ARTICLE

Shifts within Ecological Modernization in South Africa: Deliberation, Innovation and Institutional Opportunities

CATHERINE OELOFSE, DIANNE SCOTT, GREGG OELOFSE & JENNIFER HOUGHTON

University of KwaZulu-Natal, Durban, South Africa

ABSTRACT Sustainable development is now widely accepted as a policy framework in planning and development both internationally and in South Africa. Within this framework, technocentric scientific approaches to environmental management, which are reflective of weak ecological modernization, have dominated environmental practice both in the developed and developing world. South Africa is a country in transition and as a result environmental law and policy have undergone significant reform. However, implementation and practice remains embedded within a weak ecological modernization approach. Through the lens of two case studies reflecting changing approaches and practices within state institutions, this paper explores the shifts taking place in the construction, adaptation and application of policy frameworks and tools used in the drive towards sustainability in South Africa. The research uses critical approaches to ecological modernization (Hajer, 1995; Christoff, 1996) and deliberative policy analysis (Hajer and Wagenaar, 2003; Hajer, 2003, 2004) to explore these shifts. It suggests that the shift towards strong ecological modernization has taken place as a result of the adaptation of international practice to the South Africa context, the global acceptance of more integrated approaches, the opportunities for change that ‘institutional ambiguity’ and ‘multi-signification’ create, and pockets of innovation that have developed when intellectual actors shift the boundaries of environmental practice.
Introduction

Sustainable development is now widely accepted as a policy framework in planning and development both internationally and in South Africa (O’Riordan et al., 2000; Sowman, 2002; Scott et al., 2001). However, the implementation of the principles of sustainable development through a wide range of tools and mechanisms in South Africa has proved difficult to achieve (Sowman, 2002; Laros, 2004, Todes et al., 2004). Part of the problem is the way in which environmental problems have been constructed (Hajer, 1995). Both internationally and in South Africa, technocentric scientific approaches to environmental management, which often legitimize the destruction of the environment by capitalist development, have dominated. Technical solutions have therefore been applied to solve complex problems that often defy rational, objective approaches. This weak ecological modernization approach (Christoff, 1996) has become institutionalized over the last 30 years in the developed world and has been transferred to developing countries such as South Africa as the rationale for environmental management (Lee & George, 1998; Laros, 2004; Scott & Oelofse, 2005). Compounding the prevalence of such a dominant approach is the ‘implementation deficit’ in institutional policymaking (Hajer & Wagenaar, 2003; Hajer, 2004), which is particularly problematic in developing countries and is recognized as being a major obstacle to the achievement of sustainability in South Africa.

In the first decade of democracy, South African environmental law and policy underwent significant reform and are now among the best in the world (Scott et al., 2001). However, in the development context of the new democracy, government institutions faced with the implementation of these new regulatory policies find themselves in a situation of ‘institutional ambiguity’ where there is little experience or precedent of how to proceed (Hajer, 2004). Given the democratization of environmental decision-making in South Africa, the phenomenon of ‘multi-signification’ (Hajer, 2004) challenges the implementation of sustainability goals (Houghton, 2005). Furthermore, the reactive rather than proactive approach of mainstream environmental management results in the absence of frameworks and strategies within which development should proceed. Most tools are project based and do not deal with the environment in a holistic and integrated manner and this results in further constraints on the appropriateness and value of environmental management practice.

Through the lens of two case studies reflecting changing approaches and practices within state institutions, the paper explores the shifts taking place in the construction, adaptation and application of policy frameworks and tools used in the drive towards sustainability in South Africa. The research uses Hajer (1995) and Christoff’s (1996) critique of ecological modernization and the more recent literature on deliberative policy analysis (Hajer & Wagenaar, 2003; Hajer, 2003) to explore these shifts towards sustainability in South Africa. It suggests that these shifts have taken place as a result of the inappropriateness of mainstream tools to the South African condition, the global acceptance of the need for more integrated approaches, the
opportunities for progressive change that ‘institutional ambiguity’ and ‘multi-signification’ create, and pockets of innovation that have developed when intellectual actors have shifted the boundaries of practice.

Mainstream Approaches to Environmental Management in South Africa

The implementation of sustainability principles have been driven both internationally and in South Africa by the global environmental mainstream approach of ecological modernization. Mainstream environmental management, framed as it is within positivistic science, conceives of the biophysical realm as external to human life—to be transformed and managed to improve human existence (Garner, 1996; Fischer, 2003). This instrumentalist approach emphasizes the physical and natural environment as the chief recipient of environmental impacts, that solutions to environmental problems are technical and institutional and that they are the responsibility of scientific experts and managers (Dryzek, 1997). National governments worldwide have institutionalized this mainstream environmental management discourse through state policy and legislation that seek to manage the impacts of development. However, despite the domination of this modernist approach to environmental management and hence sustainability, there are parallel proponents of local, participatory and more equitable processes of environmental management which seek to provide protection from ‘the inequality and poverty that market forces may produce’ (Woodhouse, 2000, p. 161) and which seek new ways of deliberating over approaches to managing the environment.

Ecological Modernization

Ecological modernization is a policy-oriented discourse in environmental politics that emerged in the 1980s. It became the most acceptable way of ‘talking Green’ in spheres of environmental policymaking in both the developing and developed world (Hajer, 1995; Christoff, 1996; Murphy, 2000; Blowers & Pain, 1999). The meaning of ecological modernization differs depending on the context and the author, which provides challenges when one uses it as a critical framework of analysis (Christoff, 1996, Murphy, 2000). Given these differences, there are, however, key concepts that can be drawn out of the ecological modernization literature. Ecological modernization is a modernist and technical approach that uses the language of business and science and therefore conceptualizes environmental pollution as a matter of efficiency rather than a threat to the system (Huber, 1985, cited in Mol, 1995; Christoff, 1996). It assumes that economic growth and the resolution of ecological problems can be reconciled. With regard to environmental assessment, the policy is to ‘anticipate and prevent’ impacts, with science playing a leading role in providing evidence of environmental impacts (Hajer, 1995). The state’s role is to provide a policy and regulatory framework for environmental protection, resulting in a complementary relationship between the state and the market (Christoff, 1996).
One of the major limitations of ecological modernization in developing countries is that the assumed conditions for this approach, such as the availability of advanced technology, capital, democracy and capacity, are not in place. Andersen (1993, cited in Christoff, 1996, p. 489) ‘describes a country’s capacity for ecological modernization as depending on its “achieved level of institutional and technological problem solving capabilities, which are critical to achieving effective environmental protection and transformation to more sustainable structures of production”’. The problems of environmental degradation and poverty are of such a magnitude in the developing world that they render ecological modernization untenable (Blowers & Pain, 1999). Christoff (1996, p 489) states that ‘ecological modernisation focuses on the state and industry in terms which are narrowly technocratic and instrumental rather than on social processes in ways which are broadly integrative, communicative and deliberative’. Of importance to this paper is that ecological modernization is criticized as a discourse that explicitly avoids addressing social contradictions (Blowers & Pain, 1999). Inequalities of wealth and power, which are particularly evident in developing countries, form a barrier to the creation of partnerships and cooperation in environmental decision-making. With the reliance on science and technology for assessing environmental impacts and creating solutions, social and development issues are side-lined because they are difficult to conceptualize and measure. Ecological modernization does not adequately deal with the social questions related to assessing who benefits from and who bears the impact of development processes (Blowers & Pain, 1999; Scott & Oelofse, 2005).

This paper uses Hajer’s (1995) cultural politics approach to ecological modernization as a point of departure. This approach asks ‘why certain aspects of reality are now singled out as “our common problems”’ and queries what sort of society is being created in the name of protecting ‘nature’ (Hajer, 1995, p. 256). Christoff (1996, p. 482) suggests that ‘Hajer is most effective where he suggests that ecological modernisation is a discursive strategy useful to governments seeking to manage ecological dissent and to re-legitimise their social regulatory role’. While the authors acknowledge that there are other approaches to ecological modernization (Janicke et al., 1988; Weale, 1992; Mol, 1995; Spaargaren, 1997; Murphy, 2000) Hajer’s (1995) critique provides the normative framework of analysis used here to understand both the discourses currently shaping mainstream environmental policy and practice in South Africa and the shifts towards strong (reflexive) ecological modernization in the two case studies.

Christoff (1996, p. 490) considers ways in which it ‘is possible to emphasise the normative dimensions of different versions of EM (ecological modernization)’. He suggests that there is a continuum between weak and strong ecological modernization which reflects the range of approaches rather than the binary suggested by the two terms, and states that ‘it is essential to note that weak and strong features of EM (ecological modernization) are not always mutually exclusive binary opposites’ (Christoff, 1996, p. 491). Table 1 provides the characteristics of weak and strong ecological modernization. The continuum is used as framework of analysis to show
why the two case studies represent a shift in ecological modernization in South Africa.

**Deliberative Policy Analysis**

A body of theory that has emerged since the early 1990s in political science is that of ‘deliberative policy analysis’ (Hajer, 2003; Hajer & Wagenaar, 2003; Young, 2001). This approach has proposed the emergence of collaborative decision-making networks in the context of ‘institutional ambiguity’ and ‘multi-signification’ resulting from the complexities of policymaking in the network society (Castells, 2000; Hajer, 2004). Such collaborative processes that occur at the ‘edges’ of formal political processes have been pioneered in ‘new’ spheres of politics such as the environment and are therefore relevant in assessing shifts towards strong ecological modernization (Hajer & Wagenaar, 2003).

‘Institutional ambiguity’ is defined as the lack of power and capacity of institutions, particularly the state, to deliver policy outcomes (Hajer, 2004). This is particularly relevant in South Africa, where institutional and legal reform has radically changed the policymaking terrain. While the new environmental laws and policies that have been promulgated since 1998 have been globally praised as progressive and socially just, there is little experience or capacity to implement the principles contained therein into detailed policies and programmes. There are ‘no “pre-given” ways of arriving at legitimate policy decisions’ (Hajer, 2004, p. 3), creating both a challenge to environmental decision-making as well as providing opportunities for creative experimentation. In terms of the ‘rights-based’ politics of South Africa in the new democracy, state institutions have had to engage in inclusive processes of deliberation to develop the ‘rules of the game’ of legitimate policymaking (Dryzek, 1996; Hajer, 2003).

‘Multi-signification’ refers to the recognition of the diversity of the discourses of participants in the deliberation processes (Hajer, 2003). Increasingly, legitimacy has come to be seen in terms of the right or capacity of those subject to a collective decision to participate in deliberation about its content. Thus attempts are made in environmental policymaking and practice to incorporate the diversity of discourses and take account of ‘multi-signification’.

---

**Table 1. Types of ecological modernization**

<table>
<thead>
<tr>
<th>Weak ecological modernization</th>
<th>Strong ecological modernization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economistic</td>
<td>Ecological</td>
</tr>
<tr>
<td>Technological (narrow)</td>
<td>Institutional/systemic (broad)</td>
</tr>
<tr>
<td>Instrumental</td>
<td>Communicative</td>
</tr>
<tr>
<td>Technocratic/neo-corporatist/closed</td>
<td>Deliberative/democratic/open</td>
</tr>
<tr>
<td>National</td>
<td>International</td>
</tr>
<tr>
<td>Unitary (hegemonic)</td>
<td>Diversifying</td>
</tr>
</tbody>
</table>

*Source: Christoff, 1996, p. 490.*
However, participation often remains a legitimating process, marginalized groups playing a limited role or remaining altogether invisible (Blowers & Pain, 1999; Scott & Oelofse, 2005). The weak relationship between the state and civil society under weaker forms of ecological modernization leads to the neglect of social questions in environmental decision-making. Part of the shift to a more democratic policymaking is the inclusion of stakeholders besides the state in the process of public participation (Taylor, 1995; Yanow, 2003). Ecological modernization is taking heed of such inputs into decision-making, hence the large volume of critical literature that is now emerging on procedures for adequately representing the voices of social groups in environmental decision-making, which is based on weak ecological modernization, has shaped environmental decision-making in South Africa. It suggests that new forms of policymaking and practice that reflect inclusive processes of deliberation are beginning to emerge. Two case studies are now used to explore these ideas.

Innovation and a Return to Principles of Sustainability in the Context of ‘Institutional Ambiguity’ in Post-apartheid South Africa

Two case studies of changing state practices in environmental management are explored in this paper. Both case studies are examples of the development of decision-making tools by the state during the current period of ‘institutional ambiguity’. The first evaluates a national indicators project that was developed by consultants, while the second analyses a policy that was developed by local government officials in an environmental department, which focuses on developing innovative and integrative approaches to environmental management. The first is the development of a set of National Principles, Criteria, Indicators and Standards (PCI&S) for Sustainable Forest Management in South Africa. The second is the development of the City of Cape Town’s Integrated Metropolitan Environmental Policy (IMEP), which guides environmental strategies, policies and environmental management practice in the city. This paper analyses both the processes and products of these two projects as reflections of the shifts that are beginning to take place in developing tools for sustainability in South Africa as intellectual actors challenge the mainstream approach to environmental management.

Introducing the Projects

‘Forestry’ in South Africa is defined in the National Forest Act (1998) as containing natural forests, woodlands and plantations. Some natural forests are
protected and managed by the state as indigenous state forests; however, there are large areas of natural forest that occur on private or communal land which are not state managed. The commercial forest sector owns large areas of plantations that also contain pockets of indigenous forest. They support communally owned small grower projects that produce trees for the commercial sector. Communally owned forests on tribal land are common in the country and provide a livelihood for poor rural communities (Shackleton, 2004). It is within this complex arrangement of forest ownership, management and use that the Department of Water Affairs and Forestry (DWAF) has proposed the adoption of sustainable forest management as a national approach for the sector. The state is currently devolving the management of state-controlled forests to private agencies, which are expected to conform to sustainable forest management practices.

The National Forests Act (1998) of South Africa requires that principles, criteria, indicators and standards are developed which address the sustainable management of both natural forests and plantations in South Africa and which comply with the sustainability principles as set out in the Act (see <www.dwaf.gov.za/forestry/sfm>). The Institute of Natural Resources (INR), as expert environmental consultants, was commissioned by the Council for Sustainable Forest Management to develop a set of PCI&Ss for implementation by the Department of Water Affairs and Forestry. This work was funded by the Department for International Development (DFID) in Britain, which played a key role in the management of the project.

The City of Cape Town is a municipal authority that governs a city with a valuable and rich mix of cultural and natural resources and a growing population of three million people. It is the economic hub of the Western Cape Province. Cape Town has a unique natural environment and is situated in the smallest of the world’s floral kingdoms, the Cape Floristic Kingdom. A number of environmental challenges face this area, largely as a result of the burgeoning population and their need for infrastructure, housing, jobs, transport, education, health care and services. Applying sustainable development within a metropolitan area, with its multiple layers of social needs and economic forces, complicates the picture further. The City of Cape Town’s Environmental Management Branch is institutionally organized to ensure both policy development and the implementation of environmental policy and legislation. The IMEP for the City of Cape Town was developed by the Policy and Research section of the Environmental Management Department between 1998 and 2001 using an innovative approach to policy formation.

Multiple Voices, Networks and Governance

Christoff (1996) suggests that a shift to strong ecological modernization is reflected in processes that are communicative, deliberative, open and democratic. Hajer (2004) argues that processes need to be developed that find ways of integrating the knowledge generated by a range of actors so as to resolve tensions that may arise from ‘multi-signification’. This section
analyses the processes of deliberation that occurred in the development of both the indicator set and the IMEP as a result of the networks that were established through the methodologies used in these projects.

In the forestry project there were four sets of experts driving and contesting the outcomes of this project: a group of 12 consultants (the INR team), members of the Council for Sustainable Forest Management, officials from DWAF, and DFID consultants with their associated international advisors. However, the network of actors who shaped the outcomes of the project was much broader than this. The project was conducted using extensive nationwide participatory techniques, which sets it apart from other national and international indicator projects. ‘Multi-signification’ was evident as stakeholders engaged in the process and argued for their interests to be recognized and included in the PCI&S.

The project methodology involved both a technical process for developing and refining the criteria, indicators and standards, and an extensive and integrally linked stakeholder consultation process for gaining stakeholder input into the criteria, indicators and standards, and for testing and refining them. The principles that were used were defined in the National Forest Act (1998). A list of the conditions of and key issues in forestry in South Africa was generated using stakeholder input generated through an intensive investigation of eight case study areas across the country. Workshops were conducted at the national, provincial and local level to verify the desired conditions raised by stakeholders. The set of PCI&Ss were filtered through the relevant legislation as well as the principles of sustainability so as to ensure that there were no gaps and that the set was aligned with current policy and legislation. From this verified set of conditions, criteria, indicators and standards/aspirational goals were generated by the expert team (INR, 2002).

In workshops used to verify the criteria, stakeholders were diverse, such as those representing the powerful commercial forestry sector and those rural communities involved in communal forest projects. Since the set was being developed in a context of ‘institutional ambiguity’ due to the restructuring that DWAF was undergoing at the time, certain actors played a more dominant role than others. The DFID team set out clear parameters but were willing to allow the consulting team the scope to be innovative, while the Council for Sustainable Forest Management attempted to shape the methodology. The consulting team strongly resisted this attempt at state direction. Most of the contested terrain was around methodology and the level of participation required in the project. The DWAF played a very limited role as the government agent responsible for the implementation of the set of PCI&S. However, once ownership of the set became politically important in the restructuring of DWAF, certain key actors began to attempt to influence the project in order to gain ownership of the project process and the outcomes.

In the case of the IMEP in Capetown a group of officials in the Environmental Policy and Research Section, who represent a ‘pocket of innovation’, developed the process that would lead to the formulation of the IMEP. This core team used as its point of departure, the premise that was being supported
politically in the city that ‘the environment is Cape Town’s most unique and greatest economic asset’. A policy that contained strategies and tools for implementation needed to be developed to protect and enhance this asset. The development of the IMEP was launched in October 1998, and followed a comprehensive and participative process. Key resources and informants used in the development process included the Year One State of Environment (SoE) Report and a number of public capacity-building workshops, public policy workshops and internal councillor and officials workshops. The IMEP and its implementation strategy were adopted as official policy of the City of Cape Town in October 2001. The Year One SoE Report identified 15 key environmental issues that needed to be addressed by the City. These 15 environmental themes were endorsed through a stakeholder participation process and became central to the policy implementation strategy. The policy therefore reflected a mandate from civil society, business and the state about which key environmental issues needed to be prioritized in the city.

The Draft Policy underwent a rigorous review process including stakeholder review, internal review, a comments-response report and one-on-one meetings with organizations, councillors and stakeholders. The final IMEP and implementation strategy were put before all the Council Portfolio Committees for endorsement, followed by presentation of the policy and implementation strategy to the Executive Committee and full Council for adoption as official policy. A network of actors therefore shaped the policy, which was then conceptually developed by the officials in the Policy and Research section.

In both cases it is evident that the development of these tools for sustainability represents a shift in approach away from the closed and hierarchical processes of weak ecological modernization. According to Dryzek (1996, p. 486), ‘democratisation is largely, although not exclusively, a matter of the progressive recognition and inclusion of different groups in the political life of society’. Both the PCI&S and Cape Town’s IMEP reflect the views and concerns of a wide range of actors. This has occurred through a state-sponsored extension of representation (Young, 2001) in these networks, which has been taken forward by consultants and officials who have upheld and strongly supported participatory approaches. As a result of this, democracy has been deepened (Dryzek, 1996) and a shift towards sustainability has taken place.

Diversifying Approaches, Reducing Technocratic Narrowing

The development of principles, criteria, indicators and standards is a widely accepted and fast-growing monitoring tool in the field of sustainability. However, in many cases, sets of PCI&S are developed as highly scientific and technical tools that are difficult to implement because they are inaccessible to people managing sustainability on the ground. As a result of being narrow and focused, the operationalization of these sets within an institutional setting is often problematic. Sets of PCI&S are usually created by ‘experts’ who design them to monitor and evaluate the management of the
environment with little attention paid to the experience of local people in identifying and dealing with environmental problems or to the institutional change the indicators can support. The PCI&Ss developed by the INR reflect a shift from the mainstream approach, since they were designed as an integrated web that would monitor and report on the state of forests in a way that could lead to systemic change. The PCI&Ss were part of a cyclical process of policy development in which the outcomes were focused on shaping adaptive management approaches in the forestry sector (see Figure 1). The set is still to be implemented and therefore the success of the product in shaping policy and action with regard to sustainable forest management is yet to be seen.

In the case of Cape Town’s IMEP the development of the policy and its implementation led to the need for wide-scale institutional restructuring within the municipality in relation to how the Environmental Management Branch interacted with other departments. The policy changed the way in which the Environmental Management Branch was positioned and how it related to other line functions within the city. The implementation of this policy revealed that institutional change was required to give support to the policy that was ratified by Council. Figure 2 shows the key components of IMEP.

Central to the implementation strategy is that the implementing mechanism for these detailed sectoral strategies will be the Integrated Development

\[\text{Figure 1. The role of the PCI&S in shaping policy and action for sustainable forest management. Source: INR, 2002}\]
Plan (IDP) that is a legislated strategic planning requirement and key development and planning tool for all local governments in South Africa. The intention of the IMEP strategy is integration, not just within the environmental function, but in the city as a whole and hence the policy has the power to change institutional arrangements and ways of relating between different departments. Multidisciplinary task teams will develop detailed strategies through the Integrated Development Plan to address environmental issues. The idea is to take the onus to drive and develop environmental strategies away from the environmental managers and place it squarely within the responsibility of line functions using input from environmental managers. The principles are the guiding core of the policy. The process is not top down and vertical but rather is integrative and cooperative, again reflecting a systemic change in the way of conducting business within local government.

To effect holistic and collective responsibility, IMEP requires that the relevant line functions/service units, with input from environmental
management, drive, develop and implement these strategies within their own functions and responsibilities. This ensures that environmental responsibility rests with the various departments instead of a scenario where environmental management attempts to enforce environmental strategies on the organization. Sowman (2002) discusses the different models used for environmental management branches within local municipalities in South Africa. Cape Town's IMEP reflects a significant shift away from the narrow approach which results in silos where line functions and departments operate in a hierarchical, technical and vertical manner.

In the case of the PCI&S the development of standards and aspirational goals also represents a shift away from a controlling state towards a negotiated and deliberative process of identifying environmental performance in sustainable forest management. As a result of the participation of the commercial forest sector in the process of developing the PCI&S, it became evident that the forestry industry in South Africa was not supportive of standards or benchmarks that were based on regulation and control by the state. They requested that these benchmarks should rather be phrased as aspirational goals: something that the forestry sector could work towards in the drive to sustainability, rather than being constrained or controlled by the more traditional regulatory standards. This was extensively debated and deliberated by the actors involved in the process and it was agreed that the forestry sector, which operates in a developing world context, should be encouraged by DWAF to meet the goals of sustainable forest management rather than being forced to manage their forests according to restrictive and economically difficult regulations. This outcome is reflective of ecological modernization, since it represents an enabling relationship between the state and business (Blowers & Pain, 1999) rather than a modernist approach of regulation and control by the state. What moves it toward strong ecological modernization is the way in which the PCI&Ss were negotiated through an extensive participatory process, which led to an understanding of society’s mandate for sustainable forest management in South Africa. The shift also occurred because of the careful interrogation and inclusion of social indicators.

Systemic and institutional change is also reflected in the manner in which the participatory process used in the development of the PCI&S facilitated the development of a network of actors who began to drive the process outside of the state. The stakeholders who engaged in the process of criteria and indicator development developed capacity by contributing to the project and also began to make demands on the state to ensure that the set of PCI&Ss were implemented. This meant that they became ‘insiders’ in the project with a vested interest in ensuring the operationalization of the set. In terms of the commercial forest industry this was largely related to the way in which they were doing business as a result of their desire to become FSC (Forestry Stewardship Council) certified and ISO 14000 accredited. From a small-scale grower’s perspective the development of the PCI&S was supported in terms of what the set offered in shaping and monitoring adaptive management approaches.
Policy Deliberation under Conditions of ‘Institutional Ambiguity’

The ‘institutional deficit’ that is present within South Africa has provided opportunities for creative change in environmental management. The transformation of South African society has led to change in legislation, policy and government institutions, which has meant that systems have not been developed to shape projects. A great deal of learning still is taking place as citizens and those charged with doing environmental work find a pathway in the new terrains that are emerging. The lack of experience in developing these processes and products within South African society has provided opportunities for innovative intellectual actors to create new approaches. These have been widely supported, since they represent the implementation of the principles of sustainability contained in South African environmental legislation.

The ‘institutional deficit’ has meant that principles have played a key role in shaping the processes and outcomes developed in both these projects. Given the newness of the work being conducted, it has been essential to have a set of principles to guide the development of the PCI&S and Cape Town’s IMEP. These principles have been drawn from international literature, South African legislation such as the National Environmental Management Act (1998), and stakeholder input. The explicit use of principles that reflect ecological, social and environmental justice represents a move away from weak ecological modernization which tends to marginalize social and distributive issues (Blowers & Pain, 1999) and which does not always adopt an integrative and broad approach. This has led to the internationalization of the projects without losing the specific need to situate environmental management within the local South African context.

The use in both projects of principles that address vulnerability and marginalization and the need for social justice brings these international sustainability principles strongly into the South African context. Christoff (1996, p. 496) supports this shift when he states that strong ecological modernization therefore also points to the potential for developing a range of alternative ecological modernities, distinguished by their diversity of local culture and environmental conditions, although still linked through their common recognition of human and environmental rights and a critical and reflexive relationship to certain common technologies, institutional forms and communicative practices, which support the realization of ecological rationality and values ahead of narrower instrumental forms.

In the case of Cape Town’s IMEP, central to the overall approach to sustainability is that the underlying principles of sustainable development are adopted as official principles at the highest level of the local government structure. These principles include among others:

- open, transparent and effective environmental governance;
collective environmental responsibility;
- the integration of environmental issues into local government decision-making at all levels;
- protection of the constitutional rights to a healthy environment;
- a commitment to a holistic approach to environmental issues;
- a commitment to responsible stewardship of the resources within local government’s charge;
- a commitment to the involvement of, and partnerships with, civil society.

Where IMEP begins to differ from mainstream approaches is that these principles are given effect through the development and implementation of detailed sectoral strategies. So, rather than relying solely on recognized mainstream environmental tools and processes, such as Environmental Impact Assessment (EIA) and Environmental Management Systems (EMS), that when used independently and in isolation may lead to weak models of sustainability, IMEP uses a combination of those tools, and others, as part of multidisciplinary holistic strategies to address the environment. The mainstream tools for sustainability, such as EIA and EMS, are used as components of a larger organized and systematic approach to environmental management. Transparency is achieved through the Annual SoE Report. This integrated approach, which is not hierarchical, as shown in Figure 2, represents a shift towards strong ecological modernization. The representation of IMEP as a circle with the principles at the centre (Figure 2) further supports this integrated and systematic approach.

Conclusion

Ecological modernization has framed environmental discourse and the tools used for environmental management for the past thirty years in developed and developing countries. This mainstream approach relies on science and technology and addresses problems of efficiency rather than need. It has also determined and dominated the range of tools used in the drive toward sustainability. New approaches, which address social and environmental justice and which are embedded in South African policy and legislation, are beginning to emerge. These more critical approaches are particularly important and relevant to the contexts of the developing world, where mainstream approaches are inapplicable and inequitable.

This paper has considered the shift that is taking place in the tools and policy frameworks used in the drive toward sustainability in South Africa. It has used two case studies to reflect on the nature of the changes taking place. The theory of ecological modernization has been critiqued and this has provided a continuum of weak and strong ecological modernization against which the shifts in the tools for sustainability are evaluated and analysed. The shifts that have been identified show that the mainstream methods used are being challenged and modified.

In drawing out the lessons learnt from the case studies it is evident that the shift away from mainstream approaches is occurring in a number of ways.
First, in the context of ‘institutional ambiguity’ there are pockets of innovation where alternative tools for sustainability are being developed. These are emerging through deliberative processes of policymaking which are diversifying the existing approaches away from technicist narrowing of decision-making to encompass stakeholders from the broader society. These processes are dealing with the ‘multi-signification’ existing in South Africa’s diverse society. Second, both case studies have shown that there have been systemic changes with the development of new procedures and institutions. These represent new forms of governance and decision-making which challenge the mainstream expert-driven processes and are more inclusive of local knowledge systems. The case studies further point to the existence of innovative intellectual actors through which these changes are being effected.

Third, as a result of the ‘institutional deficit’ and the democratization of South African society, principles of sustainability, which are drawn from legislation, policy and practice, are being used to frame environmental decision-making processes. These principles cover ecological, social, economic and governance issues and in the two case studies have shaped both the process and the product.

These changes therefore reflect a move towards strong ecological modernization in South Africa. It is useful to reflect more broadly on why these changes are taking place. First the transformation of South African society since 1994 has provided the space for new approaches to environmental decision-making to emerge. The democratization of society and the resultant development of networks that support environmental governance as opposed to top-down technical management of the environment have created opportunities for communicative and deliberative processes and have enabled the recognition that mainstream approaches are not always suited to the needs of a country in transition.

Progressive environmental legislation and policy also support the shift towards strong ecological modernization. In South Africa the practice of environmental management has steered innovative legislation and policy towards a weaker form of ecological modernization. The technical and scientific nature of EIAs for example is largely due to environmental practitioners applying this procedure in a narrow and technical manner rather than as a result of weaknesses in policy and legislation (Scott & Oelofse, 2005). Principles of sustainability are set out in the National Environmental Management Act (1998) and these have been used to shape the principles used in these case studies as well as other projects being undertaken in the country.

The ‘institutional deficit’ has also created opportunities for intellectual actors to play an active role in shaping processes and their associated products. Pockets of innovation exist and these actors are seeking to shift the boundaries in the field of sustainability as a result of their disenchantment with weak ecological modernization approaches. The need to find new ways of ‘managing the environment’ in South Africa was echoed by the President of the South African chapter of the International Association of Impact Assessment at its recent annual conference (Laros, 2004). As a result of a
lack of capacity within the state, consultants are increasingly becoming
the intellectual actors within pockets of innovation that are reshaping the
nature of environmental decision-making. In the IMEP case study the
pocket of innovation was created through institutional arrangements
within the state. The Environment Branch in Cape Town is well resourced
and is organized in such a way that there exists a dedicated section dealing
with policy and research. In the case of the Forestry Project the intellectual
actors were drawn in by the state through the process of outside consultants
cconducting work on behalf of the Department of Water Affairs and Forestry.

South Africa offers the spaces within which new approaches to environ-
mental decision-making and policymaking can be developed. The lack of
capacity in the country means that these opportunities are not being fully
explored. However, the mood among many environmental academics and
practitioners is that change is necessary. It is hoped that the pressures for
development in the country and the need to address pressing environmental
problems such as poverty and service provision do not undermine the
energy of intellectual actors who are trying to forge a new path. The pressing
problems of the country can best be solved using a more radical approach to
ecological modernization. It is therefore imperative that the pockets of inno-
vation are nurtured and supported so that the Africanization of ecological
modernization can take place. It is hoped that in this way the ‘institutional
deficit’ can be overcome with the development of processes and products
that reflect strong ecological modernization.

Acknowledgements
We would like to acknowledge the valuable comments received from two
anonymous referees.

References
Case of Water Pollution Control, Paper delivered at 1993 ECPR Conference, Leiden.
pp. 476–500.
Dryzek, J. S. (1996) Political inclusion and the dynamics of democratisation, American Political Science
Press).
Fell, A. & Sadler, B. (1999) Public involvement in environmental assessment and management: preview of
IEA guidelines of good practice, Environmental Assessment, June, pp. 35–39.
Fischer, F. (2003) Beyond empiricism: policy analysis as deliberative practice, in: M. Hajer and
H. Wagenaar (Eds) Deliberative Policy Analysis: Understanding Governance in Network Society,


