

Sometimes it's a big ask, but sometimes it's a big outcome: community participation in flood mitigation

*Alison Cottrell describes community involvement by residents to participate
in flood mitigation planning*

Abstract

There are often calls for more community or citizen involvement in planning of all types, including hazard mitigation (Brody 2003, Burby 2001, Gregory 2000, Pisaniello 2002, Tarrant 1997/1998). There are statutory requirements for community involvement in risk management planning in a number of countries, including Australia (Burby 2001, Department of Justice Canada 2000, Handmer and Parker 1992, Kennedy 1991, New South Wales Government 2004, Walker 1979, Zamecka and Buchanan 2000). Reasons for supporting community involvement include informing and educating the community about issues, tapping into community knowledge and possible solutions, understanding community preferences for hazard management equity, and achieving practical and effective outcomes (Godschalk et al 2003). However, there has been considerable debate on the efficacy of citizen involvement in hazard mitigation planning (Burby 2001) particularly from the view of planners and agencies actively seeking citizen involvement.

This paper reports on the level of commitment by local residents to overcome the problems of flooding in their area. Over the period from 1987 to 1998, members of the community gathered information to assess the extent of flooding in their area as well as potential technical solutions to the problem. They then lobbied local government to recognise the extent of the issue and find solutions.

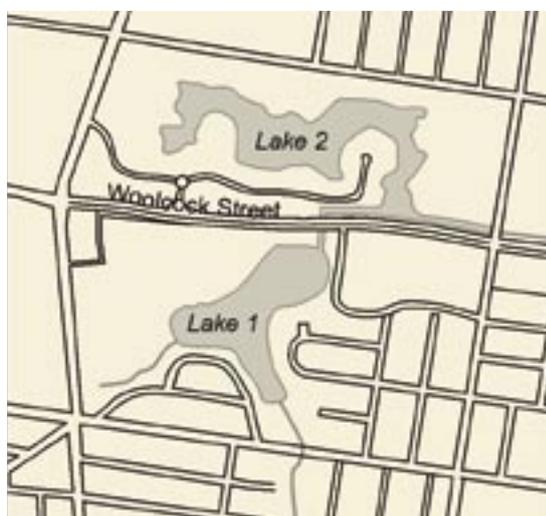
This example of citizen-initiated participation in flood mitigation planning is largely from the perspective of the participants. It suggests that more effective outcomes are the result and planners and agencies need to be mindful of the amount of time and energy people will devote to a task they perceive worthwhile. In doing so,

the aim is to remind us that encouraging community participation requires responsibility on our part to recognise and respect efforts undertaken by individuals and communities. A number of key issues are identified.

The flood issue

The Lakes Development in Townsville is part of a flood mitigation system using natural drainage flows and associated salt pans combined with modified sites to collect water in basins so rain water does not lie on residential properties. The original works commenced in the 1970s and have been modified at various times since.

The system begins at the suburb of Aitkenvale and there are 11 storage basins. The Lakes Development includes basins 10 and 11 in this system. These 'lakes' feed into the Woolcock Street Canal which flows into Ross Creek and finally, into Cleveland Bay.



Woolcock Street Canal is fed by two holding lakes and flows onto Ross Creek and onto Cleveland Bay.



Local residents gather to discuss land development planning in their suburbs.

Over the years, the ponding system's effectiveness has been reduced by increased residential, commercial, industrial and transport system development. The Lakes Development was the main focus of the community action reported here.

The Woolcock Street Drainage Canal was originally designed because of flooding prior to 1980. Concerns were raised about the capacity of the Canal, particularly after Woolcock Street, which runs parallel to the Canal, was upgraded to take more traffic and raised in the process. This action prevented rain water effectively draining into the Canal, leading to it being dammed in the lakes that were basins 10 and 11.

From the 1980s developments were proposed to turn basins 10 and 11 into lakes and for high density housing to be established on the shores. This included a shopping centre, caravan park and petrol station. The development of high density housing around these lakes raised the issue of implications for flooding, as well as amenity for existing residents. Residents lobbied the issue for several years. Finally, an investigation of the effectiveness of the system was called by the Townsville City Council (TCC) as a consequence of long-term community action that intensified after a major flooding event of January 1998 in Townsville. Subsequently, \$26 million worth of infrastructure development has been undertaken in stages, based on a report (Maunsell & McIntyre 1999) and funded by the TCC, State and Federal governments.

The major actors

There were two main phases of activity. The first phase, in 1987, centred on the development of the holding ponds as lakes with high density residential development. The second phase was in 1998 after heavy

rainfall in Townsville resulted in major flooding of areas not previously affected.

Over time, the main adjutants in the residents' action group varied, but at least one person, a long term resident of 50 years and a retired union organiser, remained highly involved throughout the activities. During both phases other professionals, including medical practitioners and a retired academic, played prominent roles in negotiating with councils and agencies. Both men and women were on committees, and it was predominantly the women who were involved in letterboxing and networking with neighbours. These people came with a variety of skills. As well as living locally for lengthy periods of time and having personal experiences of the area and its flooding patterns, they had professional skills that equipped them for dealing with public officials and agency representatives. The union organiser and the academic both had a history of advocacy including experience in campaigns for Aboriginal citizenship and wage rights. Fordham (1999) suggests that elites in agencies often assume lack of skills on the part of community members. This serves to not only overlook potential resources in the community, but to deny people their expertise, perhaps sometimes unwisely.

The activities undertaken

The types of activities undertaken by the residents to understand the flooding issue and lobby local government included:

- letterboxing residents about notices of meetings;
- writing to residents with updates on information and results of meetings with the TCC;
- forming of committees during the two key phases of the activities;

- gaining media attention by inviting them to public meetings and writing to the newspapers;
- meeting with council representatives;
- meeting with other professionals in the city to provide their perspective and gain support for their case;
- writing letters to members of the council, members of State and national Parliaments;
- collecting and keeping records of flood levels, rainfall data, history of development of the area;
- keeping records of meetings;
- inviting council staff and representatives to see the impact of the flooding on their homes; and
- conducting a survey of residents to assess the extent and impact of flooding.

During the first phase the retired union organiser became involved when the TCC proposed the Lakes Development in the mid 1980s. At this time he obtained copies of the plans to turn the holding ponds into lakes and build high density housing. By 1987 the initial burst of resident activity occurred. A series of four-storey apartments was planned along with a possible floating restaurant. Initial reaction was that the apartments would cut off prevailing breezes, there would be an increase in traffic density and that flooding could be an issue. Those who lived on the shoreline of the development were approached personally with between 50 and 80 people attending meetings.

Initially, the TCC refused to amend plans and a public campaign was mounted first with residents in the community and then with community groups, unions and environmental groups. Consequently the TCC was forced into discussions on four occasions, where meetings were attended by council representatives included the Mayor. Press reports at the time confirmed there was a public perception of lack of due process in the calling of tenders. Among the residents were a number of professionals who developed their own re-design of the TCC's tender. The group of citizens lobbied companies that tendered and the community group's proposals were seriously considered by all of the companies. The tender submission time was extended by Council, and the successful tender's proposal was very close to what the community group had wanted. The success of the community pressure at the time was due to the variety of expertise in the community.

The first of the lakes was almost complete when in early December 1987 there were two falls of rain, the first of 20mm and, later in the month, another fall of 30mm. By this stage the lake was full. Clearly the efficacy of the lake to act as a holding pond was not adequate.

Community activity between 1987 and 1997 was sporadic. Rainfall for the area was researched and evidence of flooding was documented, along with erosion of banks, mosquito breeding sites, and retaining

wall collapses. Some activity in recording impacts increased after the second lake area was developed in 1992. Land use changes were monitored and objections to minor developments were made, including the development of car parks in the flood mitigation zone. Concerns over the efficacy of the Woolcock Street Canal were formally raised with Council in 1997. During this time, the TCC acknowledged the concerns raised by residents but residents felt little progress was evident.

In January 1998, Townsville experienced a very unusual high rainfall event. Many people in the area near the Lakes development were affected by flooding either for the first time or to an extent they had not previously experienced. After a recovery period, resident action commenced with vigour in November 1998. A series of public meetings was held at a local school with hundreds of local residents attending. Gradually people from a variety of suburbs, not just local areas, attended the meetings.

According to one resident, as they obtained information they shared it. Comments included *"communication is so important. We letterboxed – it was the early morning walkers who were mainly womenfolk because their husbands had to work. We letterboxed every house in the area. We talked to people all the time. We sought the help of experts and it was always freely given."*

Another active community member commented, *"We consciously set out to do a survey. Whenever we saw a person in a front yard we would talk. They had so much to share. Frequently we went back or they came to us. In the survey we set out to establish the actual flood levels in the streets to get the extent of the damage in a broad sweep and to check on their insurance situation and what they thought ought to be done to eliminate the problem."*



The Townsville City Council is implementing the recommendations of the Report as funding permits.



The lighter side of a serious situation; children play in the floodwaters of the Townsville flood.

A printed survey went to 1500 homes in the area. On the basis of the information gained from the survey, the flood committee believed they now had more comprehensive and authoritative information than their local government about the impact of flooding in the area. The Lakes development was identified as the cause of flooding and residents felt that floods were now more frequent with a greater impact since the development.

The survey served as a catalyst. The residents' committee initially felt Council had set out to and compete with the committee for community meetings.

According to one committee member, "We immediately put out a leaflet which welcomed the council's decision to call a meeting and called on everybody to be there."

About 400 residents, the Mayor and the principal drainage engineer were part of a very angry meeting. The residents challenged the competence of Council engineering staff to handle the problem on the basis of their own detailed experience. The Mayor promised an independent inquiry, and agreed to set up a consultative committee to involve the residents. This resulted in a report by an independent engineering company (Maunsell and McIntyre, 1999). The report reviewed information from a 1980 study, residents' suggestions, and their own research, to recommend a flood mitigation strategy extending into the next local government area. The value of the total amount of works was \$33 million. The strategy was presented as a series of projects to be achieved over a period of time which recognised the funding constraints for the local governments.

Once the *Maunsell McIntyre Report* (as it came to be known) was released, the representatives on Council's flood mitigation consultative committee mobilised residents to collate their submissions for presentation. The committee members were very pleased with the report because, "instead of there being nothing we could do, there were 14 things that could be done" as a result of the *Maunsell McIntyre Report*. The TCC agreed in principle to meet the recommendations of the Report, and have honoured that agreement, as funding has permitted.

The residents were stunned to realise how successful their actions had been. However, the retired union organiser claimed: "But it still rattles on, you have to keep an eye on the Council and make sure that they don't allow developments that interfere with the mitigation program."

There were five key issues identified from interviews with members of the residents' flood mitigation committee.

Key issues identified

- The incremental nature of incidents that finally result in a major hazard to a community;
- Characteristics of the organisation in control of planning and mitigation;
- Agency control of community participation;
- The cost to the individuals participating; and
- The benefits of community participation.

Incremental events

The members of the community involved could see that flooding in their area was becoming frequent and extensive over time. However, local government dismissed their claims until the major flooding in 1998 which led to broader community action. The community action became credible because, over time, residents had accumulated the necessary information. This accumulation was, at times, sporadic but in response to amenity issues related to increasing urban density as well as the flooding issue specifically.

Organisational characteristics

In this case study, there is a perception by community members that the local government body had a poor corporate memory for its planning for flood mitigation. The view was that local council ratifies flood mitigation strategies, but seems to 'forget' why they were planned and allows other activities to supersede established priorities. This is due partly to a lack of corporate consistency. A lack of whole of organisation approach to planning seems to result in various departments being responsible for different activities which sometimes conflict. In this case, the development of Woolcock Street in the 1980s had a direct impact of blocking flood mitigation pathways. The development of the housing for the Lakes Development led to further flooding issues. In other cases, applications for variations to the building code allowed encroachment onto flood mitigation areas.

Convincing government bodies to assimilate broader perspectives requires persistence on the part of community members. As Fordham (1998) indicates, agencies and their representatives tend to be focussed on community participation as a process to obtain acceptance of their own views, reduce conflict and to gain legitimacy. Members of the community are clearly focussed on the outcomes and bring to the discussion issues of risk, ethics and decisions about directions of a project (see also Kaspersen, 1986).

Broader context

The active members of the residents' flood mitigation committee recognised that it took the unusual and major flooding event of 1998 to activate enough people to get Council's attention. Additionally, there was the recognition that a council election was due and therefore pressure could be exerted by the community. However, the money needed to fund the mitigation plans was only possible as a consequence of a newly instituted Australian Government initiative for flood mitigation which involve Australian, State and local government funding.

Cost to individuals

The cost to individuals of community participation in these issues is not trivial. In one person's case it was over 20 years of following through on what was happening in his area. For others it was bursts of activities over months at a time, talking with residents, meeting with council representatives and collecting information to mount a substantive case. The time, energy and capacity to bear the confrontations with government officials and representatives should be acknowledged. Despite the success of their campaigning, the anxieties they feel over personal losses from the flooding experience remain with residents.

Agency control of community participation

Despite the fact that residents initiated their involvement and informed themselves rather than waiting to be told about issues, control remained with the local government body and its agencies. Arnstein's (1969) ladder of citizen participation has at the highest level 'citizen control'. However, this control is still in the hands of agencies. It is power that is delegated, with the clear implication that agencies still have the power and the right to intervene should they wish. In the case of the flood mitigation group this right was clearly exercised. The local government and its agencies shifted between an enforced consultation with the residents to placating them, to finally acting on their advice. This supports Fordham's (1998) assertion that a technical elite assumes responsibility for identifying and solving problems in the arena of flooding. This does not deny that these elites may be required to face hostile residents on behalf of their agencies. The participants in this residents' action group freely admit that they made agency representatives uncomfortable, but equally, residents were also made uncomfortable by the way they were treated by agency and government representatives. Agencies and their representatives are clearly uncomfortable with the idea of losing control of the process. However, very little of the literature on community participation actually suggests community control. For example, Dusenbury et al (2002) suggests "the highest level of participation asks citizens to help define the issues and develop alternative proposals to address problems" (see also Court 2001, Gregory 2000).

Benefits of community participation

Participants recognised they personally stood to gain from their action and recognised their contribution to the broader community. They also acknowledged the generosity of others in providing assistance, particularly professionals with expertise relevant to the issue. The contribution of local knowledge by residents is an important component of the community contribution. Their role in convincing government agencies to take a more thorough approach to flood mitigation should be recognised.

Conclusion

While the longer-term benefits to those intensively participating in community action can be perceived as personal reward for their efforts, their contribution to the broader community should not be underestimated. As a consequence of residents' actions, the improvements to flood mitigation in the Townsville region are likely to be significant. The test will come at the next major event. Overall, the potential risk to the community of flooding should be significantly diminished by the results of this community action.

This study supports the notion that extensive and early community consultation is an important component of effective flood mitigation programs and that, according to Fordham (1998:27), "Planning for floods is a complex endeavour even when, as is often the case, the decision-making parameters are restricted to the scientific and technical dimension. However, the reality is more complex than this and even the most technically competent proposals can fail to win the support of the communities at risk if other, social and cultural, dimensions have been excluded or included too late."

References

- Arnstein, S.R. (1969) A Ladder of Citizen Participation *Journal of the American Institute of Planners* 35(4): 216–224
- Brody, S., (2003) Are We Learning to Make Better Plans? A Longitudinal Analysis of Plan Quality Associated with Natural Hazards. *Journal of Planning Education and Research*, 23:191–201.
- Brody, S., (2003) Measuring the Effects of Stakeholder Participation on the Quality of Local Plans Based on the Principles of Collaborative Ecosystem Management, *Journal of Planning Education and Research* 22:407–419.
- Burby, R.J., (2001) Involving Citizens in Hazard Mitigation Planning: Making the Right Choices. *Australian Journal of Emergency Management*. 16(3)45–51.
- Court, F (2001). Best Practice Community Consultation: Advice to project managers. Available: http://www.pbworld.com/news_events/publications/network/issue_49/49_19courtf_bestcommunityconsult.asp. Accessed: December 2004.
- Department of Justice, Canada, (2000) Policy Statement and Guidelines for Public Participation. Available at http://canada.justice.gc.ca/en/cons/pc_policy.html accessed: January 28, 2005.
- Dusenbury, P., Liner, B., and Vinson, E., (2002) States Citizens and Local Performance Management Urban Institute. Available at <http://www.urban.org/PatDusenbury>. Accessed: January 28, 2005.
- Fordham, M. (1999) Participatory planning for flood mitigation: models and approaches. *Australian Journal of Emergency Management*. 13(4) 27–34.
- Godschalk, D., Brody, S., and Burby, R., (2003) *Public Participation in Natural Hazard Mitigation Policy*. *Journal of Environmental Planning and Management*. 46 (5):733–754.
- Gregory, A., (2000) Problematizing Participation *Evaluation* 6 (2):179–199.
- Handmer, J. and Parker, D., (1992) *Hazard Management and Emergency Planning: Perspectives on Britain*. James and James Science Publishers Ltd. London.
- Kasperson, R.E., (1986) Six propositions for public participation and their relevance for risk communication. *Risk Analysis*, 6(3):275–281.
- Kennedy, P., (1991) Hazard Planning at Local Government Level. *The Australian Journal of Emergency Management*, 6(2):16–19.
- Maunsell and McIntyre, (1999) *Woolcock Canal System Preliminary Review of Current Strategy*. Townsville City Council, Townsville.
- New South Wales Government, (2004) Department of Infrastructure Planning and Natural Resources *Community Engagement in the New South Wales Planning System*. Available at <http://www.iplan.nsw.gov.au/engagement/index.jsp> Accessed: January 28, 2005
- Pisaniello, J., (2002) Effectively involving and Australian rural community in a risk management process: a 'community partnership' approach. *The Australian Journal of Emergency Management*. 17 (2):30–39.
- Tarrant, M., (1997/1998) Risk communication in the context of emergency management: planning 'with' rather than 'for' communities. *The Australian Journal of Emergency Management*. 12 (4):20–21.
- Walker, G., (1979) *Planning for People in Natural Disasters: The Challenge of Natural Disasters*. James Cook University of North Queensland, Townsville.
- Zamecka, A. and Buchanan, G., (2000) *Disaster Risk Management*. State Counter Disaster Organisation, Queensland Government. Brisbane.

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