

Community participation in stormwater management in the Hawkesbury-Nepean catchment, Australia

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ABSTRACT

In Australia, over the last few decades the main effort in stormwater management has been associated with scientific and engineering pursuits, but it may be argued that stormwater management now requires a focus on the social sciences. Community involvement is now an important part of stormwater management. The experience of stormwater managers in the Sydney region indicates that attracting community interest is a very difficult component of the stormwater management planning process. So much so that many of the community meetings organised as part of stormwater management planning were not well attended. Low attendance at public forums and lack of response to community consultation surveys, resulted in only token community consultation.

Traditionally community consultation provides the end product of a decision-making process to the public for comments. In order to achieve best practice stormwater management, we need to involve the local community in a more meaningful way. Meaningful involvement entails a transparent decision-making process with a greater degree of community participation throughout the process. To facilitate this, the Hawkesbury-Nepean Catchment Management Trust (HNCMT), Department of Land and Water Conservation, University of Western Sydney - Hawkesbury, Penrith, Blacktown and Hawkesbury City Councils have jointly developed a Decision Support System (DSS) for stormwater management. This project was funded by the Natural Heritage Trust. The DSS has been described by some critics as 'second generation stormwater management planning', due to the fact that it makes the process more transparent and enables extensive community participation.

INTRODUCTION

'Community and Government Working Together', is the slogan for Total Catchment Management (TCM) in New South Wales. Community participation has been recognised as an integral part of TCM. According to Margerum [1997], community involvement is the key to successful integrated catchment management. Highlighting the advantages of community involvement, he added that community involvement could help build a broad basis for consensus, provide information, and generate political support.

Russell [1994] defined 'Community Participation' as the 'process by which public concerns, needs and values are incorporated into environmental management decision making'. As is evident by this definition, community participation is about two-way communication, with the overall objective of improved decisions, which have broad public support.

The Decision Support System (DSS) developed by the HNCMT provides a framework for formally incorporating community consultation into stormwater management decision-making process.

Background

One hundred and sixty local government authorities in New South Wales (NSW) were directed in April 1998 under Section 12 of the Protection of Environmental Administration Act, by the NSW Environment Protection Authority (EPA) to prepare catchment-based stormwater management plans. The directive required Councils and other stormwater managers to cooperatively develop these plans in consultation with all relevant stakeholders including the local community [Chanan et al, 2000].

To provide guidance in preparing these stormwater management plans, the NSW EPA released a guiding document 'Managing Urban Stormwater: A Draft Council Handbook' [EPA, 1997]. The Council Handbook recommended that community consultation should be an important part of the stormwater management planning process. According to EPA [1997], "the plan should not be imposed on the community without consultation, as the community is responsible for many of the stormwater problems within a catchment".

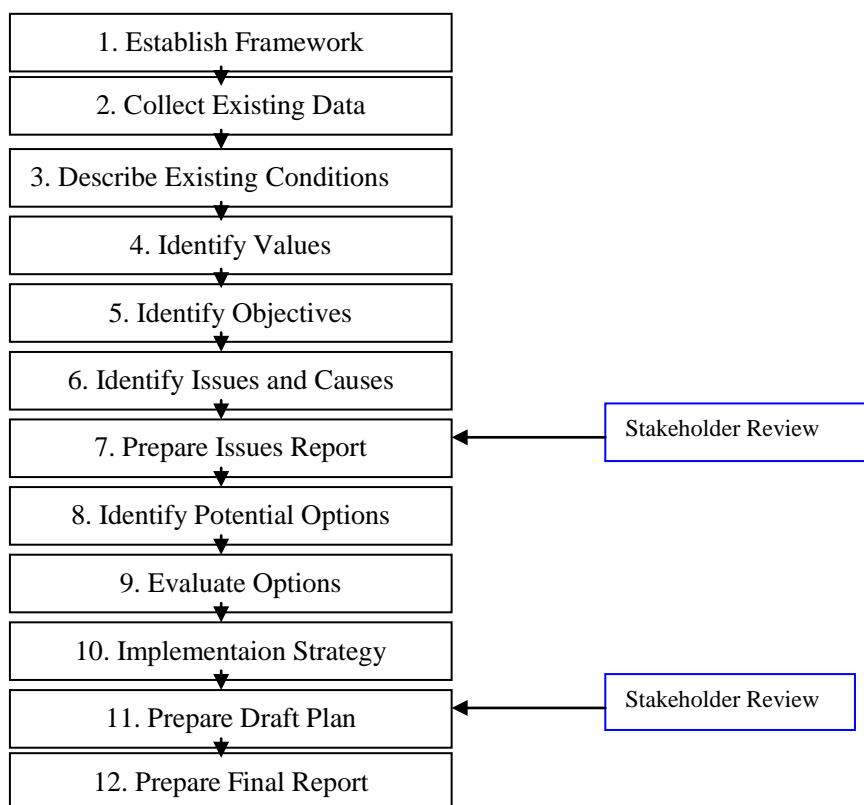


Figure 1. Tasks for Preparing Stormwater Management Plans (NSW EPA, 1997).

According to Brown and Ball [1999], responses from the stormwater managers involved in the stormwater management planning process indicate that attracting community interest proved to be one of the most difficult parts of the planning process. "Feedback such as 'the community did not turn up to our public meetings' or 'the community did not fill in and return our questionnaires' was common" [Brown and Ball, 1999]. Low attendance at public forums and lack of response to community consultation surveys led to restricted community consultation in most cases.

It is common for organisations to undertake some form of consultation to avoid obstructions to implementing perceived best practice [Booth and Attwater, 1999]. In a majority of cases, community consultation for stormwater management planning in the Sydney region was reduced to a few public meetings. These public meetings can be best described by Peter Cullen's statement 'sales sessions where consultants involved try to convince the public that the consultant is wise, honest and technically competent' [Cullen, 1994; cited in Salier, 1997].

Russell [1994], described this perfunctory community involvement as 'tokenism'. Instead of having community involvement tacked on to the end of a management framework ensure that it is there as the central theme. What is desperately needed is a management framework for the 'interface' [Russell, 1994]. According to Russell [1994], meaningful public involvement entails a transparent decision making process with increased community participation throughout the process.

According to Conacher [1980; cited in Salier, 1997], management decisions must consider the community's perspective and to do this effectively, the community must not only be consulted but they must be involved in decision making.

Despite these supporting arguments, the idea of community participation has still not been adequately considered in the stormwater management planning process. Based on observation of the extent of public participation in decision making process, O'Neill and Colebatch [1989], made the following comment - 'Talk of public participation in decision making brings to mind Mark Twain's remark about the weather: 'everybody talks about it, but nobody does anything about it'.

COMMUNITY PARTICIPATION IN DECISION MAKING

The past two decades have seen gradual change in the philosophy and practice of environmental decision making. 'This change involved a shift from top-down strategies, towards a bottom-up approach, which involves all relevant parties, especially local communities, in the process of environmental management and decision making' [Rhoads et al, 1999].

Going back to Russell's [1994] definition of community participation, the two important components of this definition are 'two-way communication', and 'sharing in the decision making'. According to Russell [1994], the usual practice of providing the end product of a decision-making process to the public for comment needs to be changed. Russell

[1994] added that the community wants to know what the alternatives were and how much each would cost, before they were rejected. In other words they would like to be involved and see a transparent decision-making process.

More than three decades ago, Arnstein [1969; cited in Margerum, 1997] described the stages of community involvement as a ladder. The bottom of the ladder is occupied by the information giving techniques that provide little opportunity for public input. In the middle of the ladder lie the processes that distribute and gather information. At the top are the processes that allow substantive public input into decision making. In most cases community involvement ends up in the middle or bottom rungs and produce little ownership for the process or its outcomes.

According to Margerum [1997], community involvement should continue through the entire decision making process. In support of his statement Margerum [1997] gave examples of case studies from United States, where participants were concerned that actions they identified during the planning phase were being altered by organisations without consultation. The public did not necessarily object to these changes, but were opposed to changes being made without consultation. Such disagreements can be easily avoided by community involvement through the entire process.

In spite of substantial literature in support of community participation in decision-making, there are major challenges to the process. Russell [1994] highlighted a few of these:

A majority of people would like to see a transparent decision making process, but only a few will actually partake in the process.

Community participation is not a sure way to achieve a consensus decision; as often disagreements remain. However, the fact that the decision was made in a fair, open and transparent way will legitimise the decision for general public.

There is no 'sure-fire technique' for making everyone happy.

DECISION SUPPORT SYSTEM FOR STORMWATER MANAGEMENT

The EPA's stormwater management model (See Figure 1), consults stakeholders twice during the process. First, after the stormwater issues and causes have been identified, and second after the draft plan is ready. In contrast, the DSS (See Figure 2) provides the community with opportunities through every stage of the process so that they can identify and influence:

- what are the stormwater management values
- what are the various stormwater issues and their causes in the region
- what management options are available to deal with the issues
- what are the various risks associated with each option
- how much each option is going to cost
- which is the best management option

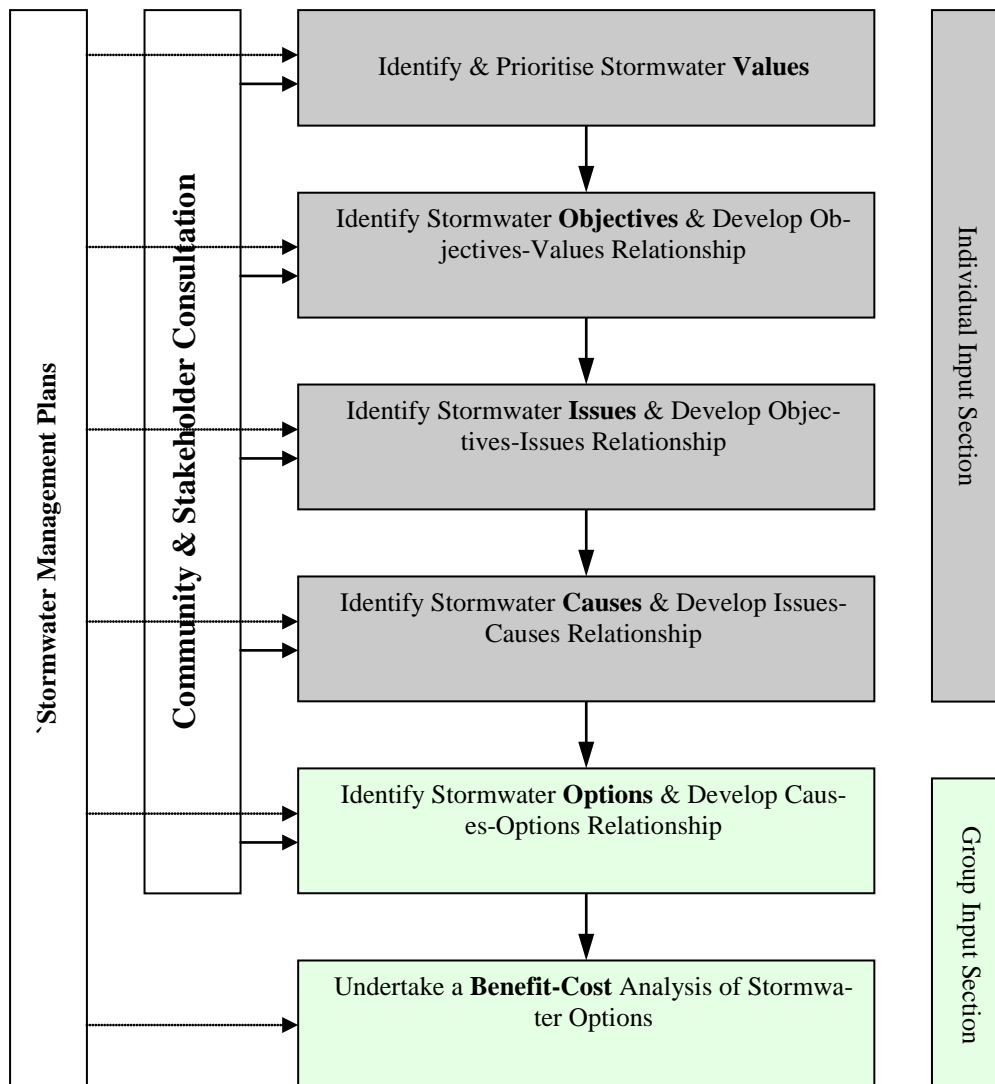


Figure 2. DSS Spreadsheet Structure

Arnstein's [1969; cited in Margerum, 1997] 'ladder of community participation' was carefully considered while designing the community consultation process for the DSS. The aim was to reach the top of this ladder and enable meaningful community participation in stormwater management. The community consultation process that constitutes the DSS can be divided into following two categories:

- Information Seeking
- Participatory Decision Making

INFORMATION SEEKING

The goal of a stormwater management strategy is to protect the catchment values. 'Catchment Values' is the term used to explain various uses the community has for its creeks and surrounding environments. The primary task for any stormwater management planning process is therefore to consult the local community and identify the catchment values. A number of methods have been used around the world for this information seeking community consultation process.

The DSS made use of the following three kinds of community consultation for the three project sites:

Letterbox drops/deliveries - Community survey forms along with reply paid envelopes were dropped in letter boxes. This technique does not always get a good response because people may forget to reply or regard the surveys as junk mail.

Through school children - Community survey forms were handed out along with the colouring sheets to schoolchildren. While parents were asked to fill the surveys, the colouring competition for children ensured that a high proportion of the surveys was returned. This method also has associated educational values for the children.

Interviewing – Volunteers were used to conduct interviews of community members on stormwater issues. The disadvantage of this methodology is that not many people would appreciate being stopped by a total stranger and being bombarded with questions. The rate of response relies heavily on the personality of the interviewer and the structure of the interview.

Participatory Decision Making

While the information seeking process provided the stormwater managers with the goals, the participatory process requires the community to work along with the managers to achieve these goals. A Community Reference Panel involving community representatives and other stakeholders was established for this purpose. This Panel represents the community's interests and is involved through the entire decision making process as a key driving force. The role of the panel includes:

- creating dialogue between the community and management team
- seeking community input from a wide range of interests
- conveying project findings to the community

As evident from Figure 2, depending upon the type of input needed the DSS can be divided into two sections namely - Individual input section and Group input section. Each individual member of the Community Reference Panel is required to independently provide input into the individual input section. The members are also required to work together as a group and provide input into the group input section. Based purely on the information provided by the community and stakeholder the DSS generates an Option Importance Score. This score is an indicator of the degree of importance of the management

option in meeting the community's perception/needs from stormwater management. It does not include technical details relating to the option such as cost, effectiveness, risks.

The information regarding the technical aspects of stormwater management such as construction and maintenance costs of management options, effectiveness of each option, pollutants targeted by each option etc can best be collected from the councils and other government agency staff comprising the management team. In order to get the 'best bang for your buck', it is important to also consider these details and rank the options based on their effectiveness and cost.

A benefit cost analysis has been incorporated into the DSS for this purpose. A number of the cost and benefit categories are used to calculate the benefit and cost indices. Benefit-Cost (B-C) analysis is then conducted using these indices. As an output, the DSS provides a list of stormwater management options ranked in order of highest B-C value to the lowest B-C value.

CONCLUSION

Some of the most common arguments against public participation include inefficiency due to associated costs, delays due to lengthy participation process; or bias towards the interest groups participating in the process [Robinson, 1992].

The framework for community participation in stormwater management planning presented in DSS is unique. It overcomes most of the arguments made in the past against public participation. The process included in the DSS is cost-effective and requires a maximum of 3-4 workshops involving both the Community Reference Panel and the management team. By including community/stakeholder representatives from a wide range of backgrounds in the Community Reference Panel, the problem of a possible bias towards a particular interest group can also be avoided.

Community Reference Panel ensures that the community involvement in decision making is not limited to identification of catchment values. This panel works closely with the management team throughout the entire process. The DSS provides a fair, open and transparent mechanism for stormwater management planning. Transparency is one of the key aspects of this DSS, the entire process is straightforward and community can clearly trace the direct link between the selected management option and the catchment values identified by them in the beginning of the process.

While praising the public participation process Russell [1994], concluded by saying '*community participation is a bitter pill indeed!*' A lot has changed since then, and we have half a decade of research into community involvement in stormwater management behind us. The authors can therefore conclude by saying - 'We have taken the 'bitter pill' out of community consultation'.

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