

Sustainability and Agenda 21: teaching sustainability ideology and landscape design practice

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THIS PAPER REVIEWS the 'Issues in Landscape Sustainability' subject/project that has been devised by Adelaide University's School of Architecture, Landscape Architecture and Urban Design. It has been successfully run in the townships of Strathalbyn (University of Adelaide 1997), Loxton (University of Adelaide 1998), Port Broughton (University of Adelaide 1999a), and Lobethal (University of Adelaide 2000). The subject/project was recently recognised by the Royal Australian Planning Institute (SA Group) with a Student Project Award in their 1999 State Awards of Excellence:

'Issues in Landscape Sustainability' is a project that introduces tertiary students to concepts of urban design, community planning, and landscape design with economic implications, woven around the concept of sustainability as contained in the State Government's Agenda 21 Strategy (Anon 1999 p 19).

Agenda 21 is about devising policy and practical ideas to address sustainability objectives in communities. This project has focused upon rural communities as a vehicle to involve community and municipal representatives actively, to expose students to both theory and practice, and to serve as an introduction to landscape design principles at a medium level.

KEY WORDS

*Sustainability
Design education
Agenda 21
South Australia*

Introduction: Sustainability

THE CONCEPT OF 'SUSTAINABILITY' is now unfortunately a vexed term that has been appropriated by political spin-doctors and re-crafted far from its original meaning. However, the notion remains the same and it echoes the quotation following, in that we have an ethical role to ensure the conservation and preservation of the Earth's resources. Designers cannot distance themselves from this obligation. They are constantly faced with ethical choices about materials, performance of their designs, the avenues they use to interact with the community, and their role as leaders of innovations.

Principle 1

Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature. (United Nations 1992 np).

The above first principle was adopted at the Rio de Janeiro *United Nations Conference on Environment and Development* [Earth Summit] in June 1992. Many nations endorsed a set of 27 principles that sought to harness an international collective role and obligation in shifting our economies and actions to realistic and feasible sustainable levels. Sustainability, as a catch cry, was born out of this conference that also reaffirmed and built upon the *Declaration of the United Nations Conference on the Human Environments* adopted in Stockholm on 16 June 1972 (United Nations 1972 1-10). It needs to be understood that both these documents addressed 'sustainable development' and not 'sustainability' *per se*, which is the premise inherent in the 'Issues in Landscape Sustainability' subject.

REFLECTIONS

Australia was obligated to take action on these principles and to seek to ensure their implementation as required under the Inter-Government Agreement on the Environment signed by the states in 1992. Central was that 'human beings are at the centre of concerns for sustainable development' and that our actions, in-actions, and policy determinations have a direct impact upon achieving these principles. By virtue of the Agreement, states, and thereupon their legislative creations – local municipalities or unincorporated areas – were obligated to take action to bring their management and strategic policies in line with the intent of the principles. To quote from the International Council on Local Environmental Initiatives:

No global environmental strategy will succeed without a coordinated agenda for local action (Adams 1992 p v).

The South Australian government has been pro-active in facilitating the development of what is now called 'Agenda 21', and was a strong participant in the Australian contingent that attended the Rio de Janeiro conference. Perhaps because of this strength, the notion of Agenda 21 and the implicit obligations it placed upon state and local government, the concept of Agenda 21 has become, since 1991, a central philosophical planning objective in the preparation of strategic and Development Plans (eg Planning Schemes) in the state. Several municipalities:

- have been pro-active in developing Agenda 21 documents
- have linked Agenda 21 documents to performance measures that determine and evaluate critically council expenditures and works programme
- are starting to link Agenda 21 documents to Development Plans directly to make them formal parts of their development, planning or design process and evaluation mechanisms. Key path-leaders in South Australia have been the Cities of Adelaide (Adelaide 1996), Onkaparinga (Onkaparinga 1996), Burnside (Burnside 1995, Drioli 1995) and Tea Tree Gully (Tea Tree Gully 1996), and each are in varying stages of achieving the latter stage.

Principally, Agenda 21 seeks to require that a municipality or government agency perform in an environmentally responsible way. This is the first presumption behind Agenda 21. But it also embraces economic, political and social contexts. For example, a municipality may seek to take advantage of:

- reducing or recovering its cost through conservation, efficiency and recycling
- maximising the productivity of staff by improving their work environment (Adams 1992 p v).

Or, from a political perspective, elected members may be interested in:

- responding to expectations of voters that local government plays a more active part in environmental management
- making sure that the council meets the requirements of State and Federal legislation and/or conditions of funding of environmental programme (Adams 1992 p v).

Or, from a social perceptive, a council may want to be seen as:

- accepting its responsibility to set a good environmental example for the community (Adams 1992 p v).

While the general intent of implementing Agenda 21 has been seriously accepted at the Rio de Janeiro level, the Australian government has been weak in seeking to enact its international obligations. At the state level, varying success has also been achieved. It is perhaps the fact that several of the South Australian representatives were in, and continue to be in, key policy and planning positions in the state that the intent is still being pursued and encouraged in South Australia.

Issues in landscape sustainability: project

In late 1995 the School of Architecture, Landscape Architecture and Urban Design at Adelaide University sought to devise a new platform of landscape architecture subjects to enable the creation of the Landscape Architecture Programme. One vehicle in the five-year sequence of subjects was seen to be a subject that drew upon ethics and the role of designers, and that introduced a design–studio environment into the third year of the sequence. Ethically the school perceived it as a vehicle to discuss the concept of sustainability and to ‘wrap’ it around a project-based learning environment. The latter is the pedagogical environment that the school’s degrees are nested within. Because the third year represents a precipitous point in the educational journey of students through the school – students select either architecture or landscape architecture career pathways at the end of second year – an appropriate corner-stone subject was viewed as integral to their choice and to strengthen their ethical knowledge base.

Out of this desire was borne two subjects, ‘Issues in Landscape Sustainability’ and ‘Issues in Urban Sustainability’. The latter pursued an architectural agenda but has been increasingly hampered by its lack of a foundational study base, a community to work with and the lack of real urban environments in Adelaide to address without constantly revisiting the same sites.

Issues in Landscape Sustainability, in contrast, adopted a stronger educational programme that sought to introduce principles of landscape design, develop a strong ethical and community responsive position amongst its students and to permit the development of individual design projects that had to satisfy environmental, social, and economic performance standards. It is this subject that is the focus of this article. It is also this subject that ‘won this year’s Royal Australian Planning Institute, South Australia Group (RAPI) Student Award ... much to the planners’ surprise’ (Dexter 2000 p 81).

Perhaps this paradox has more to do with the nature of landscape architecture in holding a stronger philosophical concern about the ‘health’ of place than it has to do with architects and architectural education.

Project method

The Issues in Landscape Sustainability project is nested in five stages that are undertaken progressively. Each stage is viewed as an educational building block in introducing landscape architecture students to the basic steps in the design process.

The project itself is nested in a real world scenario and this is a deliberate educational step. First, expressions of interest to host the project are called for from municipalities throughout South Australia except the urban municipalities in Adelaide. Normally 10–15 municipalities have responded each year with invitations, stating key local issues and identifying a particular community they are willing to sponsor. There is increasing competition amongst rural municipalities to host this project as word is effectively spreading through senior council staff about their experiences and outcomes arising from the project. Several municipalities have made

direct approaches to host a more inclusive version of the project. These councils perceive that they will gain more holistic ends and ideas from the project. For example the Programme took up very successfully the invitation from Kapunda Light District Council to work with the Kapunda Town Committee in 1999 (University of Adelaide 1999b).

Most rural municipalities in South Australia have been slow in embracing Agenda 21. They have been hampered by the recent slow amalgamations and are starting to be more creative in their concern for the quality of their portfolios and assets. Selection of the community has been deliberate to scatter the school's involvement throughout South Australia and thereby increase its public profile and that of the discipline of landscape architecture. Accordingly, a different region and municipality has been selected each time and a different eco-system considered. Because of the smallness and collegiality of the Programme, this approach has ensured that information about regions and ecological systems is communicated and displayed to other years in the Programme.

The concepts of Sustainability and Agenda 21 are least understood in the rural areas of South Australia, and especially by rural councillors. In contrast, there is a much higher expectation and participation in community consultation initiatives – if handled properly – in rural areas than there is in urban areas in South Australia. Jones notes the historical failure of rural process structures applied in urban contexts in the United States, and Goodwin and Hopkins support this conclusion from project-based research in Australia (Jones 1999, Goodwin pers comm 2000, Hopkins pers comm 2000).

Jones also points to the validity of adopting a citizen participation approach in rural areas as having more far-reaching design and planning outcomes in this sector. This argument arises from the conclusions that: users have the same work-home places, a 'company town' notion persists, land ownership and use are much more strongly tied to place, community organisations possess continuity and holistic strength, and that the notion of 'democratised' planning is still rife in rural areas. The latter point is extremely prevalent in South Australia where the mythos of the socio-democratic landscape dreamt by Wakefield, standardised by Goyder, and celebrated by Dunstan persists today. In contrast, in urban areas there is more often no work-home relationship, no 'suburb community' or 'village community', land ownership is fragmented and anonymous, community organisations are more fragile, fragmented and interest-driven, and the notion of 'democracy' is subverted by virtue of numbers and political agendas (Jones 1999 p 76).

There is also lack of substantive and practical literature that is focused upon rural sustainable examples. Instead rural communities are presented with urban or r-urban architect-designed homes or designed wetland systems, thereby stifling rural appreciation of sustainability. Scepticism continues to arise where 'town folk' come into a rural community and are pre-seen as trying to impose urban ideas that are not sympathetic to their townscape. There are numerous examples of this that come to mind, and it has been the chief apprehension of a township hosting this project.

Community-based service teaching in landscape architecture education has only a few long-term examples to draw upon. There have been a series of long-term courses in the United States and Canadian universities with communities that alternate between using the same town or moving the project around. A case in point has been McHarg's ecological planning studios at the University of Pennsylvania (McHarg 1964). A scatter of Council of Educators in Landscape Architecture (CELA) proceedings in the last 10 years has also touched on this topic, but none to the depth

of Stanton Jones' 'Participation and Community at the Landscape Scale' article (Jones 1999, Thayer 1989). In Australia, the Outreach Programme, instigated in 1985 at the Royal Melbourne Institute of Technology (RMIT) University under Professor James Sinatra and in the process of ceasing, has used the approach in structuring design studio experiences in the Western District of Victoria and in the Broome-Beagle Bay region in Western Australia. The Victorian Royal Australian Institute of Architects 'Environmental Designers in Schools' initiative also touched on this approach albeit at a practitioner level. The Creative Villages initiative, run for several years at the University of New South Wales using different communities each time, has parallels; but this project is richer and more holistic (Goodwin pers com 2000).

Project structure

Once a town is selected, five educational steps unfold as follows:

INTRODUCTION/SITE ANALYSIS

A detailed site analysis, on pushbike, over a period of 2–4 days is undertaken in the community selected. This ensures familiarity with every hill, house and key feature in the town, and involves extensive mapping and discussions with community members. Teams of students are required to map, in detail, precincts in the community, and alternate teams inquire and qualify thematic information about the community and combine into a report.

Educational aims focus upon team building, community consultation, graphic and communication media and the rationale behind site analysis often with deliberate exposure to the local media.

POLICY EVALUATION AND DEVELOPMENT

Students are drawn into the realm of policies and are introduced to their precepts and design. To many, this is a new area. It draws upon the planning discipline but it is also seeking to enable an understanding of the logic behind the formulation of policy statements and strategic documents that dictate or set parameters around design ideas. The intent is often either to design sustainability places or to design a strategic policy framework for the community. The nature of the task has depended upon the community concerned but the document or documents themselves form the evaluation and performance criteria for the design concept stage.

Educational aims are in policy evaluation, critique, design and the formulation of a sustainability strategy that students consider realistic for the community they are studying.

ENVIRONMENTAL VALUES

One of the difficulties of designing in rural communities is community consultation. Indeed, a flaw of many landscape architecture programmes in Australia is that students are not introduced to or taught the range of consultation skills and techniques that inform and empower the communities in the design process. This phase involves questionnaire and survey design, and the execution of survey and/or workshops. The fascinating aspect of this phase is that many students change their presumptions about resident values. They are confronted with the values of the clients and the community that are often in conflict with their grandiose or adventurous ideas. It is not the intent, in this phase, to delimit design creativity but to reinforce the fact that it is the community that is their client and not just the municipal council that is hosting them.

Educational aims are focused upon community consultation techniques.

DESIGN CONCEPTS

The purpose in this phase is to devise a design concept per student. The intent is not to realise a detailed proposal but to devise one that attains several sustainability objectives, and which may range in scale and scope and from a pure policy level to an applied practical level. The selection of projects is within the student domain. But the staff intent is to nurture creativity, provide morale and guidance and, in particular, to permit a student to explore in depth a design idea that they have had limited opportunity to consider in their previous studies. Most students have revelled in the challenge—producing design concepts that are rigorously resolved and often resulting in a considerable amount of their energy being directed towards their project to the detriment of the other subjects they are studying. Part of the culmination of this stage includes presentation of their work at a public meeting.

The educational aims are to foster an understanding of design development from a landscape architecture perspective, to introduce much of the landscape design language and vocabulary, to teach community consultation skills and to strengthen graphic, oral and creative thinking skills.

ECONOMIC FEASIBILITY

An adjunct to the project is to bring the design concept into an economic feasibility realm in order to force students to consider and re-examine the fiscal and non-fiscal costs associated with their design concept.

Educational aims are based upon economic realities of landscape design interventions and policies.

While the stages are unfolding a parallel sequence of lectures that are reviewing sustainability, alternative technologies, ethical issues, across several discipline areas provide contextual and ideation support to student learning.

Project history and preconceptions

The following table summarises the historical profile of the communities that have participated in the project. A number of aspects have become increasingly evident with each community or municipality that the project has worked within. These include:

- most towns/communities are very apprehensive about university students using their community as a study vehicle
- most communities and senior council staff have a poor, if not limited, understanding of 'landscape architecture' and the scope of what the project will mean for their community
- most communities are focused upon one or two aspects in the life of the town and are not reading the larger picture of the community. In particular, community emphasis is often upon fixing up the aesthetic appearance of the main street assuming that that is the integral sustainability determinant of the town
- the notion of a main street programme as remedying all the townships' ills pervades town leaders' thoughts
- youthful senior council management are trying to pick up the financial and operational management pieces of the town following the impact of council amalgamations
- there exists very poor infrastructure documentation that is often reliant upon the collective oral memory of council staff members

- the observation that a number of key community leaders tend to run and direct the ideas and projects in the town often to the detriment of a holistic vision
- that service clubs (Rotary, Lions, Kiwanis, etc) are causing often misguided yet intentional impacts upon the fabric and landscape character of communities
- most towns have been severely impacted by the closure of a key employer, or have witnessed most or all of their banks close and several government offices close, and are increasingly sensitive about any loss of service or institution
- most towns have a strong sense of community and pride, and are deeply concerned about the deterioration of rural services and the future of their towns.

Why are these perceptions here, and why do they appear to be commonplace throughout Australia, New Zealand and the United Kingdom? Why do they continue to surface in any consultancy, and in every one of these projects?

The answers appear to lie in community education (or mis-education), our increasingly short-term perspectives of place, the economic rationalism that has further entrenched a 12 month fiscal outlook stifling longer project-time possibilities and the way we tend to voice our 'future' now and not sit back and reflect upon the now and the bigger picture we are trying to create. A second set of answers lies in what Jones has concluded above.

Several of these misconceptions propose positive and negative issues. As landscape architect practitioners and educators, we are constantly faced with the influence and understanding of senior, or more vocal, community leaders and service clubs who run and direct ideas simply because they have funds in their budgets. Two years following the Strathalbyn project, the Council had to deal with a service club that sought to implement one student idea in a grandiose manner but in a totally wrong location and with a 'blackmail' imperative attached about money availability. The result was the engagement of the Programme to prepare a conservation study and a landscape master plan with guidelines to deal this issue and pre-empt any other initiatives (Jones 1999). Is this example really evidence of a dilemma that community consultation is not educating and empowering but rather providing a vehicle to theoretically give the public a voice and simply endorse what the council and consultant may have on the drawing board anyway? How would the community function without this type of leader?

Outcomes

Most outcomes from subjects can normally be judged in terms of their educational impacts upon students. In particular, their learning skill development and knowledge acquisition. These outcomes are more tangible in this Programme but are, in addition, wedded by practical outcomes that are progressively unfolding. Most universities also impose subject evaluation tests for students to complete that more often result in morale polls rather than teasing out the realities of what they have actually learnt consciously and unconsciously.

The most significant educational impact is upon the student. There is an eager acceptance of the real world setting of the project, a strong and often enthusiastic acceptance of their newfound responsibility to a client that is interested in what they do, ask, see and propose. Lastly, there is an escalation of student morale and confidence that this is the discipline they want to pursue as a career. Within the latter, a growing

ethical position and self-responsibility is evident amongst individual students where it did not exist previously.

While the subject has value in terms of its exposure of students to real world problems in sustainability; it has also had several knowledge-building consequences for the municipalities and communities involved. Most communities were initially apprehensive about a group of landscape architecture students using their town as a study base. Most municipalities have also approached the tendering and hosting of the subject in a vacuum of uncertainty about what landscape architecture actually constituted and with a municipal objective of obtaining free ideas for what to do

Figure 1: Historical and cultural profile of the project towns.

	<i>Project Town</i>			
	<i>Strathalbyn</i>	<i>Loxton</i>	<i>Port Broughton</i>	<i>Lobethal</i>
<i>Year</i>	1997	1998	1989	2000
<i>Client</i>	District Council of Strathlbyn	District Council of Loxton Waikerie	District Council of Barunga West	Lobethal Chamber of Commerce
<i>Council</i>	District Council of Strathlbyn	District Council of Loxton Waikerie	District Council of Barunga West	Adelaide Hills Council
<i>Region</i>	Fleurieu Peninsula	Riverland	Upper North	Adelaide Hills
<i>Town size/population</i>	1,500	2,500	1,200	1,500
<i>Town policies extant</i>	Strathalbyn Development Plan Draft Environment Policy	Loxton Development Plan	Barunga West Development Plan Vision 2020 Strategy	Onkaparinga Development Plan Onkaparinga Development Plan Review
<i>Cultural characteristics</i>	Strong rural, pastoral and horticultural community proud of their Scottish ancestry, wary of tourism but accepting it as necessary for the town's survival. Under threat of coming out second best in municipal amalgamations.	Strong, community-based, irrigation, River Murray township with a subtle Lutheran backbone, that thrives on community events and a sense of rural community purpose.	A quiet coastal holiday community that is uncharacteristically disowned by the identifiable regions and councils it is geographically positioned within.	A strong inward looking community, with the largest concentration of Lutherans in South Australia, that has been severely impacted by the closure of Onkaparinga Woollen Mills.
<i>Thematic issues in the town</i>	Water quality. Tourism impacts. Edge town development proposals. Rural business/service decline/closure.	Unemployment. Community activity burnout. Rural business/service decline/closure. Competition from other Riverland business centres.	Unemployment. Coastal degradation. Water quality, cost and conservation.	Main street. Creek conservation and flooding. Cultural undertones. Poor historical infrastructure provision.

with their main street. Indeed, the greater goal from their perspective was how to make the most from a set of free ideas to enliven their main street economically and aesthetically. This perspective certainty was noticeable initially in Loxton and recently in Lobethal. An expert panel concluded in late 1999 that the project:

... has been proactive in establishing ... clear connections between design and planning by introducing design students to the planning system, policies, zoning structure and processes. The subject has allowed students to develop a greater appreciation of the role and importance of planning and design in steering and nurturing a town's future – thereby ensuring its cultural, economic and environmental sustainability (Anon 1999 p 19).

Importantly, the subject has changed perceptions in the municipality as to what constitutes landscape architecture and that it is not simply about tree planting. This has resulted in greater awareness and a desire to pursue or implement several of the students' recommendations. These two points are certainly evident in the last three years in the townships of Strathalbyn, Loxton and Port Broughton. In these townships, municipal staff use student concept designs to support their grant applications, to engender community debate by having the design work on display, or by pursuing the capital implementation of works proposed by the students.

Arising from the work with these municipalities a wider municipal interest is occurring in both the project and the Landscape Architecture Programme. At the same time the Programme is seeking closer working, research and consultancy relationships with these municipalities. A flow-on impact has occurred by virtue of rural students' or their parents' chance exposure to student work. In the last three years increasing numbers of rural students have been applying for entry into the undergraduate Bachelor of Design Studies degree as a means of pursuing a landscape architecture career.

Arising from Figure 2, there is a tendency of councils and communities to seek 'quick-fix' and 'cheap' solutions. Several of the Main Street ideas and initiatives in South Australia have followed this path and failed to realise community support and a quality outcome; whereas others with a long perspective and one that builds upon projects have had wider and more beneficial impacts. Cases in point for the former are Stirling main street, Commercial Street in Mount Gambier and Mannum main street. Examples of the latter are the Bordertown main street, Waikerie main street, and John Street in Salisbury.

There has also been a tendency to adopt an image from elsewhere rather than nurture and develop an individual and unique image drawn from the town's spirit and history.

In contrast, the aspect that appears not to have changed is the understanding of 'Agenda 21' in the towns. Perhaps it has to do with government catch-cries and identity re-badging exercises. The project's findings are that both the community and the local government entities it has worked with, still do not understand Agenda 21 and mainly see it as a jargon phrase to appropriate for the purposes of grant applications or government hand-outs.

The community impact of the project has been more profound than the school first realised. In late 1999, the South Australian Group of the Royal Australian Planning Institute awarded the subject their 'Student Project' award for 'outstanding work by school or tertiary students in urban and regional planning'. Uniquely, here was a

different professional institute giving an award to a landscape architecture subject in a university that does not offer an urban and/or rural planning degree. The jury:

... were most impressed by the degree of community consultation in each of the projects, the research effort involved, the analysis, the depth of content and the planning outcomes developed However, what the jury considered outstanding was the overall mastery of the projects in dealing with their respective remits and the way that each has been executed as a student learning experience (Anon 1999 p 19).

It has long been the intention for the school to distance itself from the actual construction design and implementation of these design concepts – given the time

Figure 2: Perceived and real outcomes for the project towns.

	<i>Project Town</i>			
	<i>Strathalbyn</i>	<i>Loxton</i>	<i>Port Broughton</i>	<i>Lobethal</i>
<i>Initial perceived outcomes</i>	Environmental policy.	Main street ideas.	Any ideas.	Mains street ideas.
<i>Real outcomes achieved</i>	Introduction to landscape architecture. Re-think on the heritage and botanical significance of the central town park. Proposal of environmental educational and wetlands centre used as an argument in a Development Appeals Court. Town entrances.	Introduction to landscape architecture. Main street re-development projects. Wetlands 'park' project. Town entrances. Solar energy pilot project. Street tree strategy. Storm water drainage re-design. Computer-aided design documentation of town infrastructure.	Introduction to landscape architecture. Main street re-development projects. Caravan park water recycling strategy. Town entrances.	Introduction to landscape architecture.
<i>Real outcomes executed that gained funds/grants/special council initiative funds (short term) two years thereafter</i>	Re-appraisal of Townscape initiatives. Environmental policy.	Wetlands 'park' Computer-aided design documentation of town infrastructure.	Town entrances. Part-main street projects.	Main street furniture guidelines being developed. New 'landscaped' pedestrian crossing proposal being considered.
<i>Real outcomes executed that gained funds/grants/special council initiative funds (long term) more than two years thereafter</i>	Town entrances. Conservation study on main park.	Wetlands 'park' – continuation. Town entrances. Street Tree Policy adoption. Shop demolition and plaza creation.	New nursing home landscape re-appraised. Caravan park water-reticulation options re-assessed. Area School re-appraising the functions and design of its wetlands education centre.	Pending.

available, the education intent of the Programme, and public liability concerns. It is also the intention to use the project as a community awareness initiative, especially given the cost-benefit comparison of engaging consultants to do the equivalent work, and to craft the opportunity for 'landscape architect' positions to be opened up in rural councils in a share arrangement. The Programme, however, is providing an advisory conduit for townships to source funds, engage practicing designers, and to consider opportunities.

The project is demonstrating the ability to weave ethical considerations into a project-based learning setting. It is also demonstrating the ability to enrich a student's learning outcomes and to provide an energised introduction to the basic principles and possibilities in landscape architecture.

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