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# Participative Planning for Water Reuse Projects

*A Handbook of Principles,  
Tools & Guidance*



*By Paul Jeffrey & Stewart Russell*



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Introduction

Introduction

The supply of sufficient and safe water supplies for human and environmental needs is a significant and difficult challenge in many parts of the world. To manage water resources in an effective and sustainable way, a wide range of approaches is required. Water recycling is an increasingly important element of sustainable water management strategies in both water-poor and water-rich regions.

Successful design, implementation and management of many types of industrial or public infrastructure project are now recognised as being strongly dependent on the involvement of those institutions, businesses and communities that may be affected. A participatory planning approach is particularly relevant to water recycling projects where the size and spread of costs, risks and benefits depend on how the venture is planned and managed.

Ideally, participatory planning and management of a water recycling project will be just one element of a broader consultation process on integrated water resources management (IWRM). Whether and how water recycling plays a role, and how it is combined with other measures like stormwater control and demand management, should be assessed according to local circumstances and needs. Similarly, we should stress the need for a national or regional discussion on recycling and its place in water management. Broad public debate in advance of specific water recycling initiatives, or in parallel with them, clearly puts all participants in a more informed position.

So while these guidelines are meant primarily to support dialogue on recycling proposals, we trust they will also be useful for the broader and longer-term relationships that we regard as essential for effective and equitable water resource management.

Purpose of these guidelines

The aim of this handbook is to encourage wider and more informed participation in the planning and management of water recycling projects. Our objectives in support of this aim are:

- 1 to review the motivations for and principles of participatory planning and management;
2 to describe the types of tools and techniques which can be used to support participatory planning; and
3 to provide an illustrative protocol for a participatory planning exercise in water recycling.

The handbook is designed for use by individuals, organisations and communities that wish to plan and manage water recycling projects collaboratively. However, we hope that those involved in other types of project will also find it useful.

Introduction

Many of the available guidelines and reference materials on participatory planning and public engagement are written from the viewpoint of a single interest (e.g. NGOs or water supply companies). Such perspectives promote an unfortunate 'us and them' approach to participation. This handbook is based on the principle that participatory planning is a learning process for all - not just an exercise in educating one group. Importantly, such a perspective accepts that there is a wide range of technical and management choices that public input can help to shape.

Our intention is therefore to provide information and advice for all participants. Moreover, we have set out to write it in a way that neither values the contribution of one type of actor above that of others, nor assumes that any one type of actor should have control over the participation process. Thus we hope to provide a common reference

point for good practice and process design. We believe that such an approach can turn cooperation (working together for individual benefit) into collaboration (working together for mutual benefit).

Participatory planning and stakeholder engagement generally take two forms: (i) long term relationships between interested parties involving regular meetings and events, and (ii) participatory processes focused on a specific project or plan. This handbook is relevant to both, though it should be particularly useful for the latter.

The information and advice in these guidelines is neither comprehensive nor exhaustive. We have had to be selective in the material we have included, and we do not claim that the techniques we list and the illustrative protocol presented later will be applicable in all circumstances. Our aim is to provide simple but not simplistic advice in an accessible form.

Water recycling: applications, benefits and responses

Water recycling is used to differing extents in different countries, but the number of schemes and proposals is growing steadily. More national and regional authorities are incorporating recycling in their water management strategies and setting appropriate regulations or guidelines for quality and safety.

The idea attracts much publicity, both favourable and adverse. Reviews of international experience show a number of applications are fairly common - though used to nowhere near their full potential - and usually relatively uncontroversial. Such applications include:

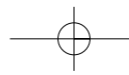
- irrigation of golf courses, parks, highway medians and other landscaped areas
■ irrigation of crops, plantations, pastures and nursery stock

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Introduction

- creation, restoration and enhancement of wetlands
- augmentation of surface waters
- industrial process and cooling purposes and plant wash-down

A small number of schemes are being implemented in new urban areas through dual reticulation, for such uses as toilet flushing, fire fighting, car washing, dust control, sewer flushing, watering residential gardens, and supplying decorative lakes, ponds, and fountains.

In a few locations with severe water shortages, recycled water is being considered for indirect potable use - that is, to be mixed with other water supplies in reservoirs or underground aquifers. It is this type of recycling scheme that meets with most public disquiet and opposition.

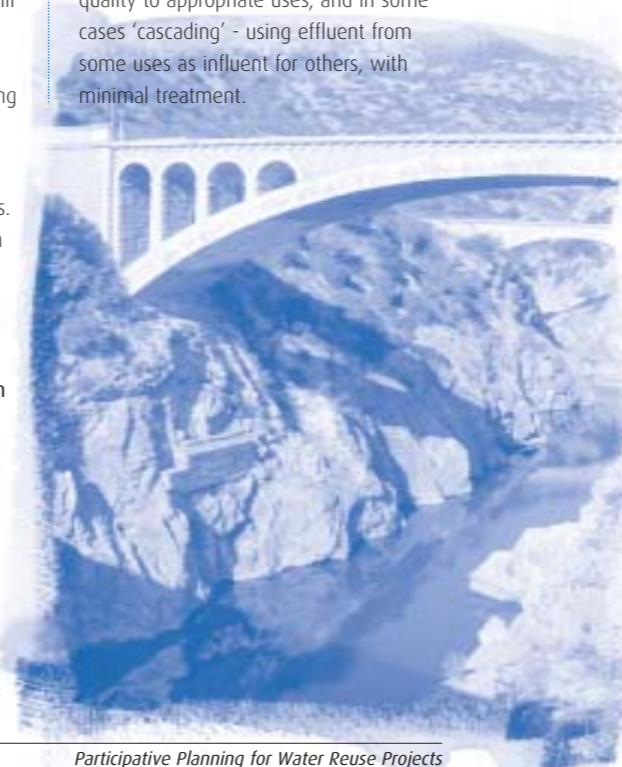
Public responses to specific recycling schemes, and the issues raised in participatory planning around recycling, will largely depend on the proposed use

of the recycled water and any associated health implications. But these are certainly not the only matters people will want to discuss. At least a general idea of the potential economic and environmental benefits of water recycling is likely to figure just as prominently.

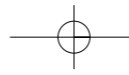
The benefits of recycling have been canvassed extensively among specialists. Although they are difficult to quantify in monetary terms, they include:

- reduced discharge of pollutants to waterways and seas
- reduction in water withdrawals from natural systems
- more local sourcing of water, and above all
- avoiding the use of drinking water quality sources where such high quality water is not needed

Efficiency can be enhanced by carefully matching different grades of water quality to appropriate uses, and in some cases 'cascading' - using effluent from some uses as influent for others, with minimal treatment.



Participative Planning for Water Reuse Projects



Introduction

**Why get involved in participatory planning?**

There are three categories of incentive for wider participation in water recycling projects. The first derives from principles of fairness and justice: that people who may be affected by a project should be consulted and have some influence over its development. Participation, alongside representation and accountability, is seen as an essential part of a healthy democracy.

Second are regulatory obligations. Many regional, national and international bodies have introduced requirements for planners and project developers to consult with the public and key actors at various stages of a development process. In Europe, for example, the Water Framework Directive contains a requirement (under Article 14) that

*'Member States shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans.'*

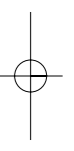
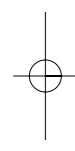
You should make your own enquiries about the level of public consultation which may be required under your country's or region's legislation or guidelines in the water sector.

Third, beyond a justification in terms of democratic principles and of legislated requirements for consultation, we can point to a number of potential benefits (Box 1) - particularly if, as we advocate, the process starts early and gives genuine flexibility and scope for participants to shape the outcomes.

**BOX 1: BENEFITS OF WIDER CONSULTATION AND PARTICIPATION**

- Help identify acceptable and achievable goals and solutions
- Encourage consensus on the benefits and value of a project, a sense of involvement and control, and a commitment to its successful implementation and operation
- Prompt people to suggest new ideas and approaches
- Reduce the time and effort spent dealing with individual objections and requests for information
- Advise users about appropriate practices and precautions, and generate commitment to good practice
- Promote integrity and trust between parties, and reassure users and the wider public of the accountability and trustworthiness of scheme developers
- Provide scheme designers with knowledge of local operating conditions and the practices of users
- Improve understanding of concerns and their social / cultural basis

Participative Planning for Water Reuse Projects



However, just as there are many reasons to see participatory planning as beneficial, there are a number of objections that may be stated (Box 2).

**BOX 2: OBJECTIONS TO WIDER CONSULTATION AND PARTICIPATION**

- The planning process becomes too reactive and inefficient, and decisions and actions are delayed
- Participatory processes are expensive and resource-intensive
- Expert advice and decisions may be overridden
- The people who get involved may not be representative of the wider population
- The decisions or compromises that the process leads to may not be appropriate
- People may become sensitised to issues they would not have worried about otherwise, and rather than producing consensus the whole process may increase antagonism and distrust
- Participatory processes may raise unrealistic expectations
- They undermine the role and authority of elected representatives - in particular local councils

There are clearly some important concerns underlying these objections. They point to a need, however, not to avoid engagement, but to take the process and its requirements seriously.

**Guiding principles of the approach**

The selection and presentation of material in this handbook are guided by a number of principles, perhaps best described in terms of three ideal characteristics of participatory processes: procedural justice, inclusiveness, and knowledge-sharing.

**Procedural justice**

People often object when they feel that the distribution of a resource between recipients is unfair or inequitable. Such objections can equally be made when the process by which a decision is made about resource use and distribution is seen as unfair. 'Procedural justice' is achieved where all parties acknowledge that the method by which decisions are reached is fair, even if they disagree with the outcome itself.

**Inclusiveness**

For participatory processes to be effective, they require a degree of openness and transparency that is often missing from commercial-public relationships. By 'openness', we mean that involvement should be accessible to all concerned parties. By 'transparency' we mean that the workings of the process should be clear to all and understood by all. Information used should come from reliable and auditable sources, and should be explained and translated in a variety of formats for different groups. The extent to which information is uncertain, unreliable or unknown must be acknowledged fully and honestly.

**Knowledge sharing**

Constructive debate cannot be achieved without the different parties to the process learning from each other (though not necessarily learning in the academic sense). Sharing experiences, understandings, skills, insights, ideas and information between parties will result in wider understanding, not only of the characteristics of the project, but of other parties' views.



### Tools & techniques

This section reviews the various elements of a participatory planning process and provides a critical appraisal of candidate tools and techniques. Inclusion of a participation mechanism in this section does not imply endorsement - the aim is to describe a range of options rather than promote any particular one.

Participation exercises require a combination of techniques. The combination, and how the elements should fit together, may depend on:

- the objectives for the exercise
- the stage at which participants are being involved - early in a water planning exercise, or later to seek endorsement of a specific scheme - and the extent of their input into decision-making

- local circumstances and history, for example as they might bear on relations between the developer and public, or latent conflict arising from other planning issues
- the preferences of participants themselves for the design of the procedure

What is required in any local consultation will of course depend on how much discussion and education has been undertaken at a national or regional level. We stress the need to identify and understand any existing conflict in the community; it may point to quite different techniques for consultation - and in some cases to a need for negotiation or mediation before any productive discussion can be achieved.

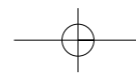
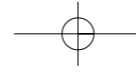
Serious consideration should be given to placing the organisation and conduct of participatory processes in the hands of professional facilitators or similarly skilled

people. There are, of course, consultancies that specialise in organising and facilitating participatory planning. Even if the work could be done by the developing organisation, it will often be more appropriate to use an independent facilitator so that the process is more credible.

### General principles of participatory planning

Those responsible for initiating or driving the project need to consider carefully and honestly their motives and goals for the participation exercise, to understand the local context, and to identify the groups which will be affected. Subsequently, a decision needs to be made on what sort of participation is to be supported.

Tools and techniques



Tools and techniques

Table 1 provides an overview of different levels of participation. It is similar to the 'ladder of citizen participation' devised by Sherry Arnstein (see references on Page 30) and widely cited among consultation practitioners.

informed may suspect they are being manipulated. Indeed public reactions to sensitive issues, or to inadequate consultation, may force a shift of emphasis towards the top end of Table 1. Whatever level of involvement is offered, there should

All parties have to accept that an effective participation process will require significant resources. It may take considerable time to identify participants and cultivate contacts, to agree on a suitable process, to allow people's understanding to develop, and for them to come to informed and reasoned judgements.

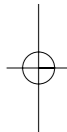
Early contact among participants in the planning and management process is clearly preferable to a late, perhaps merely symbolic, exercise. It enables those leading a participatory planning exercise to take the initiative and provides an opportunity to explain concerns. It allows time for productive relationships to develop. Hearing others' positions and responses at an early stage leaves more time for sharing knowledge, developing understanding and building consensus. If dialogue is delayed, actors may feel that they are being faced with a fait accompli and suspect that consultation is merely a public relations exercise.

Table 1: Levels of participation

Objective of participation	Description
To empower	Actors are encouraged to, and able to, influence all decisions
To collaborate	Actors are able to influence some but not all decisions
To involve	All actors are encouraged to engage with the decision making process but influence on decision making is limited to a small group
To consult	Actors are encouraged to articulate their opinions but these may not be considered or respected. Direct involvement in decision making is limited to a small number of actors
To inform	The controlling group notifies or advises others of decisions and outcomes

We would note that activities at the lower end of Table 1 are likely to generate resentment, opposition and even outright rejection, not least because those being

be a clear statement of the degree of choice that is open to participants, and honest undertakings on what will be done and cannot be done in response to their input.



It is important to set clear objectives for the participation process and to evaluate it candidly, not only at its conclusion but also at appropriate intermediate points so that the process can be revised in the light of experience. This evaluation should include feedback from all participants - indeed they will almost certainly provide it whether or not they are asked.

#### Who should participate

Who should be included in a participatory planning exercise? The principle to follow here is inclusiveness: the mix of participants should be as representative as possible of interested parties in the community. The opportunity to participate should not be denied to any individual or organisation. Different groups may need to be engaged in different ways, reflecting their needs, traditions and cultures. It may also be important to identify not only formal leaders and representatives, but other local figures who are respected, who are

opinion leaders, or who may expect to be consulted.

As a starting point, it is useful to consider targeting the following groups with information on participation opportunities:

- Residents
- Families
- Schools
- Local and national government representatives
- Religious groups & leaders
- Indigenous or minority groups
- Care professionals
- Hospital & clinic workers
- Scientists
- Journalists
- Local community groups
- Landowners
- Property developers
- Lawyers

- Local businesses
- Relevant trade associations or industry groups
- Trade unions
- Conservation & wildlife groups
- National NGOs

Difficult questions may still arise about how representative the individuals are who become involved - whether they are invited or put themselves forward for an active role. There may also be concerns that some views are being given a disproportionate weight, particularly when disagreements emerge. Facilitators may have to give much more attention and time to the most vocal participants, and it may be sensible to anticipate who will be most concerned and affected by a proposal and target them early with special opportunities for interaction.

#### Tools and techniques to support participatory planning

Designing and managing a participatory planning process for water recycling is not a simple or straightforward exercise. The good news is that there is a wide variety of techniques and tools that can be used to help structure and manage the process, and a wealth of experience to draw on.

Table 2 presents a list of the major types of tool and technique - in no particular order - which can be used as part of a participatory planning process. A short description of each one is provided, with up to four purposes or advantages and four limitations or problems. Although each tool or technique has particular objectives and characteristics, there are a number of considerations common to all. Primary among these is that participants should be informed why they are being asked to contribute, what is expected of them, and how their contribution will be used.

Table 2: Tools and techniques to support participation

##### Open / public meeting

Widely advertised and free access event lasting perhaps two hours. Various formats possible but should include short presentations and opportunities for questions.

##### Purposes & advantages

- Provides opportunities for comments and questions
- Requires no special training to implement (although professional facilitators may be used)
- Is highly visible if well publicised
- Encourages discussion and flows of information

##### Problems & limitations

- People attending may not be drawn from or representative of local population
- Contributions may be limited by a lack of knowledge and lack of interest
- Event may be stage-managed by organisers or dominated by conflict without means of resolution
- Contributions may be dominated by particular individuals or by local, topical or personal concerns

##### Face-to-face interview

Typically one-on-one session lasting up to an hour. Used to explore views on prepared agenda of issues.

##### Purposes & advantages

- Can elicit views from individuals excluded or discouraged from other consultation mechanisms
- Can explore extent of understanding and basis of interviewees' beliefs and responses
- Generates more detailed feedback than from group discussion
- Allows investigation of sensitive or personal issues

##### Problems & limitations

- Interviewees need to be well trained, and credible and legitimate to interviewees
- Results cannot be taken as representative of group or community
- Detailed analysis is resource-intensive
- Access to some types of respondents can be difficult

## Tools and techniques

**Ballot / referendum / deliberative poll**

Formatted as for/against vote or choice of options. May elicit immediate reactions or be preceded by provision of information. Deliberative polling compares reactions before and after opportunity to discuss issue or proposal. Conducted via post, phone, email or internet.

**Purposes & advantages**

- Straightforward and easily interpreted results
- Allows variety of means of communication
- Can provide opportunity for extensive debate and information-sharing in advance
- Large sample size extends involvement and can provide legitimacy to outcome

**Problems & limitations**

- Does not provide information on reasons for choice
- Result can be significantly influenced by volume, quality and balance of information provided
- Low turnout may damage credibility of result

**Citizens' jury or panel**

Group of perhaps 10-15 citizens or institutional representatives asked to consider proposal or set of issues and tasked with reaching recommendation or shortlist of options. Intensive one-off process over several days. Jury hears or reads evidence from expert witnesses and can question them. Outputs feed into other participation mechanisms.

**Purposes & advantages**

- Allows participants to select and pursue own lines of enquiry, and interact with experts and proposer
- Supports detailed and critical consideration of key issues and may identify areas of agreement or disagreement
- Can help identify relative influence of different types of argument, evidence and information on beliefs and responses
- Jury members usually value opportunity to make significant contribution to deliberation process

**Problems & limitations**

- Expensive to organise and run
- Requires significant time commitment from jury members and expert witnesses
- May develop unrealistic expectations if role and terms of reference are not agreed and clear
- May produce confrontational environment, not conducive to building trust and promoting consensus

**Community liaison / Project reference group**

Group comprising representatives of key interests meeting regularly throughout project planning, implementation and operation. Reviews progress and problems. Offers, and responds to requests for, advice and information for developer and authorities. May organise or contribute to wider participatory activities including information provision.

**Purposes & advantages**

- Provides continuing feedback as project develops and circumstances change
- Helps ensure inclusion of diverse interests
- Provides variety of perspectives and expertise, and allows interaction
- Develops group with continuity and substantial understanding, and may help generate consensus around solutions

**Problems & limitations**

- Requires significant time commitment from members
- Attendance may lapse or lack continuity during protracted planning and development process
- Representatives may not communicate adequately with constituencies, or continue to represent their views
- May develop unrealistic expectations if role and terms of reference are not agreed and clear

## Tools and techniques

**Focus group**

Small group meeting (up to 8, randomly selected from relevant population) with facilitator to discuss set of issues. Group responds to set of topics or questions, but responses are open-ended and setting permits interaction. Ideally group meets several times to allow rapport, provision of information and development of views.

**Purposes & advantages**

- Allows interaction and collective generation of understanding, ideas and concerns
- Can explore extent of understanding and basis of interviewees' responses
- Generates more detailed feedback than surveys and allows probing of initial responses
- Can show how understanding and views change over time and in response to information and interaction, and help identify relative influence of different types of argument, evidence and information

**Problems & limitations**

- Detailed analysis is resource-intensive
- Without good facilitation group dynamics may allow domination by individuals or diversion from topic
- Awareness and understanding of issues may vary greatly among participants
- Should not be relied on as sole point of contact with community or seen as necessarily representative

**Questionnaire-based surveys**

Administered or self-completed. Conducted face-to-face or via post, phone, email or internet. Elicits responses from representative sample of larger population. Needs to be designed to suit stage of consultation and information provision.

**Purposes & advantages**

- Can provide statistically valid and representative information on opinions
- Allows responses from people who might not normally attend meetings
- Can be used to introduce and gather views on project options and choices
- Detailed analysis may allow correlation of support with social characteristics and identification of profile of supporters and opponents

**Problems & limitations**

- Provides only snapshot of opinions, heavily dependent on level of information and opportunities for deliberation
- Costly to conduct additional surveys so that changes can be tracked as information is provided
- Poor or manipulative design can bias responses and allow misleading interpretations
- May be difficult to get reasonable sample size and access to some groups

**Written submissions**

Open or targeted invitation to comment in written submission on proposal. Usually preceded by provision of information.

**Purposes & advantages**

- Provides opportunity to distribute detailed, comprehensive information
- Allows respondents to work together to formulate response
- Responses likely to be considered, comprehensive and measured, and provide insights from local expertise
- Fits existing planning procedures in many jurisdictions

**Problems & limitations**

- Response rates vary greatly by demographic characteristics
- Cost of printing and distributing documents can be significant
- May require more time than other methods, and analysis can be prolonged and resource-intensive
- Without adequate and detailed response from commissioning authority, often seen as wasted effort



**Open day / road show / exhibition**

Open event with displays, presentations and opportunities to talk with proposer or authorities. May include other techniques such as small discussion groups.

**Purposes & advantages**

- Can use variety of presentation and communication media
- Provides informal and unthreatening environment to encourage contributions
- Allows flexibility in attendance
- Provides opportunity for participation in communities remote or difficult to access

**Problems & limitations**

- Those attending are not necessarily representative
- Preparation of display material can be expensive
- May require extensive promotion to encourage attendance
- Responses to material may be difficult to assess

**Internet resources**

Regularly updated web site providing information, supporting discussion and debate, or eliciting opinions.

**Purposes & advantages**

- Access available easily and continuously
- Allows rapid revision, updating and response
- Can provide links to supporting or complementary information and parallel initiatives
- Can provide detailed information as required without wasteful mass distribution

**Problems & limitations**

- Limits participation to those with computer access and skills
- Open discussion on site may need to be moderated

**Simulation game**

Activity involving participants in simulated decision process or design activity.

**Purposes & advantages**

- Helps participants identify key issues and potential problems in decision-making process
- Allows exploration of novel approaches and ideas in unthreatening environment
- Allows participants to develop and rehearse opinions and arguments
- Multiple instances can be implemented

**Problems & limitations**

- Involves substantial design and preparation time
- Involves substantial time commitment from participants
- Can encourage unrealistic or impractical options, or confusion of characteristics of simulation with real project
- Results often difficult to interpret and use



**Providing information and promoting understanding**

People's understanding of the issues surrounding a water recycling project, and their views on them, develop during a participation process as they get to grips with information and arguments. Consequently, snapshots of people's 'attitudes' only make sense in the context of the stage of this process.

We should recognise that any of the consultation activities listed in Table 2 are inevitably also exercises in providing information and helping participants develop their understanding. Different forms of information will be required at appropriate stages in any sequence of activities, and the conduct and success of each stage will depend on how well prior information has been prepared by the facilitators and processed by the participants.

Obviously all information needs to be as accurate and clear as possible (see Box 3 for examples of the types of information that may be requested). For many audiences complex technical matters will need to be simplified and presented with a minimum of jargon. The purpose, meaning and significance of quantitative information should also be explained. However, presentations should not be condescending. It is worth thinking carefully, and seeking advice, about how best to present information, explain concepts and issues, and stimulate discussion on them. Well designed diagrams, pictures, video clips and charts can all be helpful.

**BOX 3: INFORMATION THAT MAY BE REQUESTED BY STAKEHOLDERS**

- Treatment processes
- Plant location and construction arrangements
- Distribution network construction and disruptions to home and commercial life
- Potential contaminants and associated health hazards
- Comparisons with levels of risk in other systems and activities
- Social and environmental costs and benefits of recycling
- Economics of the scheme and water pricing
- Institutional responsibilities
- The regulatory regime for water quality and safety
- Experience of other schemes
- Results of studies of public responses and other consultation exercises
- Alternative means of achieving water management goals

Experiences from the field of risk communication point to further considerations. First, we should be careful not to impose specific value judgements in the guise of neutral information. For example, it is misleading to assert that a particular level of contaminant is 'safe' without making clear what criteria we

are using. Second, what information is provided and what issues are on the agenda for discussion should be determined as much by the participants as by the organisers and information providers. Third, concerns should be addressed in terms that the audience is familiar with, rather than impose what

we assume is a rational agenda and framework for discussion but which marginalises or excludes other ways of approaching the issues.

All audiences are likely to place great emphasis on the impartiality and credibility of information, and to be suspicious of information provided by parties with a clear interest in a particular outcome. It may be necessary for materials to be prepared by, or filtered through, a group with the required expertise but with no links to the project.

We can certainly expect people's views to change significantly in response to information and opportunities for discussion. We should not assume, however, that their evaluation will, or should, eventually come to correspond to that of the developer or experts, nor that they will reach consensus on every contentious matter.

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*Tools and techniques*

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**Understanding responses to water recycling projects**

As early as possible, developers, authorities and consultation facilitators need to develop an initial picture both of potential users' and others' responses towards a possible scheme. We emphasise the need for locally specific studies. Findings from surveys are rarely generalisable, and so far attempts to correlate views with demographic variables have produced largely inconsistent and contentious results. The key determinants of people's initial responses may be local. A variety of issues and events, some not directly connected to water, may influence their stance.

As we have stressed, people's views are likely to develop rapidly as they learn more about the issues, and start to think about something they may not have considered before. Studies of opinions and attitudes should accept that responses are inevitably dependent on opportunities

to obtain information and develop understanding. So while a survey might indicate a certain level of public support for water recycling, we cannot assume that the response is necessarily robust.

Scheme developers and authorities will probably undertake a formal risk assessment to assess the potential for undesirable impacts from a proposed recycling scheme. The aims of such an activity will be to understand the hazards better, inform decisions on hazard management and on effective points of intervention, and help develop contingency plans. Such risk assessments are not only essential to managing hazards, but also an important form of information for consultation with users and the public. As we have pointed out before, however, it is important that presentations of risk acknowledge the uncertainties and value judgements involved in the exercise.

Participants will have access to a variety of sources of information about the risks, will evaluate the risks in different ways, and may come to different conclusions even on the same evidence. We can expect people's judgement of the risks to change as they are given more information and develop a better understanding of the issues.

Beyond concern with possible health hazards, the acceptability of a project will depend on many factors to do with its benefits and costs and their distribution, the organisations involved, the context, and the degree of influence people are given over decisions and operations. In the face of uncertainties, people are likely to place great weight on the trustworthiness of project developers, authorities and information providers, and on the transparency of the consultation process.

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### An illustrative participation protocol

#### Aims and principles

Our suggested participation protocol takes into account the principles and observations we have outlined on the preceding pages. It assumes as well, of course, that developers and authorities are genuinely interested in taking community views into account and appreciate the value of a participatory process.

The sequence of actions described in this protocol is designed to:

- 1 achieve a thorough understanding of local responses to water recycling issues
  - 2 provide information that addresses people's concerns and requirements effectively, and
  - 3 generate a reasoned and stable public evaluation of water recycling
- The principles assumed here - a

transparent process, open discussion of possible problems, and extensive provision of credible information - are reinforced by numerous reports on water recycling in general and on specific schemes. They point to a process going well beyond the nominal requirements in legislation or guidelines.

The protocol assumes there is some choice over the role of a scheme in an area's water management strategy, or at least some flexibility in the design, implementation and operation of the scheme itself.

The protocol has two elements:

- 1 an illustrative sequence of actions
- 2 an advisory set of 'dos' and 'don'ts' which should guide and inform all stages of the process

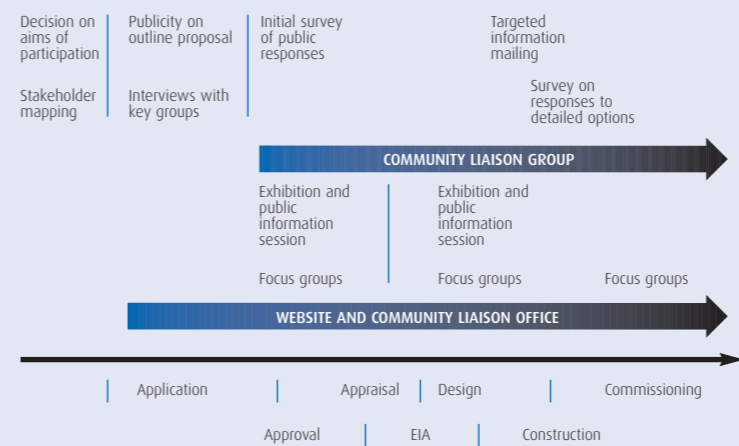
We also provide an example application to demonstrate how the protocol might be applied in a specific context.

### Illustrative process

The illustrative participatory process (Figure 1) has been structured to support the different stages of planning, implementation and operation of a scheme. Figure 1 depicts the project schedule below the time line and participatory planning events and techniques above the time line.

The diagram depicts a simple, generic (in the sense that it is applicable to a range of recycling scheme types) process which can, of course, usefully be supplemented with other activities.

Figure 1: Representative participatory planning process



### Protocol implementation principles

This second element of the protocol comprises twelve short pieces of advice based on reported experiences with participatory planning in the water and other sectors (Box 4). They should be used to inform and shape the process illustrated in Figure 1.



**BOX 4: GENERAL ADVICE FOR RUNNING A PARTICIPATORY PROCESS**

- 1 Initiate participation early.
- 2 If a decision or agreement is to be reached, ensure that mechanisms of implementation and accountability are identified.
- 3 Try to be transparent and honest in your dealings with other actors.
- 4 Establish a procedure for sharing information.
- 5 If progress is slow or hampered by specific issues, seek the support of a facilitator.
- 6 If any disagreements remain unresolved, at least try to agree on their nature and source.
- 7 Where possible, use informal and unimposing surroundings and procedures for meetings.
- 8 Invest effort in devising effective ways of presenting information, explaining concepts and issues, and stimulating discussion on them.
- 9 Try to avoid abstract concepts and generalisations – talk about specific issues, processes and contexts.
- 10 Try not to prejudge issues or answers, nor restrict the scope and framing of discussion.
- 11 Avoid using specialist language or acronyms.
- 12 Report the sources of your information, and be open about contested claims and uncertainty.

**An example application**

The following sections show how the generic process of Figure 1 might work in the case of a recycling scheme for agricultural irrigation. We have selected a common type of

recycling scheme, but the process can easily be adapted to others. We assume the scheme involves the use of tertiary treated wastewater from a municipal wastewater treatment works. The water is piped some kilometres to a series of ponds or lagoons where farmers abstract

the water for drip irrigation of citrus trees. Tables 3a & b provide more detail of the actions in Figure 1, indicating who should be involved at each stage and what types of output might be expected from each action. We assume that all outputs are available for public scrutiny.

Aside from the major activities in Tables 3a & b, the scheme proposer should provide, throughout the planning, implementation and operation of the scheme, a regularly updated website and a community liaison officer. The scheme proposer should be able to respond promptly to phone, e-mail and postal queries and comments.

The programme outlined in Tables 3a & b requires flexibility and careful analysis of each stage. In particular, the work involved in extracting maximum and justifiable insights from the focus group sessions, and working out their implications for the information materials and survey questions, will be substantial.

**Table 3a: Details of specific participatory planning actions (early project phases)**

<p><b>Objective</b> ■ Decide general form, level and aims of participation.</p> <p><b>Action</b> ■ Negotiation / decision.</p> <p><b>Role</b> ■ Decided by scheme proposer in consultation with regulator / planning authority and consultant.</p> <p><b>Timing</b> ■ As soon as outline proposal is considered.</p> <p><b>Output</b> ■ Provisional statement of obligations, aims, principles and roles in participation process.</p>	<p><b>Objective</b> ■ Inform community of outline proposal.</p> <p><b>Action</b> ■ General and targeted publicity for outline proposal.</p> <p><b>Role</b> ■ Conducted by scheme proposer in consultation with regulator / planning authority and consultant.</p> <p><b>Timing</b> ■ As early as possible.</p> <p><b>Output</b> ■ Information materials.</p>	<p><b>Objective</b> ■ Identify views on need for scheme and possible objections.</p> <p><b>Action</b> ■ Interviews with key user and other interest groups.</p> <p><b>Role</b> ■ Conducted by consultant.</p> <p><b>Timing</b> ■ Before commitment to project.</p> <p><b>Output</b> ■ Report on interview results, identifying views or concerns.</p>
<p><b>Objective</b> ■ Identify major interest groups.</p> <p><b>Action</b> ■ Stakeholder mapping: desk study and workshops.</p> <p><b>Role</b> ■ Conducted by scheme proposer or consultant.</p> <p><b>Timing</b> ■ As soon as outline proposal is considered.</p> <p><b>Output</b> ■ Report identifying range of individuals and groups with interest in proposed scheme, and characterising stakeholder relationships.</p>	<p><b>Objective</b> ■ Identify views on need for scheme and possible objections.</p> <p><b>Action</b> ■ Initial survey on general public responses to recycling scheme.</p> <p><b>Role</b> ■ Conducted by consultant but designed collaboratively with proposer.</p> <p><b>Timing</b> ■ Before commitment to project.</p> <p><b>Output</b> ■ Report on survey results, capturing range of opinions and identifying dominant views or concerns.</p>	<p><b>Objective</b> ■ Inform wider public of proposed scheme and elicit opinions on site selection and system configuration.</p> <p><b>Action</b> ■ Exhibition &amp; public information session.</p> <p><b>Role</b> ■ Ideally jointly organised by proposer and regulator / planning authority, with input from community liaison group.</p> <p><b>Timing</b> ■ Before in-principle approval by planning authorities.</p> <p><b>Output</b> ■ Report on public responses to events; records of meeting.</p>

**Table 3b: Details of specific participatory planning actions (later project phases)**

<p><b>Objective</b> ■ Identify and explore issues and concerns, and examine responses to proposals or options for siting, outline design, scheme operation, implementation, monitoring, consultation, etc.</p> <p><b>Action</b> ■ Set of focus groups.</p> <p><b>Role</b> ■ Organised by consultant with input from community liaison group - same groups of participants, from both institutional interests and wider public, for series of meetings.</p> <p><b>Timing</b> ■ Around key decision points: site selection, design, start of construction, commissioning.</p> <p><b>Output</b> ■ Inputs into design process for scheme and operations.</p>	<p><b>Objective</b> ■ Prepare participants for second survey.</p> <p><b>Action</b> ■ Targeted information mailing.</p> <p><b>Role</b> ■ Organised by consultant with input from community liaison group and proposer.</p> <p><b>Timing</b> ■ Short time before second survey.</p> <p><b>Output</b> ■ Record of responses to mailing.</p>	<p><b>Objective</b> ■ Examine responses to proposals or options for siting, design, scheme operation, implementation, monitoring, consultation, etc., and gauge public acceptance of proposed scheme.</p> <p><b>Action</b> ■ Survey on public responses to detailed options.</p> <p><b>Role</b> ■ Organised and analysed by consultant with input from community liaison group.</p> <p><b>Timing</b> ■ Before construction starts.</p> <p><b>Output</b> ■ Report on survey responses.</p>
<p><b>Objective</b> ■ Inform wider public of proposed scheme and elicit opinions on detailed design and operational issues.</p> <p><b>Action</b> ■ Exhibition &amp; public information session.</p> <p><b>Role</b> ■ Ideally jointly organised by proposer and regulator / planning authority, with input from community liaison group.</p> <p><b>Timing</b> ■ Before construction starts.</p> <p><b>Output</b> ■ Report on public responses to events; records of meeting.</p>	<p><b>Objective</b> ■ Establish long-term representative advisory body.</p> <p><b>Action</b> ■ Setting up community liaison group and deciding role and terms of reference.</p> <p><b>Role</b> ■ Organised by scheme proposer or independent facilitator - wide membership representing interests identified in stakeholder mapping exercise.</p> <p><b>Timing</b> ■ After stakeholder mapping and publicity.</p> <p><b>Output</b> ■ Regular reports; responses to scheme proposer's requests for advice and information; reports on own engagement activities; guidance on information package for second survey.</p>	<p><b>Objective</b> ■ Provide forum for continuing consultation.</p> <p><b>Action</b> ■ Maintain community liaison group and contact points.</p> <p><b>Role</b> ■ Organised by scheme operator or consultant.</p> <p><b>Timing</b> ■ From start of operation.</p> <p><b>Output</b> ■ Regular reports; advice on specific issues raised among users or community; responses to monitoring results and specific events.</p>



For an irrigation scheme of the type considered in this example, key actions and bodies might have the following characteristics.

#### Community liaison group

This group would comprise between ten and fifteen people and would meet regularly. Its membership would include representatives from all key groups. In this case it would be crucial to include potential users - citrus growers - and representatives of relevant agricultural, industrial and occupational groups. It would be important to get continuity in the membership so that participants develop a deep understanding of the issues and maintain effective communication with their constituencies. The liaison group might also perform some of the functions of a citizens' jury (see Table 1). Box 5 lists issues that might be addressed by the liaison group at different stages of the participatory planning process.

**BOX 5: EXAMPLE ISSUES FOR COMMUNITY LIAISON GROUP**

- What level of support does the proposal have among interested parties?
- Are there preferred alternative or complementary ways of addressing water shortage issues?
- What benefits and costs do different groups anticipate?
- What information is required to enable users and the wider public to engage in discussion and evaluation of the scheme?
- What effects might the use of recycled water have on volume, markets, perceived quality, etc. of the irrigated produce?
- What price and charging structure is acceptable to users?
- What water quality criteria are required or desired for the delivered water?
- How should the physical infrastructure be designed to minimise environmental and social impact?
- What technological and operational options are available and what criteria should be used in their selection?
- Where should resources and expertise come from?
- What are local community experiences of construction & operation?
- Is the scheme realising its anticipated benefits?
- How should local communities be involved in the management or monitoring of the scheme?
- What conditions should attach to approval of the scheme?

Scenarios might be used to allow people to envisage how their choices might produce different outcomes and trade-offs. In this case, scenarios might include details of:

- permitted and possible uses for the quality of water produced;
- what use practices would be required and what responsibilities and discretion users would have;
- how water quality management and regulation would operate;
- what environmental and social benefits would eventuate;
- how information would be provided and feedback handled.

**Surveys**

The purpose of the initial survey (see Figure 1) would be to assess public views on, and understanding of, the need for a recycling for irrigation scheme. The survey might additionally elicit responses to hypothetical options for design and operation.

Questions might address general issues of environmental values, water management and water recycling, as well as views on the outline proposal. Themes for the questionnaire might include:

- Is water viewed as a valuable and / or scarce resource?
- Is there awareness of the need for irrigation water?
- Is water recycling for irrigation seen as a socially productive use of the resource?
- What problems do people anticipate with a recycling scheme for irrigation?

- What are the anticipated risks and benefits?

A second survey later in the process would be used to assess public responses to the planned scheme or to alternative configurations or modes of operation. It would be preceded by distribution of an information package to participants, prepared in consultation with the community liaison group.

Themes for exploration in the second survey might include:

- Which of the options presented for design or operation are most favoured?
- Does the proposed scheme meet public expectations on social, economic and environmental issues?
- Does the proposed scheme meet public expectations on health and water quality safeguards?
- Are the monitoring and regulatory provisions acceptable?

*An Illustrative Participation Protocol**An Illustrative Participation Protocol*

**Focus groups**

The focus group activity might involve up to three different groups with up to eight people in each group. The groups would meet intermittently around suitable key decision points in the life of the project: probably site selection, design, the start of construction, and commissioning. Meetings would be guided by a facilitator. Groups might be chosen to provide contrasting experience and interests - for example, one group from the general public and one of potential users or representatives of potential user groups - in this case farmers and landowners.

Focus groups would be given a range of issues to address. The first session would involve an open-ended discussion to examine initial responses, debate areas of concern, and explore issues and values underlying these. It would avoid imposing a particular framework or agenda. A second session should follow in two or three weeks and include the presentation of information and arguments; the groups would be encouraged to discuss both the issues and the material presented. Subsequent sessions would focus on the options and plans as they become firmer. At some stage, perhaps the third meeting of each group, it would be important for participants to come face to face with the scheme developers and 'experts'. The focus groups might also play a role in formulating or commenting on the options packages considered by the community liaison group.



Participative Planning for Water Reuse Projects

*An Illustrative Participation Protocol*

*Conclusions*

**Conclusions**

We have tried to provide general principles and practical guidance for anyone wanting to engage in the participatory planning and management of water recycling schemes. We have distilled insights from a wide range of literature and from the suggestions and experience of a number of participation practitioners. We cannot claim, however, that our advice is comprehensive or infallible.

The final pages of this publication list sources of further information and advice: some key books, articles and internet resources. If these sources do not meet your needs, you should contact your local water or environmental agency. National and local government bodies and many NGOs can also be rich sources of information and advice on consultation and participation.

We conclude by stressing that there is no universally accepted 'correct' or foolproof way to run participatory planning. Like all social processes, dialogue, debate and decision-making about water recycling are easier discussed than done. Even though not everyone may agree with the outcomes, if it is accepted in the short term that they have at least been reached in a fair way, and that everyone's concerns have been heard and addressed, then you have achieved a great deal. In the longer term if support for the scheme proves stable and the same issues are not repeatedly reopened for debate, then you will know that your participatory process was truly effective.

**Further reading and sources of information**

**Journal articles**

Arnstein, S. (1969). A ladder of participation. *Journal of the American Institute of Planners*, Vol.35, pp.216-224.

Baumann, D.D. (1983) Social acceptance of water reuse. *Applied Geography*, Vol.3, pp.79-84.

Marks, J.S. (2004) Advancing community acceptance of recycled water. *Water*, Vol.31, No.5, pp.46-51.

**Books, reports and manuals**

Beierle, T.C. and J. Cayford (2002) *Democracy in Practice: Public Participation in Environmental Decisions*. Resources for the Future, Washington DC. ISBN 1-891853-54-6.

Creighton, J.L. (2005). *The Public Participation Handbook: Making Better Decisions Through Citizen Involvement*. Jossey-Bass, San Francisco CA, ISBN: 0787973076

Po, M., Kaercher, J. & Nancarrow, B.E. (2004) *Literature Review of Factors Influencing Public Perceptions of Water Reuse*. CSIRO Land & Water. ISBN 0-643-09175-0.

Hartley, T.W. (2003). *Water Recycling; Understanding Public Perception and Participation*. IWA Publishing. ISBN 1843396696

International Association for Public Participation (IAP2) (2003). *Public Participation Toolbox*.

Kumar, S. (2002). *Methods for Community Participation: a Complete Guide for Practitioners*. ITDG Publishing. ISBN 1853395544

Sanoff, H. (2000). *Community Participation Methods in Design and Planning*. John Wiley & Sons, New York. ISBN 0-471-35545-3

**Web sites**

**Community Planning**

<http://www.communityplanning.net/index.htm>

**Environment Council: Stakeholder Dialogue**

[www.the-environment-council.org.uk/](http://www.the-environment-council.org.uk/)

**Institute of Development Studies: Participation Group**

[www.ids.ac.uk/ids/particip/index.html](http://www.ids.ac.uk/ids/particip/index.html)

**International Association for Public Participation (IAP2)**

<http://www.iap2.org/>

**WaterReuse Association**

<http://www.watereuse.org/>

