DRUG POLICY MODELLING PROJECT
MONOGRAPH 13

SCOPING THE POTENTIAL USES OF SYSTEMS THINKING IN DEVELOPING POLICY ON ILLICIT DRUGS

Gerald Midgley
Ann Winstanley
Wendy Gregory
Jeff Foote

Institute of Environmental Science and Research (ESR),
New Zealand

December 2005

THE DRUG MODELLING POLICY PROJECT

This monograph forms part of the Drug Policy Modelling Project (DPMP) Monograph Series.

Drugs are a major social problem and are inextricably linked to the major socio-economic issues of our time. Our current drug policies are inadequate and governments are not getting the best returns on their investment. There are a number of reasons why: there is a lack of evidence upon which to base policies; the evidence that does exist is not necessarily analysed and used in policy decision-making; we do not have adequate approaches or models to help policy-makers make good decisions about dealing with drug problems; and drug policy is a highly complicated and politicised arena.

The aim of the Drug Policy Modelling Project (DPMP) is to create valuable new drug policy insights, ideas and interventions that will allow Australia to respond with alacrity and success to illicit drug use. DPMP addresses drug policy using a comprehensive approach, that includes consideration of law enforcement, prevention, treatment and harm reduction. The dynamic interaction between policy options is an essential component in understanding best investment in drug policy. Stage One has: a) produced new insights into heroin use, harms, and the economics of drug markets; b) identified what we know about what works (through systematic reviews); c) identified valuable dynamic modelling approaches to underpin decision support tools; and d) mapped out the national policy-making process in a new way, as a prelude to gaining new understanding of policy-making processes and building highly effective research-policy interaction.

This monograph (No. 13) summarises pilot work to scope the potential uses of systems thinking for developing illicit drug policy. Systems approaches have the potential to offer much to drug policy analysis through their use of participatory methods, capacity to deal with multiple simultaneous policy options, and appreciation of the complexity, interconnectedness and dynamic feedback loops associated with policy decisions. The monograph outlines six systems approaches used by the New Zealand team in exploring illicit drug policy. The results of in-depth interviews with five experienced policy makers and a demonstration project around a policy issue are described. The potential utility of systems approaches in illicit drug policy are demonstrated.

Monographs in the series are:

01.   What is Australia's "drug budget"? The policy mix of illicit drug-related government spending in Australia

02.   Drug policy interventions: A comprehensive list and a review of classification schemes

03.   Estimating the prevalence of problematic heroin use in Melbourne

04.   Australian illicit drugs policy: Mapping structures and processes

05.   Drug law enforcement: the evidence

06.   A systematic review of harm reduction

07.   School based drug prevention: A systematic review of the effectiveness on illicit drug use

DPMP strives to generate new policies, new ways of making policy and new policy activity and evaluation. Ultimately our program of work aims to generate effective new illicit drug policy in Australia. I hope this Monograph contributes to Australian drug policy and that you find it informative and useful.

Alison Ritter
Director, DPMP

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

INTRODUCTION

This short monograph summarises the findings of a pilot project designed to scope the potential uses of systems thinking for developing policy on illicit drugs. While a great variety of systems approaches have been developed, they all have some common characteristics: a recognition of the need to deal with complex issues by looking at the 'bigger picture'; the evaluation of multiple policy options prior to (and often during and after) implementation; and exploring interconnections and potential consequences to identify and minimise unwanted 'side-effects' of policy (Flood and Carson, 1993).

While this focus of systems thinking on dealing with complexity has been found to be useful in many other policy contexts, such as policing (Flood and Jackson, 1991a) and sustainable cities (Ravetz, 2000), systems approaches have been used less frequently in policy making on illicit drugs. However, given that this area of policy can be highly complex, characterised by tensions between stakeholder groups and requiring difficult balances to be struck between enforcement, prevention and treatment (Ministerial Council on Drugs Strategy, 2004), it seems worthwhile to explore what added value systems approaches could offer, and what barriers to their use might be encountered.

In the research reported in this paper, the team carried out five in-depth interviews with experienced policy-makers (three in illicit drugs and two in other areas of public health) working in the drugs field, asking them to consider the strengths and weaknesses of six systems approaches designed for different purposes. Following these interviews, a small demonstration project with Turning Point was run to test the use of a combination of systems methods on an illicit drugs policy issue of relevance to that organisation.

SIX SYSTEMS APPROACHES

Based on the previous work of Flood and Jackson (1991b), six systems approaches were chosen as reasonably representative of the breadth of systems ideas applied to policy and management, and the perceived strengths and weaknesses of these were explored in the interviews with the policy makers. The approaches were as follows:

1. *System dynamics* (e.g., Forrester, 1969; Roberts et al, 1983; Maani and Cavana, 2000) enables researchers and policy makers to produce quantitative models of interactions, helping people see where unexpected effects of policy making might appear.

2. *Viable system diagnosis* (e.g., Beer, 1985) offers a model of a viable organisation, its necessary parts and the communications that need to take place between the parts if the organisation is to thrive in a complex, dynamic environment. Organisational failures can be diagnosed and recommendations for change can be made.

3. *Strategic assumption surfacing and testing* (e.g., Mason and Mitroff, 1981) helps to structure debate between the proponents of two or more alternative policy options, drawing in stakeholders in a participative process. It asks people to examine their assumptions in order to find the best way forward.

4. *Interactive planning* (e.g., Ackoff, 1981) engages a wide range of stakeholders in the large-scale redesign of policy with the aim of preventing or 'dissolving' problems rather than solving them (narrowly focused 'solutions' tend to generate new problems). The focus is on harnessing the creativity of all those with relevant perspectives on an issue to produce a consensual vision and an action plan that the relevant actors can commit to implementing.

5. *Soft systems methodology* (e.g., Checkland, 1981; Checkland and Scholes, 1990) offers a participative process where people can explore their perceptions of the current situation and ask what sets of future human activities could transform that situation in desirable and feasible ways. The focus is on seeking accommodations between people with different perspectives so that acceptable action plans can be defined.

6. *Critical systems heuristics* (e.g., Ulrich, 1983) offers twelve questions that can be asked of stakeholders (including 'ordinary citizens' as well as professionals) about what currently *is* the case and the system that they believe *ought* to be designed. The focus is on exploring purposes, control, expertise and legitimacy, and the gap between what 'is' and what 'ought to be' comes to be the focus for policy and intervention. Either debate can be facilitated between stakeholders to enhance mutual understanding, or the twelve questions can be used to promote value clarification within a stakeholder group (or both).

INTERVIEW FINDINGS

The main issues identified by the interviewees in the illicit drugs policy arena included: difficulties of involving or consulting multiple stakeholders; problems associated with assessing and using a range of evidence to inform policy; the need to account for party politics in terms of maintaining electoral support; different and competing jurisdictional boundaries restricting funding resources and opportunities for consultation; competing values impacting on policy implementation and a lack of methods for addressing these issues.

The systems approaches were seen as potentially useful to the extent that they are able to:

- Engage and manage a diversity of stakeholders in ways that allow all participants' voices to be heard, reduce polarisation and enable the emergence of consensus.
- Provide outcomes that can be acted upon, not just in the long term but also the short-to-medium term.
- Identify and clarify the values underpinning different policy directions.
- Address and clarify issues relating to evidence that is taken into account in policy.
- Encourage staff working either in the policy or service provision areas to think more broadly and creatively.

The six approaches were found to have different strengths in relation to the above. For instance, approaches that rely on a researcher producing a model and generating policy recommendations were viewed as having the potential to contribute usefully to the evidence base for policy. In contrast, some of the more participative approaches were perceived as strong in terms of engaging stakeholders and clarifying values. However, despite recognition of the above strengths, a number of barriers to the potential use of systems approaches were identified, including:

Electoral and timing issues – for example, most of the interviewees said that it is very difficult to engage in a new policy process prior to an election. Rather, the period immediately after an election was identified as the time when policy makers most welcome the opportunity for exploring policy options. The fact that governments consider their own re-election prospects when they decide whether or not to 'open a policy box' was seen as a significant barrier because of the potential for systems thinking analyses (especially those based on the use of participative methods) to raise expectations in the community that may not be able to be met, thereby undermining the electoral fortunes of the government of the day.

Perceived tensions between the values underpinning policy and the need for a robust evidence-base. While most of the interviewees thought that discussion around the values underpinning policy on illicit drugs should take place (reducing community dissatisfaction was seen as one positive outcome of this process), they also said that some policy makers would feel uncomfortable about expressing their values given the need to base policy on evidence – the gold standard of which was seen as rigorous, quantitative scientific research. Implicit in this observation seems to be the fact that some people see values as non-rational or emotional commitments (compared to scientific evidence, which is viewed as rational and objective). This is quite a different understanding of values to the one promoted by systems thinkers who tend to view values as amenable to rational justification and hence critical examination. This difference in understanding could be a significant barrier to the use of those systems approaches that are explicit about exploring values, as some policy makers could view these as undermining an evidence-based policy approach. Additionally it should be noted that, although the majority of the interviewees were in favour of

identifying and clarifying values, one interviewee disagreed, stating that a "pragmatic" rather than a "reflective" approach to illicit drugs policy is needed (i.e., one that is simply based on 'what works' rather than examination of *the terms in which* a policy can be said to work, which requires some reflection on value judgements).

Workloads, the turnover of staff and career aspirations were also identified as possible barriers. Workloads were an issue because the bulk of a policy maker's time is taken up with responding to urgent demands rather than thinking more creatively. Staff turnover can be problematic because systems thinking capacity is not currently well embedded in organisations and can easily be lost. Career aspirations were mentioned by several of the interviewees, in the sense that some policy makers may be unwilling to take the risk of initiating a systemic analysis in case it generates findings that are unpopular with politicians or management.

A need to manage the multiple and/or competing views of a wide range of stakeholders, including the media, was another perceived barrier. In particular, it was noted that minority interest groups can sometimes unfairly dominate participative processes, and policy makers are reluctant to give undue influence to views that only a small percentage of the population might hold. The fear of media leaks that could impact negatively on electoral popularity was of particular concern. This is related to a tension between the need for government officers to be seen to promote the policy of the day, and the need in systemic analyses to allow more creative explorations. Several of the government officers interviewed in this research said that they believed in the value of exploring policy alternatives through creative and participative processes, but would not be able to put themselves in a situation where they were exploring new ideas in a public forum that might contradict the existing policies of elected representatives. Given that four of the six systems approaches discussed with the interviewees embrace some degree of stakeholder participation (and it is possible, but not essential, to operationalise the other two in a participative manner as well), this needs to be recognised as a particularly significant barrier.

The irony is that some of the problems that were identified as characterising the illicit drugs policy arena (e.g., competing values, electoral concerns and the need for a robust evidence base), some of which systems thinkers claim are amenable to solution through using systems approaches, were also identified by the interviewees as *barriers* to using these very approaches. It is particularly noteworthy that many systems thinkers have designed participative processes with the explicit intention of addressing stakeholder conflict, yet the need for participation is itself viewed as a barrier by government officers who personally believe that dialogue is worthwhile, but who are reluctant to actively participate in this dialogue for fear that they might publicly contradict official policy. This barrier is arguably built into the institutions of representative democracy where elected members are expected to retain control of decision making, and government officers are not permitted to make public political statements that bring these decisions into question.

The above findings indicate that there may be difficulties in applying systems approaches to policy making on illicit drugs. Clearly, the participative approaches pose problems for government officers who feel caught between their desire for engagement and their responsibilities to elected members. Also, those people who see values as non-rational commitments may perceive those methods that are explicit about exploring values as undermining the principle of evidence-based policy. However, even those approaches (e.g., system dynamics and viable system diagnosis) that can be used by researchers in partnership with policy makers without the participation of external stakeholders may be seen as overly time-

consuming by policy makers who are preoccupied by 'fire fighting'. Again it is ironic that some of these approaches have been designed precisely to *transcend* 'fire fighting' (e.g., Ackoff, 1981).

It would appear that part of the problem outlined above is a lack of understanding in the policy community about how systems thinkers are already tackling some of these barriers, such as 'fire fighting', conflicts between stakeholders with competing viewpoints, and building an evidence base (with an expanded view of 'evidence' that acknowledges stakeholder values and justifications, often setting these alongside scientific analyses). Some of this lack of understanding became evident in the interviews through discussions of practical examples. More effective communication is therefore necessary, but it is also the view of the researchers that systems thinkers have not yet seriously addressed some of the barriers mentioned by the interviewees – for example, the effect of the electoral cycle. Also, the tension felt by government officers between wishing to think creatively and needing to be seen to be supporting the policy of the day requires a meaningful response, which has to go beyond simply reasserting the value of community participation.

For communications between systems thinkers and policy makers to be effective, the former must seriously account for the fact that many policy makers perceive the desire for participation as being part of the problem, and this is *not* because they fail to see its value. However, in exploring these difficulties with the interviewees, several ways forward were identified. All of the interviewees said that methods for facilitating debate, accommodation and value clarification would be more acceptable as part of policy *analysis* as opposed to policy *making*. Within the context of an analysis, private space and anonymity can be given to stakeholders so that they can surface their views without fear of retribution. Importantly, the interviewees noted that if participation is limited to policy analysis, policy makers are able to retain control over the actual taking of decisions. This is a weaker form of participation than that envisaged by some systems thinkers, but offers a constructive solution to the dilemmas around participation discussed earlier. In addition, the interviewees also said that systems approaches might usefully be employed in service provider and/or advocacy organisations that *influence* policy directions, and in the latter context it might be easier to enable the meaningful participation of a range of stakeholders. Indeed, many examples of participative systems practice with service provider, voluntary and advocacy organisations dealing with issues other than the effects of illicit drugs have been reported in the literature (e.g., Midgley, 2000; Midgley and Ochoa-Arias, 2004). Finally, although the interviewees did not raise this, the researchers can see considerable scope for using systems approaches within the context of policy *evaluation*.

THE DEMONSTRATION PROJECT

The next phase of this research took up the challenge of working on a policy issue with an organisation that *influences* policy rather than with government policy makers themselves. Two workshops were held with Turning Point to demonstrate how participative methods could be used for their own policy analysis (and also organisational strategy) in a manner that would not threaten political and managerial control of decision-making, but could still enable the creative exploration of problems and potential policy responses. The workshops explored the question: "what are appropriate responses to public injecting?" The first workshop was held with Turning Point staff and selected external stakeholders (including a police officer, the leader of a residents' association, a lawyer and several community workers), focusing on people's perceptions of public injecting on a particular public housing estate and possible policy alternatives that could potentially be adopted by Turning Point and other policy makers. Workshop two was held with Turning Point staff alone, giving them confidential space to explore their own policy preferences in light of the previous day's discussions. The workshops used a number of systems thinking methods that were drawn from different methodologies and were 'blended' to suit the application context.[1] A detailed report of the workshop is provided in Appendix 1.

The outcome of the first day was a 'rich picture' (a large visual representation) of the 'mess' people are faced with, covering a wide range of issues from the daily experiences of people living on the housing estate to the complexities of the international drugs trade. Two policy alternatives were also identified and explored: provision of a 'safe injecting facility' (with associated outreach, educational activities and access to treatment) to take drug users off the streets (and especially out of the sight of children), and community capacity building to address poverty, empower residents and thereby deal with some of the root causes of the issue. Benefits and drawbacks of both these policy options were identified, but no conclusions on how to move forward were reached (and nor were they expected – this was quite deliberately framed as an exploratory exercise).

Day two, with Turning Point staff alone, took up where the previous day left off. The problems with the policy options were explored in more depth: community capacity building alone had the potential to displace drug users to other areas, but a safe injecting facility on its own could be seen as attracting drug users to the area and making the community environment worse. The participants then had the insight that each option actually addressed the weaknesses of the other, so most of the rest of the day was spent exploring what a policy response encompassing both might look like.

While the intent of the workshops was to demonstrate and experiment with system methods using the substantive issue of appropriate responses to public injecting, links between the systemic processes of engagement and the content of people's analyses evolved in a way that enabled possibilities for action by Turning Point to be discussed. This was not the original intention of the workshops (they were set up to be purely exploratory), but the participants saw the value of moving to discuss action and wanted to take this opportunity.

The participants evaluated both workshops. There were many positive comments, and most people said that they had learned something new about the local public injecting situation and/or

---

1 These methods included stakeholder identification; producing a 'rich picture' (from soft systems methodology: Checkland 1981, Checkland & Scholes 1990); sustainable design principles (from interactive planning: Ackoff,1981); twelve questions on the ethics of system design (from critical systems heuristics: Ulrich, 1983); 'batwove' (an adaptation of Checkland's, 1981, 'catwoe': Midgley & Reynolds, 2001); and conceptual modelling (again from soft systems methodology: Checkland 1981, Checkland & Scholes 1990). The theory and practice of mixing methods is extensively discussed by Midgley (2000).

had a better appreciation of other people's perspectives. Most importantly, these new insights were valued and were successfully translated into the evaluation of the policy options that were considered. One person went so far as to comment that he had been forced by his empathy with another participant to take seriously concerns that he had previously dismissed. All the Turning Point staff had been able to identify something useful that could contribute to policy or action for the future.

The issue of taking time out of people's busy schedules (the problem of transcending a 'fire fighting' approach) was again raised as a barrier, but there was a strong consensus that the benefits of doing so outweighed the time costs. The question is therefore how to demonstrate this to others who might be sceptical.

CONCLUSIONS

The evidence from this pilot study suggests that systems thinking could indeed be usefully applied to policy making on illicit drugs. The interviews pointed to strengths of some of the systems approaches in terms of dealing with complexity; contributing to the generation of evidence; and enabling inclusive policy making (especially taking account of multiple values and perspectives). However, significant barriers were also identified, which in the context of this short piece of research could not have been addressed. Some of these reflect the need for improved communications between systems thinkers and policy makers, but there are also substantial barriers that (in the view of the researchers) systems thinkers have not yet effectively addressed. These include the impacts of the electoral cycle and the tension felt by government officers between wishing to think creatively and needing to be seen to be supporting the policy of the day. Ways forward identified by the interviewees included using systems approaches for policy *analysis* rather than policy *making* (and the researchers would add policy *evaluation* in here), and working with policy *influencing* organisations (e.g., service providers and advocacy groups) who might be in a better position to enable community participation and the creative exploration of issues. A demonstration project with just such an influencing organisation was run, and an evaluation of it demonstrated that the systems thinking methods had significant utility in terms of supporting people's learning about a complex problem; helping to build mutual understanding between stakeholders; and moving the organisation towards an action focus.

Although the utility of systems thinking has been demonstrated, the question remains: can some of the barriers to take-up be overcome in a manner that will enable systems thinking to contribute to more informed policy making in government circles, as well as in policy influencing organisations? To answer this question, future research directions are arguably best decided in collaboration with the relevant policy makers and/or non-governmental organisations. More in-depth interviewing of a range of policy makers would generate further contextual information, and would also provide a means to establish good working relationships. Doing further demonstration projects with non-governmental organisations, but involving policy makers along the way, may also be an effective way forward, especially given the finding of this pilot study that even quite well-entrenched views can be enriched and challenged by hearing a diversity of stakeholder experiences. Seeing systems thinking in action with a non-governmental organisation may shift government policy makers' perceptions of barriers in ways that no amount of talking in the abstract can do. If a new research project could evolve over a substantial period of time (at least three years), then the take up of systems thinking by a variety of agencies could be stimulated in an on-going manner, addressing barriers along the way. The meaning of an extended understanding of 'evidence' to incorporate appreciations of stakeholder values and justifications should also become transparent through practical demonstrations of this.

APPENDIX 1: DETAILED REPORT ON THE DEMONSTRATION PROJECT

Introduction

We are currently engaged in a pilot research project to look how different systems methods might usefully be used in support of drugs policy making. This project started with five in-depth interviews with policy makers, and these revealed a great deal of interest in systems thinking and associated methods. However, while the policy makers saw no barriers to using *non-participative* methods (e.g., for modelling complex situations, simulating policy interventions and redesigning organisational structures and communications), they all said that *participative* methods, involving multiple stakeholders in discussing policy, were potentially more problematic. The crux of the issue was that most politicians are unwilling to surrender control of policy making to participative processes. As a result, although many government officers would like to use these processes, they feel that their hands are tied by their 'political masters'.

Following these interviews, we decided to focus more attention on participative methods to demonstrate that they can indeed be used for policy making in a manner that does not threaten political control of decision making, and can enable people to rethink their positions and be creative in looking for solutions to problems. We decided to hold two workshops with Turning Point on a controversial issue of concern to the organisation: appropriate responses to the public injecting of drugs. The first workshop (on 27 May 2005) was held with Turning Point staff and selected external stakeholders (a representative from the Police, the Chair of a local residents group, a lawyer, the Director of a needle exchange program and a public health worker with a drugs specialty), and it was designed to (i) explore people's perceptions of the situation around public injecting and (ii) surface policy alternatives that people thought would be worth thinking about further. The second workshop (on 28 May 2005) was held with Turning Point staff alone, giving them confidential space to explore their own policy preferences in the light of the discussions held on the previous day. Although having stakeholder involvement in just the first stages of policy making represents a weaker form of participation than full engagement throughout, this way of working does not reduce participation to mere consultation on pre-prepared policy options (which is often what happens in traditional public meetings). By involving the stakeholders up-front in discussing what ought to be done, and facilitating the later internal organisational discussions in a manner that makes explicit reference to the external stakeholder views already expressed, multiple viewpoints can be meaningfully considered without the surrender of political control.

This appendix presents some discussion of the participative systems methods we used in the workshops, plus some of the outputs produced by the participants.

Methods

The workshops used a number of different systems thinking methods that were drawn from different methodologies and 'blended' to suit the context. These methods included stakeholder identification; rich pictures[2]; sustainable design principles[3]; twelve questions on the ethics of

---

2 From soft systems methodology (Checkland, 1981; Checkland and Scholes, 1990).

systems design[4]; batwove[5]; and conceptual modelling[6]. These names will no doubt be unfamiliar to most readers, so more details will be provided shortly.

People's inputs were recorded on large pieces of paper that were placed around the wall, so the outputs from each stage of the workshop were visible to all participants. This was important because people were able to weave back and forwards from what had gone before to what they were currently working on, as well as maintaining the focus of the workshop – appropriate responses to the public injecting of drugs.[7]

Day One: Turning Point and its external stakeholders

The specific methods used on the first day, and the outputs derived from these uses, are as follows.

Stakeholder identification

To begin with, a brainstorming approach was used to identify all the stakeholders connected in some way to public injecting. The identified stakeholders were:

- Politicians Injectors
- Drug user groups
- Families (*of drug users, *other affected)
- Children/parents
- Business people
- Health workers – range
    - Public hospitals
    - Outreach
    - Doctors
    - Receptionists
- Municipal authorities
    - Security people
    - Rubbish collectors
- Justice system
    - Parole board
    - Magistrates/judiciary
    - Prisons
- Police

---

3 From interactive planning (Ackoff, 1981).
4 From critical systems heuristics (Ulrich, 1983).
5 This is an adaptation of 'catwoe' in soft systems methodology (Midgley and Reynolds, 2001).
6 From soft systems methodology (Checkland, 1981; Checkland and Scholes, 1990).
7 The term 'appropriate' refers to individual perspectives of what is 'appropriate' and does not necessarily imply the need to reach consensus although consensual agreement may be reached as the workshop progresses.

- Ambulance/Fire – emergency services
- General public
- Resident action groups
- Media
- National councils (eg HIV/Drugs – policy advisory)
- Schools
- Advocate groups (civil liberty c/w issue based)
- Drug action groups
- Drug dealers and distributors
- Drug treatment services
- Churches/Religious groups
- People in specific geographical locations
- Sporting groups and bodies
- Private industry/distributors (needles/syringes)
- Education systems – peer educators
- Insurance companies
- Researchers
- Federal Government
- State and local government
- Bureaucrats – housing and public health

Producing a 'rich picture'

Next we asked everybody to contribute to a 'rich picture' (Checkland, 1981; Checkland and Scholes, 1990), focusing initially on the local area (Richmond in Melbourne), but showing the impacts of factors from outside. 'Rich picturing' involves participants in developing a visual representation of their (and others') experiences of the problematic situation they are facing. It does not contain solutions – just representations of people's understandings of what is happening. Contributions can consist of pictures (often cartoon-like drawings); words; connecting lines; arrows; and speech or thought bubbles. Contributors are asked to explain what they have drawn to other participants, and this interaction helps people start to work together and leads to further development of the rich picture. A rich picture helps people begin to get to grips with the complexity of an issue, and explore multiple perspectives on it.

The rich picture took some time to develop and was actually added to a little in the second workshop with TP staff alone. A minority of the participants on the first day were initially hesitant to contribute, but became engaged through the encouragement of others. One person remained reticent throughout, contributing verbally but not pictorially. However, others recorded most of his ideas. We used the list of stakeholders generated earlier to stimulate further discussion when people felt that they had represented everything they needed to, carrying on until everyone felt that all the aspects of the complexity they were aware of had been captured. The following page shows the rich picture generated in the workshop.

Considering what ought to be done

Having explored some of the complexity, we then moved on to facilitate the emergence of ideas about what ought to be done to improve the situation. We asked people to think primarily about the locality, rather than spending too much time on things like the international drugs trade, simply because it is local factors that were primarily amenable to the control or influence of these particular participants. In order to facilitate ideas about what ought to be done, we used a combination of parts of two different approaches: the principles of sustainable design from the methodology of interactive planning (Ackoff, 1981) and twelve questions about the ethics of policy development from the methodology of critical systems heuristics (Ulrich, 1983). We have used this synergy of methods in a number of previous public policy projects (see, for example, Midgley, 2000). More details of interactive planning and critical systems heuristics, together with the methods drawn from them, are provided below. These are followed by some discussion of our process of application.

Interactive planning is a participative approach that encourages participants to move outside the existing or usual constraints when engaging in social system design. The emphasis is on 'dissolving' rather than 'solving' problems (Ackoff, 1981). Solving a problem involves tackling it directly, which may have knock-on effects on other aspects of the situation, not all of which may be desirable. In contrast, 'dissolving' a problem means changing the wider system so the 'problem' disappears, or at least becomes more manageable. It is a 'big picture' approach. The principles of sustainable design, used within interactive planning, refer to the need to ensure that proposals are *technologically feasible* (no magic cures for drug addiction!); *viable* (maintainable in relation to the evolving economic, ecological, social and cultural environment); and *adaptable* (open to revision if circumstances change). Within the constraints indicated by these principles, Ackoff (1981) advises participants in planning to explore as wide a range of ideas as possible.

While interactive planning encourages creativity and 'boundary busting' (liberating participants from the constraints of current thinking, with the proviso that proposals consider issues of sustainability), critical systems heuristics enables debate on the ethics of different possible boundary judgements about what issues should be considered in policy development and who should participate in the development process. This methodology provides twelve questions that

can be asked about what the system currently *is* and what it *ought* to be. These questions cover the general themes of *purpose* (what should the system be achieving?), *control* (who should have decision making power, and power over what?), *expertise* (what sources of knowledge and understanding should be harnessed?) and *legitimacy* (what makes this the right thing to do?).

Combining interactive planning and critical systems heuristics gives us the best of both worlds (Midgley, 1997): creativity can be generated by emphasising the need for policies that are largely unconstrained by current thinking (but keeping sustainability in mind), and the ethics of policy proposals can be subject to debate using the critical systems heuristics questions. This makes it sound like a two stage process (generating proposals then evaluating them), but actually the integration of these two methods is seamless: the creative design process is *guided by* the questions about ethics.

In our experience, this is an approach that works best when many different views and experiences can be brought into a debate, and it was anticipated that the range of participants attending the workshop would be sufficiently diverse so that those attending would learn something new that they had to consider in thinking about the issue of public injecting. On the day, not all the external stakeholders who had been invited were able to attend, but sufficient diversity to enable debate was represented in the room, even if acknowledgement had to be made that some perspectives were missing (most notably, drug users themselves).

Participants were requested to think about the issues depicted in the rich picture (produced earlier in the day), and to think creatively about what appropriate responses to public injecting might entail. People were asked to imagine that all current responses to public injecting had disappeared, and that the group had been brought together to design new responses from scratch, without having to worry about current policy. The only constraints they were subject to were those embodied in the sustainability principles: proposals had to be technologically feasible, viable and adaptable. We then asked some key critical systems heuristics questions about what the response to public injecting ought to be. Not all of the twelve questions could be covered because of time constraints, so we chose only those that we thought would be most useful for this exercise.

After the first question about purposes, we asked the participants to reflect on what they had written in order to make a judgement about whether the list of purposes reflected the need for a single policy response or multiple responses to public injecting (if multiple responses, then these might be either conflicting or complementary). This provoked a lot of debate, and the conclusion reached was that two general policy options were being indicated: a direct response in the form of a safe injecting facility and associated services (e.g., outreach to, and education of, drug users); and an indirect response in the form of capacity building and community development to improve the environment for the benefit of all residents, including drug users (who would have more life choices available to them). However, no judgement was made at this stage about whether the two options should be viewed as complementary or mutually exclusive: different opinions on this were expressed, and it was felt that it would be most productive to explore the options side by side and suspend judgement for a while on which option was best or whether they were complementary.

In presenting the outputs of the discussion about these policy options, the questions we asked are listed in bold type and the answers given by the participants are provided underneath. After the 'purposes' question, the answers are split into two columns to reflect the two different policy options that people explored.
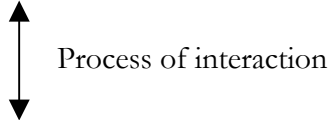
What should be the purposes of a response to public injecting?

- Saving lives (drug users)
- Preventing distress (bystanders)
- Improving public amenity
- Provide safe environment (perceptions and reality)
- To address public health issues – eg. transmission of blood-borne viruses
- To reduce drug use
- To displace drug users
- To "manage" drug use
- To treat person as a whole (ie, consider other related needs, quality of life)
- Need to achieve buy-in and need to identify who needs to buy in (community, public, politicians). Different approach relevant in different ways to different people – relates to how the problem is defined
- Needs to demonstrate why 'this option' will benefit public (general environment)
- Needs to have a variety of responses to range of behaviours
- Quality of life for whole communities
- To improve access to appropriate and receptive support services and information services for communities, leading to community resilience and coping
- To empower residents to use their space
- Improving housing estate security
- Should not be seen as increasing /supporting drug use
- To provide a unified response (eg health, police)
- To provide an inclusive response

What should be the measures of success?

Direct Response to Public Injecting	Community Capacity Building
- Reduction of complaints - Decrease in visibility of public injectors - Decrease in syringes/needles - Decrease in numbers of drug users - Increased referral into treatment - Decrease in overdoses - Improved health and welfare - Resident survey (perceptions) - Centre is actually used - Sustained with community support (not picketed) - Improved public amenity	- Increase in youth employment rates - Improved quality of life - Improved school retention rates - Improved participation in social recreation - Increased utilisation of public spaces - Survey – "social capital measures" eg. How often do you go out? - Decrease in crime

Who should be the decision-makers (those who should have the power to change the purposes of the system if necessary)?

Direct Response to Public Injecting	Community Capacity Building
- Multi-agency committee, depending on origins of initiative - State Government - People involved directly in the service delivery - Surreptitious options within city/area	- Local council – probably not - Multi-agency initiative <p align=center>Process of interaction</p> - Residents - Timing – can't be short-term led by 'outsiders' - Interpreters are needed because ethnic minority representation is essential

Discussion of the above raised questions about who had authority and/or accountability relating to the running of the housing estate – local government, the housing authority or the residents?; and what degree of power sharing is possible?

Who should be involved in planning (designing the detail of the operational system rather than making more general decisions on what its purposes should be)?

Direct Response to Public Injecting	Community Capacity Building
• Directly affected (injectors/drug users) • Funders • State Government • Police • Provider (commissioned to run the services) • Neighbourhood • Minister of Health	• Planners (Local Government and State) • Local businesses • Residents • Champions

What expertise is needed?

Direct Response to Public Injecting	Community Capacity Building
• Users • Health professionals • Researchers • History • Learning from international and other national experiences	• Research/design • Engagement/relationship development expertise • Local Government (generic skills)

Who will be affected but not involved, and how should their concerns be represented (if at all)?

Direct Response to Public Injecting	Community Capacity Building
• Ministry of Health • Researchers – should be a research area • Long-term effects – eg. Children growing up	

What are the basic values held and assumptions being made?

Direct Response to Public Injecting	Community Capacity Building
• Lack of conflict over what are seen as incompatible rights • Lack of economic arguments • Representing health interests – what other interests are taken into account?	• How to deal with issues of alienation /anomie

At this point the debate became quite general and it was no longer possible to easily divide the discussion of values into two columns.

Other issues around values that were raised included:

- What is the 'Community of Interest'?
- Experiences in common (eg, every family may know someone affected by drug taking)
- Alternative space for dialogue – how do you 'engineer' alternatives?
- Neither side will go away - been here for 20 years
- Safe place ◄──► public amenity (different side of same coin)
- How do we connect with users? They're not here and we're representing them
- Good things we do for drug users are really for 'us' (non-drug users) – when has anyone done anything for drug users themselves?
- Need an action research orientation

In the final discussion a key question emerged (and this proved to be pivotal in the discussions entered into on day two with Turning Point staff alone):

What joins the two alternative policy options, and how do you build on that in order to improve quality of life?

Workshop one ended at this stage, and the participants were asked to complete an evaluation of the day.

Day Two: Turning Point staff alone

This workshop was attended by only three Turning Point personnel. These were the individuals who had volunteered to look at the implications of the work with external stakeholders (day one) for Turning Point policy. No actual policy decisions were to be made at this second workshop: it was explicitly designed as a space for reflection, with the option available for people to discuss proposals in the wider organisation at a later date (if desired).
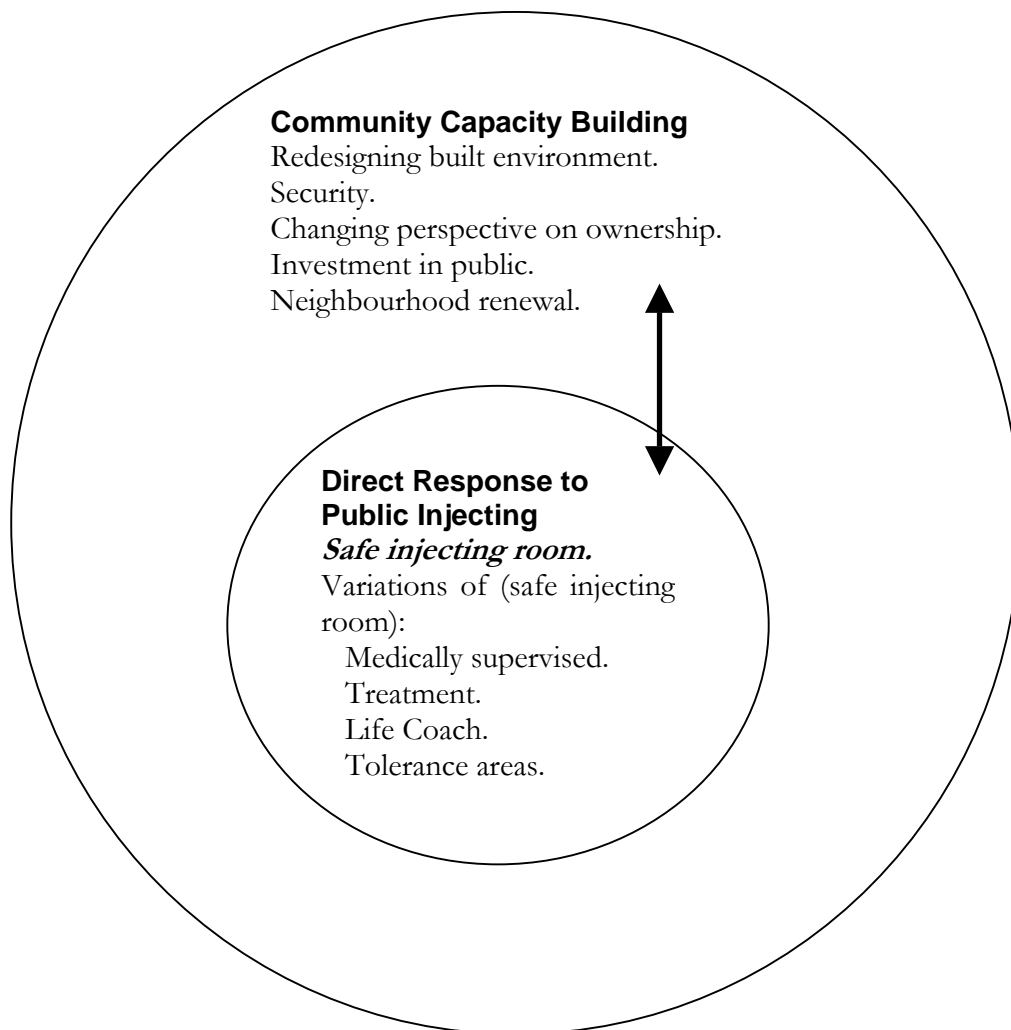
The sheets of paper with all the recorded information from day one were placed around the room for easy reference. We started by reflecting back on the previous day's activities: reviewing the rich picture (and adding in things that people had said but had not been adequately represented) and considering the two policy options (a direct response to public injecting and community capacity building).

Defining 'relevant systems'

In order to support people in focusing in more detail on what should be done, we borrowed another method from soft systems methodology (Checkland, 1981; Checkland and Scholes, 1990): specifying 'relevant systems'. A relevant system is a response to the 'mess' depicted in a rich picture that participants think might make a difference and bring about an improvement. We asked the group to look at the rich picture from the previous day; take account of all the stakeholders' answers to our critical systems heuristics questions; and say what relevant systems ought to be developed. We wrote on a flipchart "A system to…" and the participants then had to fill in the rest of the sentence. They generated six relevant systems, and these are listed below. Alongside are some descriptors ('method', 'goal', 'strategy', etc.) that the participants found useful in classifying the relevant systems.

A system to …

- Evaluate intervention from tenants' points of view in relation to
  quality of life   METHOD

- Move NSP (needle and syringe exchange facility)
  from   ………………………
  to   ………………………
                                                                      GOAL

- Re-locate injecting through:
  - Informal subtle means   STRATEGY
  - Design of urban space for urban renewal   GOAL

- Get to a point where a public injecting place
  could be accepted   LONG-TERM GOAL

- Establish a peer programme to change injecting
  practices of people coming from outside the estate   STRATEGY

- Use existing community resources to achieve
  change   STRATEGY

After this list had been generated, we asked the participants if all these relevant systems were complementary or whether they represented competing options. This sparked a reflection on whether the two policy options explored the previous day (a direct response to public injecting and community capacity building), which were also implicit in the relevant systems, are an either/or choice or should be regarded as complementary. The upshot of a quite lengthy discussion was agreement that each option actually addresses the weaknesses of the other. The problem with community capacity building alone is that it may displace drug users to other areas where there are no such initiatives going on. However, the problem with a safe injecting facility on its own is that it may be perceived by the community as simply attracting drug users to the area and making the environment worse. Only by directly addressing the needs of drug users *and* ensuring that the community as a whole benefits can the issue of public injecting be addressed in a way that doesn't spark a local community backlash or simply move the problem elsewhere. The relationship between the two policy options is represented in the 'boundary diagram' below (this was first proposed by the facilitators to capture the relationship between the options, and was then elaborated by the participants).

Community Capacity Building
Redesigning built environment.
Security.
Changing perspective on ownership.
Investment in public.
Neighbourhood renewal.

Direct Response to Public Injecting
Safe injecting room.
Variations of (safe injecting room):
  Medically supervised.
  Treatment.
  Life Coach.
  Tolerance areas.

Producing a 'conceptual model'

Once agreement on the complementary nature of the two policy options explored on day one (and the relevant systems generated earlier in day two) had been reached, the facilitators pointed out that all of the relevant systems had been expressed with verbs (doing words) very much to the fore. We therefore suggested that the group could turn the list of relevant systems into a 'conceptual model' (Checkland, 1981; Checkland and Scholes, 1990) – a linked set of human activities (or a 'human activity system') that, if enacted, could improve the problem situation. In previous research we have found that, if the relevant systems can be linked by the participants into a 'whole system diagram', this gives people a clear sense of what needs to be done and how all the aspects of the solution fit together (Gregory and Midgley, 2000). It also energises people and helps them move with greater confidence to action planning. To ensure that the participants 'owned' the conceptual model (or whole system diagram), we handed the pen over to them and suggested that they link the relevant systems using arrows to express the order in which the activities would need to be undertaken and how the activities should impact on each other. In linking the relevant systems, the participants identified some gaps in the overall activity system being proposed, and they therefore added in a couple of new ideas.

Harmonising understandings

The conceptual model was subjected to more critical analysis using a mnemonic (adapted from soft systems methodology) that helps people think about what could be involved in bringing the set of relevant systems into being. This is a useful process because it supports people in harmonising their understandings. Very often, phrases like those in the relevant systems will mean different things to different people, and a more detailed exploration can help reveal divergences in interpretation. Then people can debate them and come to an agreed understanding or accommodation on meanings. The soft systems methodology mnemonic is CATWOE, which stands for Customers, Actors, Transformation, Worldview, Owners, and Environmental constraints). However, following Midgley and Reynolds (2001), we used BATWOVE. This stands for:

Beneficiaries (who should benefit?)
Actors (who should do the work?)
Transformation (what should change?)
Worldview (what values and assumptions should the change be based on?)
Owners (who can stop the change from happening?)
Victims (who could be harmed and what should be done about this?)
Environmental constraints (what must be taken as given?)

Midgley and Reynolds (2001) moved from CATWOE to BATWOVE for two reasons: (i) to make 'victims' explicit (in CATWOE these are hidden under the label 'customers', and often get missed); and (ii) to provide a more user-friendly language for policy makers who are usually more comfortable talking about 'beneficiaries' and 'victims' than 'customers' (the latter being a term originally adopted by Checkland, 1981, for use with business organisations).

In our experience (and this is also recommended by Checkland and Scholes, 1990), exploration is facilitated most productively if participants start with 'transformation', specifying both the current situation and what it should be transformed into. Next, 'worldview' helps people specify some of the values and assumptions that the desire to bring about the transformation is based upon. Then the other categories can be filled in, building on the information already expressed in the transformation and worldview.

REFERENCES

Ackoff, R.L. (1981). *Creating the Corporate Future*. Wiley, New York.

Beer S (1985). *Diagnosing the System for Organisations*. Wiley, Chichester.

Checkland, P. (1981). *Systems Thinking, Systems Practice*. Wiley, Chichester.

Checkland, P. and Scholes, J. (1990). *Soft Systems Methodology in Action*. Wiley, Chichester.

Flood, R.L. and Carson, E.R. (1993). *Dealing with Complexity: An Introduction to the Theory and Application of Systems Science*. 2nd ed. Plenum, New York.

Flood, R.L. and Jackson, M.C. (1991a). Critical systems heuristics: application of an emancipatory approach for Police strategy toward the carrying of offensive weapons. *Systems Practice*, *4*, 283-302.

Flood, R.L. and Jackson, M.C. (1991b). *Creative Problem Solving: Total Systems Intervention*. Wiley, Chichester.

Forrester, J.W. (1969). *Principles of Systems*. Wright-Allen Press, Cambridge MA.

Gregory, W.J. and Midgley, G. (2000). Planning for disaster: Developing a counselling service. *Journal of the Operational Research Society*, *51*, 278-290.

Maani, K., and Cavana, R., (2000). *Systems Thinking and Modelling: Understanding Change and Complexity*. Prentice Hall, Auckland.

Mason, R.O. and Mitroff, I.I. (1981). *Challenging Strategic Planning Assumptions*. Wiley, New York.

Midgley, G. (1997). Developing the methodology of TSI: From the oblique use of methods to creative design. *Systems Practice*, *10*, 305-319.

Midgley, G. (2000). *Systemic Intervention: Philosophy, Methodology, and Practice*. Kluwer/Plenum, New York.

Midgley, G. and Ochoa-Arias, A.E. (2004). *Community Operational Research: OR and Systems Thinking for Community Development*. Kluwer, New York.

Midgley, G. and Reynolds, M. (2001). *Operational Research and Environmental Management: A New Agenda*. Operational Research Society, Birmingham.

Ministerial Council on Drugs Strategy (2004). *The National Drug Strategy, Australia's integrated framework 2004-2009*. Commonwealth of Australia, Canberra.

Ravetz, J. (2000). *City-Region 2020: Integrated Planning for a Sustainable Environment*. Earthscan, London.

Roberts, N., Andersen, D.F., Deal, R.M., Grant, M.S. and Schaffer, W.A. (1983). *Introduction to Computer Simulation: A System Dynamics Modeling Approach.* Addison-Wesley, Reading MA.

Ulrich, W. (1983). *Critical Heuristics of Social Planning: A New Approach to Practical Philosophy.* Haupt, Berne.