	Y	(Y)	Public perception of how we express this	Policy decision on simple definition

Table 5.12 Problems, causes of problems and solutions associated with how to deal with uncertainty

Problem	Issue is with...		Cause of problem	Possible solutions
	Guidance	Wider		
Large range of ways of addressing uncertainty – which is appropriate for what?	Y	Y	How do we get consistency?	<p>Solution needs to be simple enough to be used by all in a flexible way</p> <p>Need for risk workshop at beginning, middle and end of appraisal to cover uncertainty in no-nothing and the do-something options</p>
There is little understanding on how costs/benefits vary by appraisal, location, scale, timescales, etc.	Y	Y	<p>Guidance reflects wider confusion</p> <p>Issue of likelihood or consequences – driven by differences in data availability</p> <p>Geographical location can impact significantly on the costs/benefits – no clear mechanisms to take account of this – what techniques should be used at each level?</p>	<p>Need for a properly structured approach with a top-down perspective</p> <p>Need to emphasise that is something is not in the guidance, it does not mean you should not do it – needs clarity on what guidance is for</p>

6. Other issues discussed

6.1 Defra and the Environment Agency are considering splitting the guidance into two parts

Interviewees were asked their opinion on the usefulness of dividing the guidance into two parts. Part 1 would take the form of policy guidance, while Part 2 would be the process (or 'how to') guidance.

The response rate was 44%, of which 70% (7 respondents) answered that dividing the guidance into two parts would be helpful. This is because:

- clients, project managers and analysts interested in different aspects. Policy guidance likely to guide client and project manager, while process guidance would be a working document for the analyst;
- it could clarify what is policy and what is guidance on process, which has caused misunderstandings in the past; and
- this would make the documents more manageable and address different sets of questions.

All respondents would be interested in both parts of the guidance. This is because their work normally involves both project management and analysis. Only 26% of those surveyed expressed their views as to the format of the guidance. Their views are shown in the following figure. Other formats included:

- online access on dedicated appraisal web-site, including downloadable documents and links further reading and to specific information; and
- downloadable document (e.g. pdf) with embedded links.

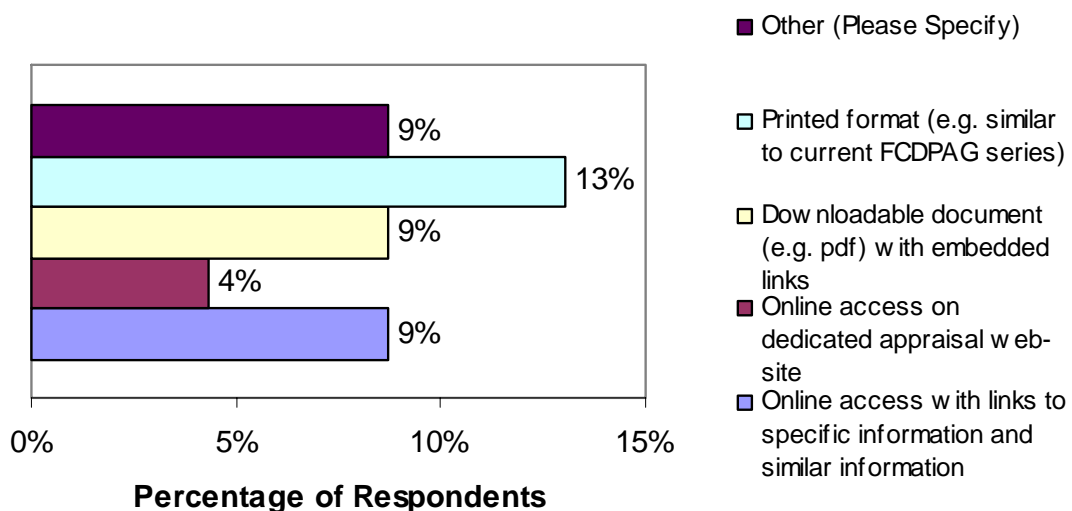


Figure 6.1 How would you prefer to see the guidance presented?

One respondent added that the process guidance could be sub-divided by discipline, so that each practitioner within a team can refer to their own guidance (e.g. technical, environmental, and economic). Also, there should be consistency between guidance and EA NEECA Project Activities (PA5 Economic appraisal, PA6 Consultation, etc.).

6.2 Do you feel that the current suite of guidance does (or could) deal adequately with maintenance projects

Only 50% of respondents (8) answered the question on whether the current suite of guidance deals adequately with maintenance projects. None of these believed that the current guidance deals correctly with projects regarding maintenance.

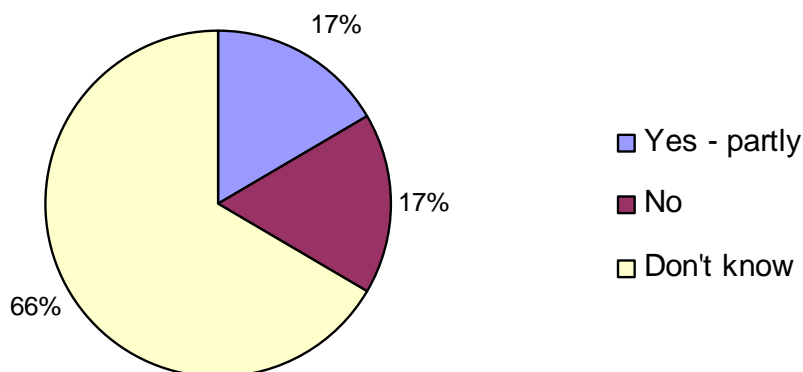


Figure 6.2 Do you feel that the current suite of guidance does (or could) deal adequately with maintenance projects?

Figure 6.2 illustrates the respondents' opinion on the approach the guidance has towards maintenance projects. Respondents argued that current suite of guidance do not usually deal with maintenance problems which will become an important issue with the implementation of the WFD. The focus is on new schemes rather than maintenance and upgrading of existing schemes. One respondent argued that maintenance is partly dealt with under the do-minimum scenario.

The main barriers are said to be:

- a total lack of confidence in maintenance costs;
- the benefits tend to be underplayed;
- inability to predict accurately forecast maintenance costs >10 years; and
- hard engineering solutions: these are expensive to maintain. For example, a recent survey of the insurance industry showed great concern over issues such as SUDS where maintenance issues have not been resolved. Additionally, insurers were not consulted.

6.3 Work such as the Foresight study has highlighted the potential need for scenario analysis within economic appraisal

Almost all respondents to this question thought that scenario analysis would be useful for flood and coastal erosion risk management. The reasons given are that:

- scenario analysis would be useful to ensure that potential schemes are future-proof;
- current thinking is too short term. Sustainable development requires a longer term approach with some “Cathedral thinking”;
- it would help guide the thought process as well as the decision making if well applied;
- because the science on climate change still has a wide degree of uncertainty; and
- Any analysis that ignores the influence of these changing factors is clearly incomplete.

With regard to the barriers for applying scenario analysis, the responses are illustrated in Figure 6.3 below.

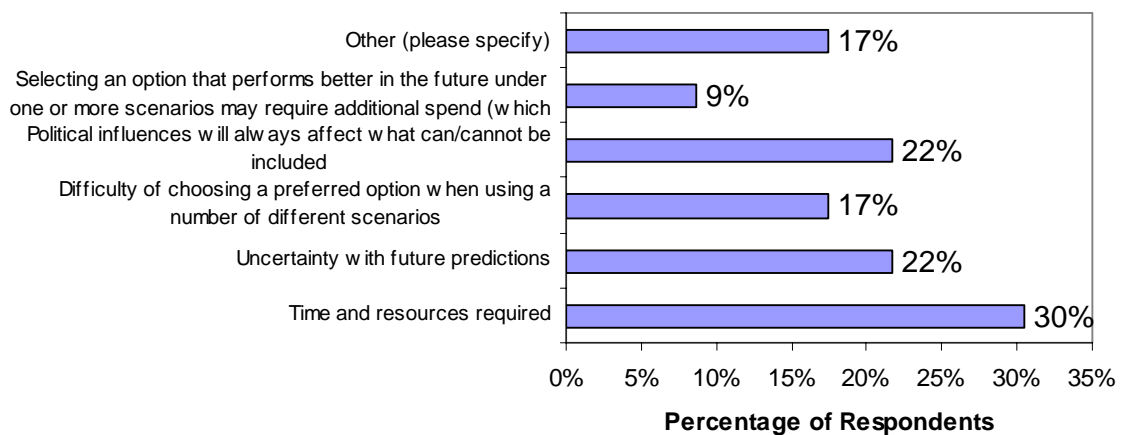


Figure 6.3 What are the main barriers and/or problems associated with scenario analysis?

Other barriers include:

- difficulty in agreeing the combination of drivers and driver values for each scenario (1 respondent);
- increase uncertainty, which may create problems in terms of prioritisation of projects for funding. It would also require a new set of skills from practitioners in order to be applied properly (1 respondent); and
- a need for guidance to be developed (1 respondent).

Most respondents agreed on the benefits from scenario analysis. Responses are illustrated in Figure 6.4 below.

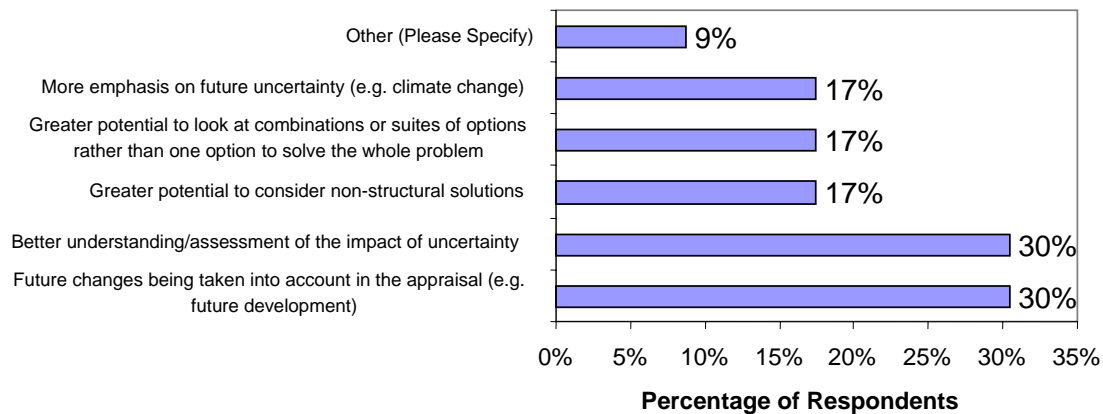


Figure 6.4 What are the main benefits of applying scenario analysis likely to be?

One respondent noted that other benefits include impacts of actions by the insurance industry: e.g. mortgage blight, bankruptcies, unemployment, economic meltdown, etc.

When asked about the type of scenarios to be implemented, respondents' views varied; a higher percentage though preferred the scenarios to be selected from a set according to the location and type of project.

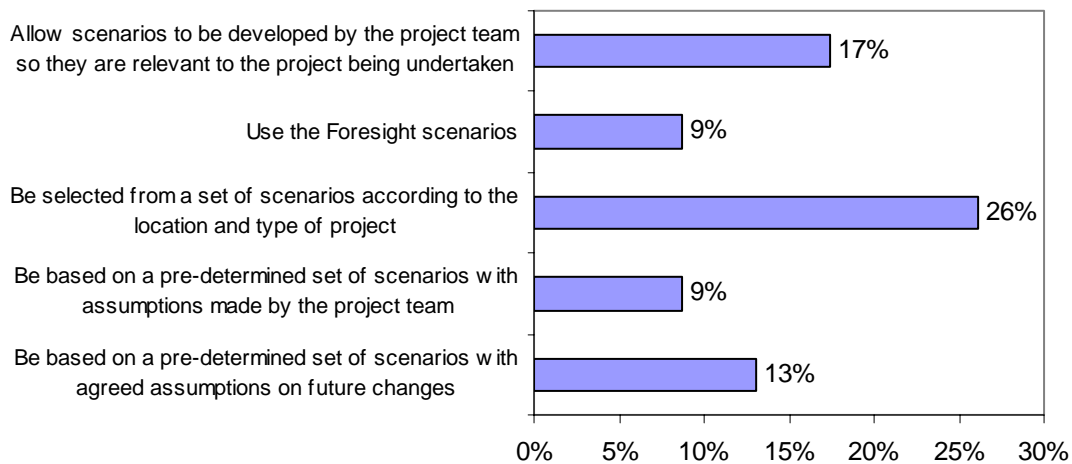


Figure 6.5 If scenario analysis is brought into flood and coastal erosion risk management appraisals, do you believe it should?

However, one respondent noted that Foresight scenarios were too wide-ranging for CFMP policy selection. Another noted that it is better to start with a fixed set of scenarios for scoping, but, as the analysis is developed, there should be freedom to develop new scenarios as required.

6.4 A large number of comments and discussions have surrounded the issue of what is required at each level of appraisal (SMP/CFMP, Strategy, Scheme, etc.)

Figure 6.6 shows respondents' views on different issues regarding the level of appraisal. As it can be seen from the figure a reasonably high percentage of total interviewees believe that there is no guidance on the level of detail required at each level.

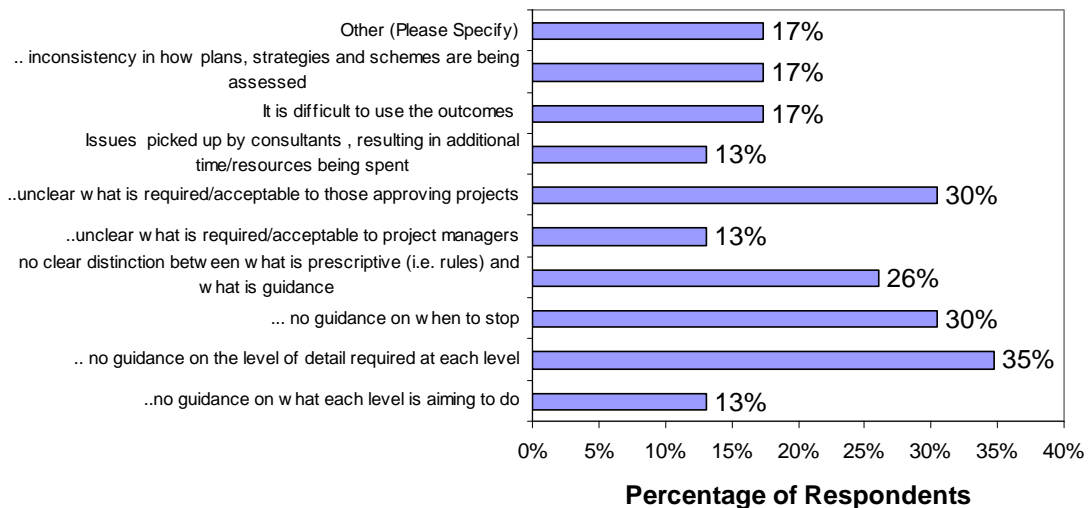


Figure 6.6 A large number of comments and discussions have surrounded the issue of what is required at each level of appraisal (SMP/CFMP, Strategy, Scheme, etc.). Which of the following comments on this issue do you agree with?

Respondents stated that 'other' issues refers to:

- the inability to answer in detail, but I feel all the points are relevant to varying degrees (1 respondent);
- the use of the strategy for taking into account too much detail over planning issues (1 respondent); and
- no consistency on the definition of a plan, a strategy and a scheme, which then causes other problems.

Other comments gathered are paraphrased below:

'Guidance on level of detail has improved following publication of MC Handbook, but is still lacking with respect to modelling and cost estimation. Distinction between rules and guidance is unspecified. In my experience, methods of appraisal vary between companies, offices and individuals.'

'It is important to define NOT 'what the plan/strategy/project tells you' but 'what it allows you to do'. Therefore define the strategies/project appraisals by what they allow you to do – and critically what does not have to be repeated.'

Suggestions for the guidance thus includes:

- a clear definition of the levels, which then sets the context for other plans and strategies (those with the same name can have different levels);
- clearer guidance on level of detail required at each level and methods appropriate to each stage of appraisal, including confidence limits at each stage for example, modelled water levels, cost, benefits and Defra score;
- clear distinctions in the CFMP guidance between policy selection, strategy studies and feasibility studies;
- review of the goals of the appraisal process, making sure that the guidance facilitates all those goals;
- a definition of rules vs. guidance: introduce rules and guidance to the guidance documents and highlight each by the use of appropriate language, similar to health & safety regulations (e.g. MUST/SHALL for Rules, SHOULD/MAY for guidance); and
- ensure consistency and identify model reports for use as reference documents.

6.5 Are there any other areas (other than those raised in the questionnaire) where you believe additional guidance is required

Other areas where respondents would like to see guidance include:

- social inclusion and prioritisation; and
- land use planning.

Other issues mentioned worth considering are:

- the implications of the EU Flood Directive;
- EN 752 (in the light of recent court decisions in Norway); and
- building in flood hazard areas.

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