

**ADVANCING WATER SENSITIVE URBAN DESIGN: A RAPID ASSESSMENT OF 'INSTITUTIONAL CAPACITY' IN LOCAL GOVERNMENT AGENCIES**

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**Abstract**

The Advancing Water Sensitive Urban Design project aimed to enhance the effectiveness of urban water management through building the 'institutional capacity' of four Sydney councils to deliver water sensitive urban design (WSUD) through their policy, planning, development assessment and construction activities.

The project design and delivery was driven by a desire to apply current theoretical work for the immediate, practical guidance and benefit of council staff. The project has provided several positive outcomes, namely a staff-derived and council-specific set of priorities to address institutional capacity building needs that can easily be converted to a draft action plan for each council; stronger relationships between key people in the organisations who need to collaborate across organisational boundaries in order to implement WSUD; and a baseline by which to measure progress over time.

A key output from the project has been the WSUD Rapid Assessment and Action Planning Tool. This tool enables other organisations to develop plans for action on WSUD adoption and implementation which are relevant to their specific circumstances. Since the tool has been developed and piloted within five local government agencies, such agencies can have confidence in its relevance. An outline of the delivery of the project and the application of the tool is provided.

**Introduction**

Poor water quality within Botany Bay has long been identified as an issue of concern (e.g. NSW Ministry for Environment Control, 1973; Ficarra, 1997; Healthy Rivers Commission, 2001). While water sensitive urban design (WSUD) has been identified as an important factor in meeting water quality objectives for Botany Bay (SMCMA, 2008; GRCCC, 2008), it has not been adopted consistently by councils within the Sydney region (McManus, 2009).

**Purpose of this paper**

The purpose of this paper is to outline the recent development and use of a tool for rapid assessment of institutional capacity for adoption of WSUD within local government agencies. The paper's key message is that a tool is now available for use by local government and similar organisations which allows them to rapidly assess their institutional capacity for adoption and implementation of WSUD, and to develop action plans specific to their circumstances.

The paper outlines the opportunity to promote WSUD through the Lower Georges River Sustainability Initiative, provides some background to the role of institutional capacity in WSUD adoption, and describes the development and application of a rapid assessment and action planning tool.

### **Role of the LGRSI**

The Lower Georges River Sustainability Initiative (LGRSI) provides an opportunity to address the need for greater adoption of WSUD. The LGRSI is a three year project funded by the NSW Government through the Environmental Trust, and delivered as a partnership between Georges River Combined Councils' Committee (GRCCC), Sydney Metropolitan Catchment Management Authority (SMCMA) and the Councils of Hurstville, Kogarah and Rockdale Cities and Sutherland Shire.

The LGRSI aims to improve the environmental condition of the Lower Georges River, which is a ten kilometre reach near the mouth. Its catchment is contained within the local government areas of Hurstville, Kogarah, Rockdale City Councils to the north and Sutherland Shire Council to the south, and with the Cooks River provides the catchment for Botany Bay.

The LGRSI provides a significant budget for on-ground works. The project steering committee, recognising the importance of capacity building, have made approval for the on-ground projects contingent upon demonstrated links to institutional capacity building activities.

As a grant-funded project, the LGRSI also provides a fixed and relatively tight timeframe (i.e. two years) on activities to promote and implement WSUD on-ground works.

### **Background**

#### **The nature of WSUD**

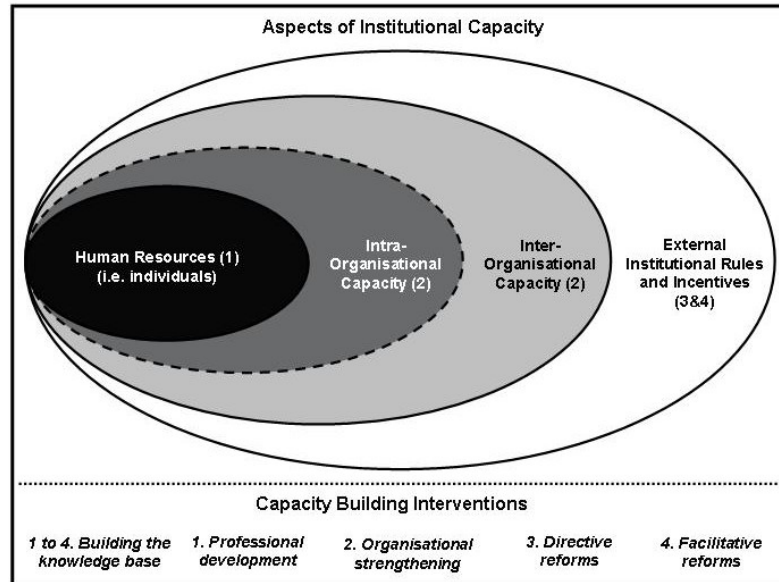
Water sensitive urban design (WSUD) is a new paradigm in urban water management that is 'sensitive' to the issues of water sustainability and environmental protection (Wong, 2006), and an element of holistic approaches to total water cycle management.

In 2006, Wong noted that institutional reform required for effective policy development and technology diffusion was elusive, and an underdeveloped area of research. More recently Winz (2009) has suggested that adoption of water sensitive strategies has been less than could be expected given the evidence of their effectiveness. In Sydney, McManus (2009) notes that while 40 per cent of councils have WSUD provisions within their Development Control Plans, these can be undermined by a range of gaps in capacity and support.

#### **The nature of institutional capacity**

Institutional capacity refers to the ability of an organisation to realise its aspirations. In the context of capacity for WSUD adoption and implementation, Brown *et al.* (2006) conceive its elements being in four groups:

- Relevant human resources (e.g. technical skills and leadership skills) to promote WSUD.
- Intra-organisational capacity, such as the key processes, systems, cultures and resources within local government agencies to promote WSUD.
- Inter-organisational capacity, such as the agreements, relationships, informal networks and formal groups that exist between stakeholder organisations in a region that help to cooperatively deliver WSUD.
- External institutional rules and incentives, such as regulations, policies and incentives that drive the adoption of WSUD (see Figure 1).



**Figure 1 - Aspects of 'institutional capacity' and capacity building interventions for promoting WSUD (Brown et al., 2006)**

### Overcoming barriers to adoption

Barriers to the adoption of waters sensitive urban design within local government are well known and summarised in Brown and Farrelly's (2007) international meta analysis of the literature. The striking feature of the identified barriers is that they are primarily social and institutional barriers, as opposed to technical barriers. Recent work within the Sydney area has confirmed the existence of such social and institutional barriers (see SMCMA, 2007; SMCMA, 2008; van de Meene, 2008).

Brown *et al.* (2006) identify five groups of interventions that can be used to build institutional capacity to promote WSUD. These relate to:

1. Building the knowledge base (e.g. forming a better understanding of what types of WSUD measures work well in the region and how much they cost).
2. Professional development (e.g. helping emergent leaders to become more effective at driving change and helping stakeholders to build specific technical skills).
3. Organisational strengthening (e.g. establishing improved cross-boundary relationships between stakeholders who need to collaborate in order to deliver good WSUD outcomes).
4. Directive reforms (e.g. planning controls that require new developments to meet quantitative 'design objectives' for WSUD).
5. Facilitative reforms (e.g. meaningful incentive systems that encourage stakeholders to embrace the WSUD philosophy).

A key message from researchers is that to progress WSUD adoption, all of the aspects of institutional capacity shown in Figure 1 need to be strong (Brown & Farrelly, 2007; Brown *et al.*, 2006).

### **The Advancing Water Sensitive Urban Design Project**

The project aimed to enhance the effectiveness of urban water management through building the 'institutional capacity' of four Sydney councils to deliver water sensitive urban design (WSUD) through their policy, planning, development assessment and construction activities. The primary objectives were to facilitate a rapid assessment of each council's institutional capacity to deliver WSUD, and to create action plans to build key elements of this capacity.

In addressing these objectives we followed the steps below:

- i. Review of current understanding and approaches.
- ii. Develop rapid assessment and action planning workshop tools.
- iii. Apply the tools (with Kogarah, Hurstville and Rockdale councils).
- iv. Evaluate and adapt.
- v. Apply the tools again (with Sutherland and Bankstown councils).
- vi. Evaluate, finalise and make freely available.

#### **i) Review**

A comprehensive framework for rapid assessment of institutional capacity to deliver WSUD was developed following a review of the academic and industry literature (primarily Bolton *et al.*, 2007; Brown & Clarke, 2007; Brown *et al.*, 2006) and the latest available research on 'champions' and building leadership capacity within water agencies to drive WSUD (e.g. Taylor, 2008).

This approach was consistent with recommendations in Chapter 5 of the National *Australian Runoff Quality Guidelines* that the framework therein be used to assess where within an organisation its institutional capacity needs to be strengthened (Brown *et al.*, 2006). The need for tools based upon the frameworks emerging from the scholars is commonly identified, and several have been developed (e.g. Bolton *et al.*, 2007; Van de Meene, 2008; McManus, 2009).

The rapid assessment is a notable feature of our approach to meeting this need. The Brown *et al.* framework has been proposed for similar purposes elsewhere, but for a deeper or more extensive assessment of capacity. Our thinking in applying a rapid assessment was threefold:

1. The project timeframe dictated an approach which would allow sufficient time for Action Plans to be developed and on-ground works to be scoped and implemented;
2. We believed that a rapid assessment conducted by staff with an interest in water management issues would identify the most critical barriers and opportunities; and
3. We believed that lower priority (but still important) issues would emerge incidentally but inevitably from actions to address the highest priority issues.

**ii) Develop rapid assessment and action planning workshop tools**

Development of the rapid assessment and action planning tools began with a review of all available tools from the grey and academic literature and relevant research. A new set of resources (e.g. rapid assessment worksheets, workshop agendas and supporting notes) that reflected the latest knowledge and experience was then developed. In particular, the new resources substantially strengthened aspects that relate to internal leadership. The new resources were constructed to be suitable for delivery as tools within facilitated workshops. The draft tools were reviewed by practitioners involved with the project delivery and refined prior to being piloted.

**iii) Apply the tools (with Kogarah, Hurstville and Rockdale councils)**

The first workshop was a group workshop involving participants from three Lower Georges River councils (Hurstville, Kogarah and Rockdale) undertaking a rapid assessment of institutional capacity. During this workshop the facilitator identified and communicated the key elements of institutional capacity associated with promoting WSUD in local government authorities (e.g. elements relating to human resources including leadership, intra-organisational capacity, inter-organisational capacity and external rules / incentives).

Council staff, in groups of four or five from the same council and with a mix of departmental representation where possible, made joint responses to 33 testing questions arranged in the five groups of interventions identified in the framework. In doing this the participants (1) assessed whether the key elements were present (and strong) in their own organisation and region; and (2) identified high priority capacity building needs for their organisation. For each response an assessment of the likely impact and likelihood of successful implementation provided data for the prioritisation of interventions.

The second workshop followed soon after the rapid assessment workshop, and was conducted within individual councils. The focus was on the development of actions to address the top ten or so institutional capacity building needs identified at the first workshop. A facilitated process enabled staff to build a prioritised action plan specific to their organisation to build institutional capacity to drive WSUD.

**iv) Evaluate and adapt**

Evaluation data from the participants and an independent evaluation report from the University of Technology Sydney were used by the workshop facilitator, the LGRSI Project Manager and the Manager of Sydney Metropolitan Catchment Management Authority's regional WSUD Program to improve the process and tools.

The feedback and evaluation report suggested that:

- The group workshop was valuable as it brought key stakeholders together from different departments and councils to discuss common barriers to the adoption of WSUD as well as ways to overcome these barriers. It therefore helped to build institutional capacity at an individual, intra-organisational and inter-organisational level. Communication between the council staff involved has led to a common template being used for action planning and a sense of mutual support.
- The consideration of capacity at individual, intra-organisational and inter-organisational level during the rapid assessment workshop was a strength of the project. The rapid assessment was

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effective in providing a focus on high priority needs for particular elements of institutional capacity.

- Most participants were comfortable with a rapid assessment approach.

In response to the feedback and evaluation, some relatively minor changes were made to the workshop materials and process. Three important changes were made to the presentation of central concepts. First, more emphasis was placed at the beginning of the rapid assessment workshop agenda on ensuring that all participants understood the nature of WSUD and so its relevance to them.

Second, the concept of ‘champions’ had been interpreted differently by participants. Some participants were comfortable with a definition which included any staff member who could exert influence, while others saw champions and leaders as necessarily associated with seniority of position e.g. “the executive”. More emphasis was placed at the beginning of the rapid assessment workshop agenda on ensuring participants were comfortable with the preferred, broader definition.

Third, process for assigning priorities was amended to address *impact x likelihood x easiness*. This approach differed from the first workshop which required scoring on a Likert scale (1-5), and was thought to allow a more sophisticated assessment of what was both likely to have an impact and likely to actually be done.

**v) Apply the tools again (with Sutherland and Bankstown councils)**

The adapted process and tools were subsequently used with the councils from Sutherland and Bankstown. Although Bankstown City Council is not involved in the LGRSI they expressed an interest and were invited to attend.

**vi) Evaluate, finalise and make freely available**

The feedback and experience from this iteration of the workshops was incorporated mostly as some minor changes in the final product. Notably, the priority rating system in the worksheets was amended again. A preliminary question now asks: “Is this element a capacity building need in your organisation, or are you currently doing well in this area?”. If it is a need, then participants will do two secondary assessments: “Magnitude of possible impact from building capacity in this area?” and “How ‘doable’ is building capacity in this area over the next 5-10 years?” The final rating score would be the product of the two Likert scale (1-5) ratings.

The resulting intellectual property (i.e. a guideline, the workshop agenda and assessment worksheets) were then made freely available to other organisations via the SMCMA’s WSUD Program website.

<http://www.wsud.org/tools-resources/rapid-assessment-tool/>

**Results**

The workshop process was successful in achieving its primary objectives, namely facilitating a rapid assessment of each council’s institutional capacity to deliver WSUD and action plans to build key elements of this capacity, and feedback from participants was strongly positive.

Each of the participating councils has developed a draft WSUD Action Plan.

Some identified actions which were timely have commenced; notably some tours of WSUD works for staff and councillors, and training of relevant staff in fundamentals of WSUD and development assessment.

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Implementation of the WSUD action plans will be facilitated by the availability of substantial funds from the LGRSI for capacity-building and on-ground works. Councils are currently scoping on-ground projects (e.g. rain gardens, roof gardens, wetland and stormwater harvesting projects), and these will be reviewed to ensure they support capacity building strategies in the relevant Action Plans.

**The WSUD Rapid Assessment and Action Planning Tool**

The Tool comprises the *Guideline for Using the Rapid Assessment and Action Plan Process* (Taylor et al, 2010) and the supporting workshop materials listed in Table 1 below.

Rapid assessment workshop	Follow-up action planning workshop
<ol style="list-style-type: none"><li>1. Model agenda.</li><li>2. Background briefing notes for workshop participants.</li><li>3. Briefing notes for small group facilitators.</li><li>4. A PowerPoint presentation for the lead facilitator's introduction.</li><li>5. Rapid assessment work sheets.</li><li>6. Customised feedback form.</li></ol>	<ol style="list-style-type: none"><li>1. Model agenda.</li><li>2. Customised feedback form.</li></ol>

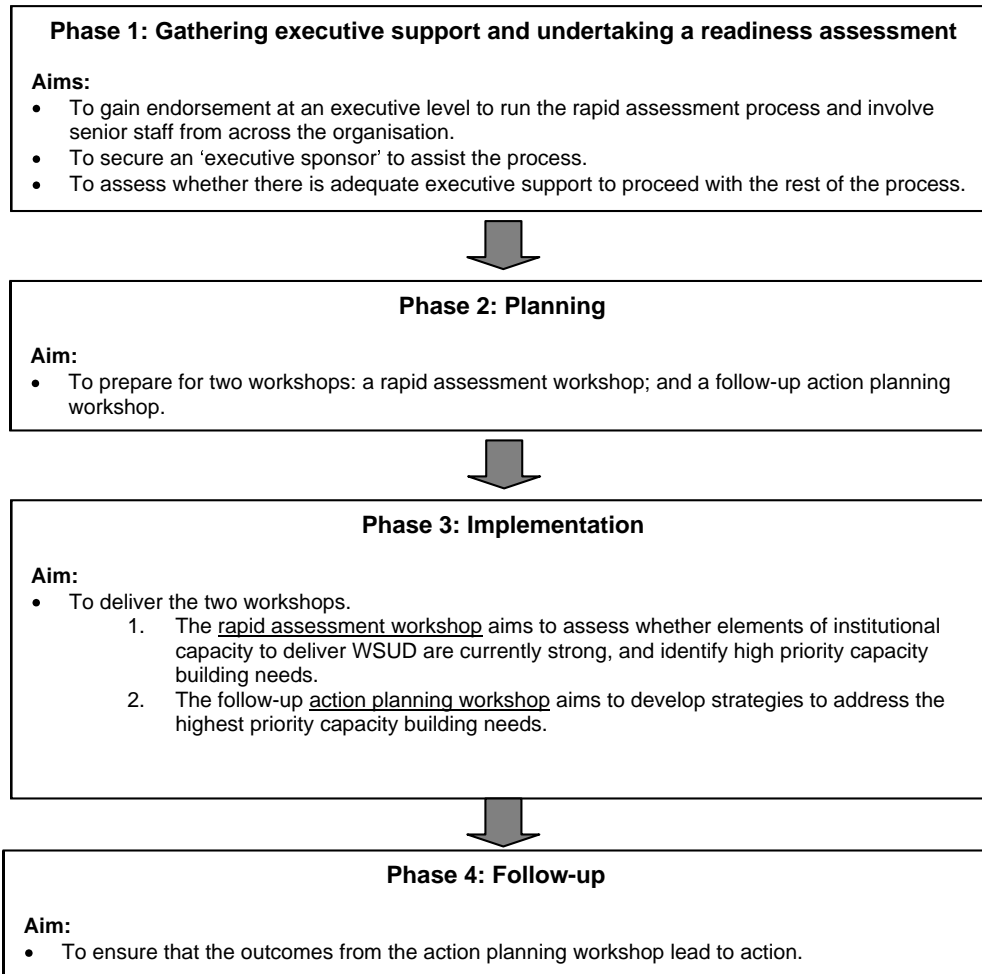
**Table 1 – Workshop materials for the WSUD Rapid Assessment and Action Planning Tool**

The guideline describes the four-phase process that can be used in a local government agency to assess whether the necessary elements of institutional capacity are present to drive WSUD, prioritise capacity building activities, and develop an action plan to build this capacity. The four-phase process is outlined in Figure 2.

The guideline also explains why assessing institutional capacity is important for agencies that wish to promote WSUD, provides guidance on how to implement the process, and cross references other products that have been prepared to support the process (e.g. workshop materials).

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**Figure 2 – The four-phase process described in the guideline**

### Lessons

Experience from piloting the rapid assessment process showed that significant challenges can result if there is little executive support for the process, and little buy-in from senior staff (e.g. team leaders) across the organisation's structure. It is therefore strongly recommended that work be done to gather these two forms of support before proceeding with the assessment process (see Figure 2).

If this support is not evident it may be prudent to postpone until more executive support can be obtained. Such support can be built through awareness raising activities that target executives and politicians, such as field trips to effective examples of WSUD, presentations by respected experts / practitioners and the development of business cases. 'Windows of opportunity' may also open in future, such as the emergence of an executive or politician with a personal interest in WSUD, or a grant opportunity that requires the organisation to identify high priority WSUD projects.

A key to success for the planning phase of the process is to ensure influential staff from all of the organisation's functional units that have a role in the implementation of WSUD attend *both* workshops. Typically, such people represent departments that focus on engineering / works (design, construction and maintenance), environment, planning, development assessment, parks and gardens, and policy. If some participants attend only the follow-up action planning workshop, this can significantly impede the



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workshop process and outcomes because material from the first workshop has to be reintroduced and explained.

The process could be assisted by involving the executive sponsor at the start of both workshops to demonstrate executive commitment to the process and the WSUD philosophy.

Typically, around ten staff are involved in both workshops in addition to the facilitators, the coordinator and the executive sponsor. These people should represent all of the organisation's functional units which have a role in the implementation of WSUD. They should also include influential people who have the capacity to advance and block WSUD initiatives.

A lead facilitator is needed for both workshops, and small group facilitators are needed for the rapid assessment workshop as this workshop involves small group work (e.g. two groups of five to six people per organisation).

A key to success in the initial rapid assessment workshop is to make it clear to participants that the process has been designed to be a *quick* process that seeks to identify high priority capacity building needs. Feedback indicates that most, but not all, participants appreciate the fast pace.

Similarly, keys to success in the follow-up action planning workshop include:

- identify an enthusiastic, competent coordinator who can take the outcomes of the workshop and draft an action plan to promote WSUD;
- focus on capacity building needs that are the root of others (e.g. limited political commitment to WSUD); and
- focus on key ideas and actions to address each capacity building need, rather than being distracted by the detail (e.g. each action's timing, responsibility, budget, etc.).

At the completion of both workshops, senior executives should be briefed on the process that was followed, the outcomes and next steps. Assuming the workshops are evaluated, some of the evaluation data could also be communicated to executives.

In the follow-up phase, a cross-boundary, multi-disciplinary project team should be formed to review drafts of the action plan, seek endorsement from executives and politicians, and steer its implementation. This team is likely to comprise the people who attended the action planning workshop. Ideally, the executive sponsor would also provide guidance to this group (e.g. on the best way to obtain executive endorsement, secure resources, etc.).

Regular reporting of progress to council's executive management team on the implementation of the plan can provide an opportunity to hold relevant staff and units responsible for implementing key actions, and to seek executive support to overcome obstacles that may arise during the implementation of the plan.

### **Conclusions**

The Advancing Water Sensitive Urban Design project has provided several positive outcomes for the five participating councils. The first is tangible, namely a staff-derived and council-specific set of actions to address high priority institutional capacity-building needs that can readily be converted to an action plan.

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The second is less tangible, namely stronger relationships between key people in the organisations who need to collaborate across organisational boundaries in order to implement WSUD. The interpersonal interactions that occur during the process can help to build:

- A shared understanding of opportunities and barriers to implement WSUD.
- A better understanding of each person's perspective and work environment.
- Trust between participants, as a precursor to genuine collaboration.
- An embryonic, multi-disciplinary, cross-boundary team that can continue to guide the implementation of sustainable forms of water management in the organisation. Such teams have been found to be a key sources of group-based leadership within organisations that successfully deliver WSUD through their activities (see Taylor, 2008).

Additionally, the activities in the project (i.e. the rapid assessment process) generate a set of ratings that can be used as a baseline during future assessments of institutional capacity and subsequent adaptive management by the participating organisations.

The WSUD Rapid Assessment and Action Planning Tool ([www.wsud.org/tools-resources/rapid-assessment-tool/](http://www.wsud.org/tools-resources/rapid-assessment-tool/)) is a valuable output and legacy of the Lower Georges River Sustainability Initiative. This tool can be used by any local government agency (or other organisations) to assess and build the institutional capacity required for adoption of water sensitive urban design.

### **Acknowledgements**

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The process and supporting products were trialled in the Bankstown, Hurstville, Kogarah, Rockdale, and Sutherland councils. Particular thanks for support, coordination and participation are due to Ian Curtis from Hurstville City Council, David Towns and Glenn Moody from Kogarah City Council, Kristy Gooding and Alexandra Vandine from Rockdale City Council, Beth Noël from Sutherland Shire Council, and Jenna Hore from the Mid Georges River Sustainability Initiative.

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