Policy Competences of Environmental Sustainability Professionals

Hens Runhaar, Peter Driessen and Walter Vermeulen

*Copernicus Institute for Sustainable Development and Innovation,
Utrecht University, The Netherlands*

In this paper, the authors elaborate on the policy competences that environmental sustainability professionals need for solving environmental problems as part of sustainable development. The 'multi-actor' policy context in which they operate lends itself to the application of the metaphor of a *sports game*. The paper goes on to outline the difference between 'spectators', 'players' and their relative roles. In practice, environmental sustainability professionals often switch between both roles during their career, implying that their training should have prepared them for such changes.

The authors then elaborate on specific role-related competences and their educational delivery. An important competence for players of the game includes the ability to organise interactive policy-making processes. Spectators should be able to analyse, explain and evaluate the content, process and impact of public policy-making. Such competences can be acquired by teaching students to apply certain key methods and the paper considers the appropriate level of education for each identified aspect.

- Environmental policy
- Sustainability
- Competences
- Policy analysis
- Interactive policy-making
- Higher education
- Social scientists

Hens Runhaar is a lecturer in policy analysis. His expertise is in transport studies and in policy analysis methodology, with a particular focus on sustainability issues.

Copernicus Institute for Sustainable Development and Innovation, Utrecht University, PO Box 80115, 3508 TC Utrecht, The Netherlands

h.runhaar@geo.uu.nl

www.geo.uu.nl/environmentalstudies

Peter Driessen is Professor of Environmental Studies. Most of his research is related to the relationship between environmental planning and physical planning and with network management.

Copernicus Institute for Sustainable Development and Innovation, Utrecht University, PO Box 80115, 3508 TC Utrecht, The Netherlands

p.driessen@geo.uu.nl

www.geo.uu.nl/environmentalstudies

Walter Vermeulen Is Associate Professor of Sustainable Production and Consumption. His research and teaching focuses on design, implementation and effectiveness of new strategies for increasing eco-efficiency of production and consumption by means of co-production of sustainable development strategies.

Copernicus Institute for Sustainable Development and Innovation, Utrecht University, PO Box 80115, 3508 TC Utrecht, The Netherlands

w.vermeulen@geo.uu.nl

www.geo.uu.nl/environmentalstudies

HENS RUNHAAR, PETER DRIESSEN AND WALTER VERMEULEN

O VER THE LAST THREE DECADES, ENVIRONMENTAL PROBLEMS AND ISSUES OF sustainable development have received increased attention from policy-makers, scientists, market parties and actors from civil society. Alongside this development, both theory and practice in this area have developed into mature professions, with distinct foci, tasks and responsibilities. Issues of the environment and sustainable development nowadays dominate the daily work of armies of policy-makers, HSE (health, safety and environment) or CSR (corporate social responsibility) managers, scientists and employees of NGOs (non-governmental organisations) such as Greenpeace. The nature of their work originates from various disciplines (on a spectrum that moves from social science through to natural science) and is based on different types and levels of education.

Professions have the characteristic feature that they require specific and advanced education or training. Yet, in light of the diversity of activities and educational backgrounds touched on above, can we speak of a single entity known as *the* environmental sustainability profession? Or, by lowering our sights, is it possible to identify at least some general competences environmental sustainability professionals should possess? In this paper we adopt the latter, more modest perspective by exploring core competences related to environmental sustainability policy and policy-making. Currently, in particular social scientists are trained in these competences, but we believe that they are relevant to natural scientists as well.

'Competence' and its plural refer to the ability of an individual to act adequately in a particular context (Debats 2004). They are related to a particular role an individual is expected to play, and to a large extent consist of professional knowledge and capabilities (Runhaar and Rijken 2002). 'Policy', for the purposes of this paper, can be defined as 'political agreement on a course of action (or inaction) designed to resolve or mitigate problems on the political agenda' (Fischer 1997: 2). We define competences at an academic level throughout the paper, although most of the competences that we discuss are relevant to environmental sustainability professionals with other levels of education as well.

Starting from the challenges that environmental progress and sustainable development pose to actors who aim to promote these goals professionally, we identify two important roles. Having elaborated on the two roles and having derived competences from them, we briefly discuss how competences required for these roles can be delivered in higher education and offer some concluding remarks.

The environment as a policy issue and implications for academic training

Background

Since the 1970s, environmental problems have received increased attention from policy-makers in Western countries. Alarming problems such as water pollution, diffusion of hazardous chemicals and acid rain made society realise that production and consumption activities could result in severe health and environmental problems and provoked a policy response. In the first instance, policy consisted of 'end-of-pipe' measures: initiatives to reduce the negative environmental effects of economic activities. Later, attention shifted to the prevention of pollution, and from local problems to global problems (see for instance Driessen and Glasbergen 2002 and Keijzers 2000 for a discussion of environmental policy in the Netherlands). With the report of the Brundtland Commission in 1987 and UN conferences in Rio de Janeiro (1992) and Johannesburg

(2002), the focus of environmental policy-making has generally been broadened to promote a 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' (WCED 1987: 43) and that results in a fairer distribution of welfare. This means that ecological interests have to be balanced with economic and social interests.

Governing environmental policy issues

Sustainable development poses various complexities to policy-makers who aim to attain this objective. The first complexity resides in the need to optimise three values (i.e. ecological, social and economic) at the same time. Related is the observation that human behaviour (including public policy) often affects each of these values simultaneously. A second complexity is caused by the long-term nature of processes that may result in a transition to a more sustainable social organisation. In essence, quick adaptations are almost impossible owing to vested interests, knowledge gaps, lack of technological solutions and so on. The third complexity lies in the nature of the policy-making process itself. Over the years, policy-making in the field of the environment and sustainable development has gradually evolved from top-down regulation to more horizontal forms of policy-making in co-operation with other actors inside and outside the public administration.

Some of these actors are found within the state apparatus, because of the typical organisation of public administration into distinct policy domains. Other relevant actors are found in other domains of society, such as the market or civil society. Given the state's dependence on these actors, governments often have to negotiate with them and engage them in processes of policy development, implementation and evaluation (Rhodes 1997; Van de Riet 2003). Yet the actors from various domains typically perceive a given problem differently. Moreover, they have the potential to block problem-solving activities. Policy-makers thus face the challenge of finding a balance between policy alternatives that are both satisfactory in terms of problem-solving *and* that can count on sufficient support from stakeholders (Bovens *et al.* 2001).

The typical 'multi-actor' policy context implies that strategies for environmental progress and sustainable development usually have to relate to a form of 'governance': a non-hierarchical form of steering, where state and non-state actors participate in the formulation and implementation of public policy (Rhodes 1997). Governance entails 'sustaining co-ordination and coherence among a wide variety of actors with different purposes and objectives including political actors and institutions, corporate interests, civil society and transnational organizations' (Pierre 2000: 3-4). The concept of governance thus refers to any means of control whereby the role of the state recedes somewhat while private actors and non-governmental organisations take a more prominent role (Lafferty and Meadowcroft 1996; Driessen and Glasbergen 2002; Dubbink 2003). In the context of such shifting power positions, new arrangements emerge—known as 'agreements', 'covenants' or 'partnerships'—not only between public and private parties but also among market parties and civil organisations (see for instance the alliances in the field of sustainable energy; Glasbergen and Groenenberg 2001).

Governance has many faces. Depending on the types of actor that are (or should be) involved, a distinction can be made between 'multi-level' governance (highlighting the various tiers of government: local, regional, national or supranational) and 'multi-actor' governance (reflecting the involvement of both public and private actors) (Bressers and Kuks 2003). In both cases 'multi-sector' governance is required as well: the integration of environmental objectives in non-environmental policy domains (Lafferty and Hovden 2003).

The need for a governance strategy

There are various reasons why this shift towards governance is clearly visible within the field of promoting sustainable development. We can quickly illustrate this from the various perspectives of governments, business, civil society and science.

Looking from the perspective of *governments* the top-down model has its limitations, as working on environmental issues often implies co-operation of both different tiers of agencies and agencies from different sectors, which need to be mutually interdependent in creating effective solutions. Environmental issues in many cases are 'untamed problems' (Douglas and Wildavsky 1983): complex issues with high levels of uncertainties, divergently perceived by various stakeholders and often containing strong normative elements. Adding the element of long-term substantial changes, it will be evident that knowledge, technical expertise, creativity in designs and tailor-made adaptations to local and sectoral circumstances will often be unavoidable. Another element here is the changing relation between government officials and emancipated citizens, implying a loss of public trust if citizens do not feel properly represented in decision-making. This element touches a fundamental debate on various conceptions of democracy: the liberal democratic conception (also called an elitist democracy: democracy as government by political elites, competing in the voters' market) versus a (direct) participatory conception of democracy advocating more egalitarian co-determination of policies by citizens (Webler and Renn 1995). Policy-makers depend for their success on emancipated citizens and experts from the business world. That is why many environmental policy-making practices often take an innovative approach, experimenting with new forms of governance such as participatory policy-making and voluntary agreements.

Looking from the perspective of *businesses*, one can observe that businesses and their representatives traditionally have had good access to the preparation phase of policy-making processes within traditional policy processes, either by being invited to comment or by using force in lobbying. However, also within the sphere of business a shift to working in dialogue with other societal stakeholders is taking place. At least two developments are relevant here. First, we have to point at the issue of legitimacy. In many cases and on many fields industry has achieved substantial improvements in the eco-efficiency of their production processes. During the last decade new actors have entered the stage of public discourse on improving eco-efficiency of production and products, such as shareholders, insurance companies, buyers, retailers, auditors, eco-labelling organisations and environmental NGOs, who are all addressing producers about achieving 'continuous' improvement (as required in the ISO 14001 standard). Reporting requirements have urged business to be transparent with regard to the impacts of production. Companies are asked to give evidence of their 'socially responsible' behaviour. In reaction, large companies, recognising their vulnerability, have started to develop essential projects in a consultative way, starting dialogues with societal stakeholders on their main strategies. The second development relates to the issue of sustainable innovations. Businesses taking off along this route will have to look beyond 'locked-in' solutions, requiring consistently maximised creativity. Here the involvement of third parties, such as NGOs, consumers and scientists is also instrumental.

Looking from the perspective of *citizens and NGOs*, we have already mentioned the issue of legitimacy linked to co-determination of polices. In addition to these points, inputs from citizens and community organisations which not only provide lay knowledge and contextual information, but could also have possible roles in implementation of plans, are increasingly recognised as essential for the success of policy-making (Carson and Martin 1999). In achieving this, emancipated citizens nowadays demand forms of involvement on the highest rungs on the ladder of participation, beyond forms of tokenism (Arnstein 1969; Pröpper and Steenbeek 2001).

Finally, looking from the perspective of *science*, we can also see a trend towards participation, partly for the reasons already discussed. One of the main activities in the field of environmental sciences is the use and development of complex interdisciplinary models for describing physical processes of pollution effecting ecosystem degradation. This is often extended by the process of translating these templates into policy assessment models, predicting the ecosystem responses to policy-induced changes of society-based inputs (pollution reduction) in ecosystems, often linked with economic cost–benefit analysis. This is a field of work that involves a high level of both complexity and uncertainty, to say nothing of the possibility of entanglement in normative and ethical problems that call the legitimacy of the whole process into question (Funtowicz and Ravetz 1993). This has led others to promote a form of science that has closer links to stakeholders involved in the public and political discourse on the issues at stake. Some scholars call this **transdisciplinarity** (Häberli and Scholz 2000; Klein *et al.* 2001) or **mode 2 science** (Gibbons 1994).

Roles of environmental sustainability professionals

Environmental professionals will in most cases deal with environmental policy-making in one way or another. They may be working at government agencies at any of the various relevant levels or sectors. Conversely, they may be working in industry or their representative organisations, thus dealing with recently developed policies or policies 'under construction'. They may also work as consultants or academic scientists, giving science-based inputs to the formulation of new polices or the evaluation of existing policies. Beyond all this, they may even be employed by a community organisation, a nature conservation organisation or an environmental organisation, where their main role may often be to maintain critical discourse on new policies.

In the previous section, we stated that the multi-actor policy context implies that strategies for environmental progress and sustainable development usually have to relate to a form of governance. In order to identify the roles of environmental sustainability professionals in this context as well as the competences that are required to play these roles successfully, we use the metaphor of a sports game.

First, in analysing the governing of sustainable development, we need to distinguish between two different roles: participants and spectators (see also Glasbergen and Smits 2003). *Participants* obviously include public policy-makers, but also environmental co-ordinators in business and employees of environmental NGOs. Mutually dependent, these actors are directly involved in strategies aimed at solving environmental or sustainability problems. At more of a distance, social scientists observe and analyse the participants' activities and interactions. These *spectators*' activities are mainly fed by curiosity, not by a desire to contribute directly to environmental progress or sustainable development. In the practice of environmental sustainability, during their career, professionals not only interact but often switch between the two roles, leaving and rejoining the field of play. This implies that students training to become environmental sustainability professionals should be prepared for both roles. In the next sections we elaborate on the specific competences that belong to the role of both participant and spectator, as well as the ways in which these can be taught.

Competences related to the players in the field

Who are the players and what are they doing?

As we discussed above, in the practice of environmental policy-making in the last two decades we have witnessed a shift away from the classical top-down approach towards a more collaborative style in many countries. Stretching our metaphor even more, in the old strategy the team members were all state representatives, all running simultaneously in a single line towards the goal. With this shift, the tactics have changed: every individual player has his or her specific talent, position and temperament. It is the coach and captain's role to devise a practical strategy that uses the strengths of each individual player. Only in that way can the team work as a team and have a greater combined effect.

Training in the governance of environmental sustainability requires players to be trained in the most practicable techniques, experience them, and learn about the underlying philosophies. But they must also understand the strategy: all players should be able to think as if they were a coach or team captain trying to get the most out of the game. This mastering of strategies for governance is essential. In practice we see cases of 'incomplete' shifts towards interactive policy-making, short events of participation followed by reversion to a classical top-down approach. Rosenberg and Korsmo (2001) describe an exemplary case of a World Bank-funded project in which, as a result of World Bank requirements, a participatory approach was applied in selecting waste disposal sites. This participatory approach allowed NGOs to put the conservation of specific ecosystems in Grenada on the policy agenda, conflicting with the interests of people living near proposed waste disposal sites. Given this conflict of interest, both the World Bank and the national authorities relapsed into top-down decision-making. Comparable cases have been described in the Netherlands (e.g. Enthoven *et al.* 2003). Mastering strategies for governance implies that scholars both in the role of player or coach and in the role of spectator should recognise such shifts, enabling them to prevent or adjust them.

Key competences of players

If we translate the role of a coach and/or a team captain into the core role of a policy-maker (in the sense of a designer of the policy-making process), we can refer revealingly to Jessop (1998), who stated that governance would imply creating mutual trust, by building mechanisms that create inter-organisational dialogue. This would include:

▶ The use of models and practices that reduce the complexity of the world, but are congruent with real-world processes

▶ Developing the capacity for dynamic, interactive learning about causal processes, stakeholder responsibilities and co-ordinated action

▶ Establishing a common world-view for individual actions and mutual co-ordination

This type of inter-organisational dialogue is at the core of interactive policy-making, bringing together relevant stakeholders related to specific sustainability issues, creating shared problem perceptions, allowing for exchange of information, experiences, expertise and values, to be used to elaborate co-ordinated action. Knowing how to organise such a process is essential to the sustainability challenge. Basic elements in education concerning the governance mode of policy-making would therefore include theories on

the architecture of policy processes, basic techniques for mixed-group interactions, but also the confrontation of theory by practice.

Theories on the architecture of policy processes

In the practice of interactive policy-making, we need to make a distinction between 'techniques'—types of bilateral or group communication used at each step of a process—and 'methods'—full designs of a process (a good description of such a full process design can be found in Podziba 1999). Crucially, at the level of process design, only a few relevant books are available. The work of Susskind *et al.* (1999), Friend and Hickling (2005) and De Bruijn and Ten Heuvelhof (2003) is certainly useful here, being based on work practice in the USA, the UK and the Netherlands, respectively. Yet research on such practice reveals the need for proper linking of interactive processes with those of formal decision-making.

Theories on the architectures are diverse, but have in common a process design containing at least a diverging phase and a converging phase (Driessen and Vermeulen 1995; Kaner 1996). The diverging phase seeks open and full exploration of divergent needs, problem perceptions and the cognitive base of participants (*shaping* and *designing*). The converging phase aims at finding common ground, shared assessments of opportunities and joint action planning (*comparing, choosing* and *deciding*).

In addition to the resources mentioned above, a lot of literature appears to be available at first glance. However, often the material is just based on one or a small number of specific methods (Kasemir 2003), or focuses on a specific academic debate (Renn *et al.* 1995; Grin and Van de Graaf 1997; Jamison 1998). They are thus not suitable for use in academic teaching. In addition, there are a number of more practical facilitator-oriented handbooks available, but these books miss any link to theoretic thinking (see for example Saint and Lawson 1994; Kaner 1996). They may be useful as a resource for teaching specific techniques but do not have the broad range of reference required by those preparing themselves for modern policy-making.

Basic techniques for mixed-group interactions

Some of the basic techniques commonly used in various stages of a process design are brainstorming, the nominal group technique and meta plan. Other techniques are more suitable at different stages of the overall process. In the initial **diverging phase**, techniques such as stakeholder analysis, focus-group discussion, specific warming-up techniques (i.e. future visioning) and perception analysing techniques (i.e. cognitive mapping), group model building, and SWOT analysis may be helpful. Initial progress can also be made by analysing decision areas and by analysis of uncertainties.

In the **converging phase** tools such as multi-criteria analysis, joint fact-finding, common grounding, action planning and the creation of commitment packages may be useful. Information on these techniques is broadly available, but not yet translated into a concise form for use in the field of sustainable development. Lecturers thus still have to find their own route through the wide world of group work techniques.

Teaching methods and techniques is one thing, but we also have to acknowledge that, in practice, there will be a tension between working in the interactive mode and more traditional top-down policy-making routines. In our view and experience, the best way to teach this is to make the issue an essential part of the educational assignments, confronting students both with theory and practice, thus making a first step from the role as a spectator to that of player.

Confrontation of theory by practice

Environmental scholars have produced many interesting and useful case-study articles in international scientific journals within many specific areas of environmental policy.

These cases can easily be used for creating a critical analytical attitude towards the practice of governance. At least eight specific issues linked to the practice of interactive policy-making can be used as topics for student analysis and discourse (each with some useful literature sources):

1. **Participant selection**. What assumptions and approaches can be seen in practice and what would be proper rules for participant selection (Carson and Martin 1999)?

2. **Power and access**. Governance is more or less linked to the concept of direct democracy, but are all relevant stakeholders equally represented and do process designs indeed allow for a level playing field, giving citizens a level of influence equal to business and science representatives (Lane 2003; Anthony *et al.* 2004)?

3. **Roles of facilitators**. Facilitators play a key role in creating a level playing field in interactive processes, but who are they and do they live up to such expectations (Friend and Hickling 2005; Singleton 2002)?

4. **Roles of participants and competences**. There is a clear tension between laymen's representation and competent discourse. How do we deal with this tension in practice (Burroughs 1999; Bulkeley and Mol 2003)?

5. **Use of knowledge, ICT (information and communications technology) and DSS (decision-support systems)**. Competence may very well be enhanced by organising input of knowledge, using computer applications such as DSS, but this may very well mean that science and technology may again dominate the process. How can scientific knowledge successfully support policy-making (Petts 1997; Lynn 2000; Mustajoki *et al.* 2004)?

6. **Organisational implications**. Governance implies a changing perception within administrations of their role and abilities and requires reorganisation of policy-making procedures and organisation (Margerum 2001). How do we manage such necessary changes?

7. **Modes of evaluation, evaluation criteria**. Literature on evaluation of interactive processes often focuses either on the process or on the use of outcomes. How can evaluations be assessed and improved (Webler and Renn 1995; Smith and McDonough 2001; Brody 2003)?

8. **Use of outcomes by policy-makers**. Most critical for the impact of governance is its implementation. Essential here is whether evidence on the claim of effectiveness can be substantiated (Selin *et al.* 2000; Webler *et al.* 2001)

These types of issue can be clearly linked to the growing body of literature. We see a broad practice in various fields of environmental policy-making, all over the world. These exemplary cases cover the fields of:

▶ Water issues (Beierle and Konisky 2001; Gregory and Wellman 2001)

▶ Biodiversity and nature conservation (Steelman and Ascher 1997; Lawrence and Deagen 2001; Colvin 2002)

▶ Local planning in developing countries (Gillingham 2001; Agrell *et al.* 2004)

▶ Local/regional community planning; land use planning (Corburn 2003; Morris 2004)

▶ Fisheries (Butler *et al.* 2001)

▶ Traffic and infrastructure (Driessen *et al.* 2001; Yearley *et al.* 2003; Glasbergen and Driessen 2005)

▶ Waste management (Petts 2001)

▶ Energy and climate change (Kasemir *et al.* 2000; Van der Waals and Vermeulen 2002)

▶ Agriculture (Smithers and Furman 2003; Morris 2004)

▶ National policies (Bell and Morse 2004)

▶ European policies (Hallstrom 2004)

▶ Risk management (Corburn 2003)

Many of these articles are instructive in showing the broad field of application of governance practices. However, they often have a poor level of theory. Various disciplinary approaches hardly mix and knowledge accumulation is still weak in this field, but these characteristics don't imply that such a young field of study could not be systematically addressed in academic teaching.

In practice, the shift from 'top-down policy-making' towards 'governance' is not without obstacles. It requires a change of administrative culture, both by public-service officials and politicians as well as a change of attitude by stakeholders who are more used to good access to agencies working in the classical mode. Currently, many participatory policy programmes are often hampered by inadequate process design, somehow mixing the two approaches: for example, by having citizens bring in many ideas, but then having a civil servant summarising, assessing and largely rejecting these inputs. In academic training students can be made sensitive towards these issues not only by teaching the 'ideal typical' theories on designing interactive policy processes, but also by confronting them with the practice of 'muddling through'.

Competences related to the role of spectators

Who are spectators and what are they doing?

The previous section discussed the key competences that players of the 'environmental sustainability game' need in order to have a good chance of winning the game: that is, to mitigate, solve or prevent environmental or sustainability problems. In this section, we will elaborate on the competences that **spectators** of the game need. Spectators are (social) scientists who observe and analyse the activities and interactions of players of the game. For a large part, spectators' activities are fed by curiosity, a desire to acquire a better understanding of the game. Some of the spectators use this understanding to draw up advice on how the game can be improved. Think of supporters who shout slogans, sports commentators or pundits. A characteristic feature of spectators is that they follow the game at a distance, and are only indirectly involved. Although they may actively try to influence the game by provision of advice, eventually the players decide whether or not they will follow that advice.

Key competences of spectators

The spectators are thus scientists and consultants, who conduct both fundamental and applied research, either by order of policy-makers or independently. Their key compe-

tences consist of the ability to *analyse* (i.e. examine systematically), *explain* (i.e. identify determinants of or factors influencing the phenomenon under study) and *evaluate* (i.e. make normative judgements about findings) the content, process and impact of governance for environmental sustainability, and to formulate *advice* (i.e. recommendation) to players on how to improve the game. These activities are usually classified under the heading of 'policy analysis' (Runhaar *et al.* 2006).

Governance for environmental sustainability imposes some specific demands on policy analysis in this area. Apart from the multidisciplinary focus that is often required, policy analysts should be aware of the fact that stakeholders (players) often do not accept the research outcomes or use them in a strategic way (see for instance Bras-Klapwijk 1999). In part, the authority of policy analysis is not self-evident because of the many uncertainties dominating many policy areas and that cannot be addressed adequately by science alone (Funtowicz and Ravetz 1993). Scientific knowledge therefore has to be complemented with forms of 'lay knowledge' or 'citizen science' (Irwin 1995).

Another explanation is that many policy-analytical studies are based on 'single-value' methods that focus on one or a few operational criteria (e.g. efficiency and effectiveness) and that largely ignore other criteria or values (cost–benefit analysis is a typical example). In this way the methods do not always reflect the values that are involved in a policy area. This may provoke opposition from groups of stakeholders (De Jong 2000; Van de Riet 2003). It follows that an important competence of policy analysts in the area of environmental sustainability is thus the ability to incorporate the views and interests of stakeholders into their work when deemed necessary.

Methods of policy analysis as vehicles to build competences

The four core competences mentioned above—the ability to analyse, explain, evaluate and advise—become meaningful only in the context of specific *questions*. In line with Leroy and Nelissen (2000), we distinguish between five relevant themes around which research questions can be formulated, namely:

1. **Policy content**: including questions such as: What are the policy objectives? What problem definitions underlie policy objectives? How valid are the assumptions on which the policy rests?

2. **Policy process**: for example, what is the influence of NGOs such as Greenpeace on political agenda-setting? How have policy processes evolved over time?

3. **Policy organisation**: for example, which policy domains are involved in the issue of sustainable development? How is the implementation of EU environmental directives organised in the various member states?

4. **Policy effects**: for example, has the policy resulted in the realisation of its objectives? Are there any (severe) side-effects? Do stakeholders evaluate the policy effects similarly or not? What explains the success or failure of the policy under study?

5. **Policy context**: for example, how is the policy content (including the policy problem) affected by political, economic and cultural developments?

Our spectators should therefore be equipped with a toolbox of methods that can be used to answer the main questions related to the above themes. Over the years, numerous methods of policy analysis have been developed (see for instance Geurts *et al.* 1989; Wrisberg and Udo de Haes 2002; Mayer *et al.* 2004). However, in order to answer the types of question listed above, five methods suffice as minimal methodological equipment:

1. Reconstruction of policy theory

2. Stakeholder analysis

3. Impact assessment

4. Cost–benefit analysis

5. Discourse analysis

Table 1 shows how the five methods relate to the above-mentioned themes. Below we briefly discuss the methods; for a more detailed discussion we refer to Runhaar *et al.* 2006.

	Theme 1 (content)	Theme 2 (process)	Theme 3 (organisation)	Theme 4 (effects)	Theme 5 (context)
Reconstruction of policy theory	■		■	■	
Stakeholder analysis	■	■	■	■	■
Impact assessment				■	
Cost–benefit analysis				■	
Discourse analysis	■			■	■

Table 1 POLICY THEMES ADDRESSED BY THE FIVE METHODS OF POLICY ANALYSIS

The first method, **reconstruction of policy theory**, focuses on elucidating the logic or reasoning behind a policy programme: that is, 'the total of causal and other assumptions underlying a policy' (Hoogerwerf 1990: 285) that represent 'the conception of what must be done to bring about the intended social benefits' (Rossi *et al.* 2004: 134). For this purpose the method investigates causal, normative and final relations between the key elements of a policy programme.

Stakeholder analysis aims at eliciting the main actors that have a stake or interest in a particular policy problem. Actors become stakeholders when they contribute to a policy problem, are needed for solving the problem, or are affected by problem-solving activities. Usually, stakeholder analysis focuses on aspects such as the interests of stakeholders, their perceptions of the problem, their positions and relationships with other actors, and the resources that they control.

Impact assessment covers a wide range of methods for determining the effects of a policy programme (e.g. social impact assessment, environmental risk assessment and environmental impact assessment, including randomised experiments and quasi-experimental research designs). The overall question that is addressed by the method is: Do policies actually produce the intended effects?

Cost–benefit analysis (CBA) focuses on evaluating the effects of (proposed) policy programmes. It can be used to determine whether or not the benefits of an investment or a policy outweigh its costs. CBA has a very broad scope, since it may express all positive and negative effects of an activity in a common unit: namely, money, from a social as opposed to a firm's point of view (Wrisberg and Udo de Haes 2002). Typically, costs and benefits are expressed in consumer preferences, specifically in the willingness to pay for the goods or services that are evaluated.

Finally, **discourse analysis** focuses on the ways in which (groups of) actors give meaning to particular phenomena (e.g. a policy programme or the causes of a policy problem). The method is based on the premise that the way people talk is not a neutral reflection of our world, identities and social relations. Rather, it plays an active role in

creating and changing them. Within a particular world-view, some forms of action become natural whereas others become unthinkable. Different social understandings of the world therefore lead to different social actions (Jørgensen and Phillips 2002).

Spectators should not only be trained in the technical application of these methods, but should also learn how to recognise the social context in which their work takes place and, based on that, draw conclusions regarding their own contribution to the game. To be able to provide *advice*, they need to know the interests and goals of policy-makers and the constraints they face. Insight into policy theories is therefore required. In addition, they should know which stakeholders play an important role in the policy domain in question, and what that means for their involvement in the project. A brief stakeholder analysis therefore should be part of any policy-analytical study. The form of the stakeholder analysis will depend on the situation at hand. For instance, in the case of an impact assessment or CBA, a stakeholder analysis should provide insight into the distribution of effects, costs and benefits over groups of stakeholders. This may subsequently indicate from which groups of stakeholders opposition or support can be expected.

If the analysis is being conducted by order of the policy-makers, spectators should try to avoid the situation where stakeholders do not accept the outcomes of the study because it does not reflect their values or because it leaves too many questions unanswered. This problem can be overcome by stakeholder participation during the research (for an overview of various forms of stakeholder participation, see Mayer 1997). In this way the spectators can fill knowledge gaps, enrich their research perspective and expand the set of evaluation criteria used. Stakeholder participation may even subsequently result in a commitment to the study results as well as to the problem-solving activity that is being evaluated (Hisschemöller *et al.* 2001).

Finally, spectators should acquire the ability to reflect on their own role and work. They should be aware of, make explicit, and avoid as much as possible subjective elements in their analysis. They should know how policy analysis studies can be used but also abused in policy processes. Think of politicians who ignore reports that are not convenient or arrange for other agencies to produce counter expertise, or politicians who decide to do further analysis in order to postpone decisions or debate. Finally, spectators have to know in what situations their studies may or may not have an impact on policy-making.

Conclusions

In this article we have discussed the policy competences environmental sustainability professionals need for solving environmental problems and for the promotion of sustainable development. Our starting point was that, in liberal democracies, state actors alone cannot successfully address issues of environment and sustainable development. Instead, support is required from actors in other domains of society (i.e. the market and civil society). This typical 'multi-actor' policy context implies that strategies for environmental progress and sustainable development usually have to relate to a form of 'governance': a non-hierarchical form of steering, where state and non-state actors participate in the formulation and implementation of public policy.

In order to identify the roles of environmental sustainability professionals in this context and the competences that are required to successfully play these roles, we applied the metaphor of a *sports game*. In governing sustainable development we need to distinguish between two different roles for environmental sustainability professionals: participants of the game and spectators. Participants include public policy-makers, but also

environmental co-ordinators in business and employees of environmental NGOs. More at a distance, (social) scientists like many spectators observe and analyse the activities and interactions. In the environmental sustainability practice, professionals certainly interact with both players and spectators and during their career may often switch between the roles themselves. This implies that students who are trained to become environmental sustainability professionals should be prepared for both roles.

We elaborated on the specific competences that belong to these roles. An important competence for players of the game includes the ability to organise interactive policy-making processes. Spectators should be able to analyse, explain and evaluate the content, process and impact of public policy-making. Competences for both roles can be acquired by teaching students to apply certain key methods. Competences are defined at an academic level, related to the fact that public policy-makers usually need academic training. Some competences, or elements thereof, however, are also relevant for other positions and levels of education. In Table 2, we summarise the relevant competences related to the two roles we have distinguished.

	Methodological competences	Social competences
Policy analysis ('Spectators')	▶ Analyse ▶ Explain ▶ Evaluate ▶ Advise	▶ Aware of policy-makers' goals, values and constraints ▶ Be able to recognise needs and relevance of social context ▶ Aware of own role
Policy-making ('Players')	▶ Shaping, designing and organising multi-stakeholder group interactions ▶ Linking participatory approaches to formal policy-making procedures ▶ Reflecting on group interaction techniques	▶ Emphatically working with divergent interests and views ▶ Process management ▶ Mediation skills and skills in facilitation of negotiations

Table 2 OVERVIEW OF RELEVANT COMPETENCES

We believe that the best way to teach students how, why and when to employ particular methods of policy analysis or interactive policy-making is by practical experience (i.e. 'learning-by-doing'). After all, a method is a tool, something students must be able to handle in concrete situations. For instance, reconstructing goal–means relations when reconstructing a policy theory (see above) may seem obvious. Yet means are often subgoals for other means. By stimulating students to elaborate on such issues, we hope that not only will they apply the method in a better way, but also come up with new insights (e.g. that goals and means can often only be distinguished analytically).

Practical experience can be acquired by means of assignments in which students have to apply (elements of) a particular method (e.g. a simple stakeholder analysis), design a research set-up based on a method, or critically comment on a study in which the method in question was employed. The empirical basis for the assignments could be EU environmental law or policy and cases of policy-making processes regarding climate change, waste management, marine pollution, etc.—all topics on which ample data are available via the Internet and in the literature referred to in this paper. In order to stimulate debate and transferral of knowledge, it can be useful to organise practicals in which students have to present their work to their colleagues. Eventually, by preparing students for both roles—players and spectators—we expect them to be able to contribute in a

more effective way to reducing environmental problems and in the promotion of sustainable development than when they are trained in only one of these roles.

We have mainly focused on students in environmental sustainability sciences. However, we also encourage environmental sustainability professionals, who finalised their education some time ago, to reflect on the two roles discussed in this paper. Do they recognise the multi-actor policy context and the two different roles that environmental social scientists may play? What role do they play, and have they, during their career, moved from spectator to player or vice versa? And how do they evaluate their policy competences that are central to this paper—is there a need for further training?

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