

# Governance for sustainable development: a framework

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## **abstract**

*This paper deals with the linking of two complex concepts, governance and sustainable development. Sustainable development is a normative concept, dealing with different temporal and spatial scales and with multiple stakeholders. It indicates a process of human progress. Sometimes sustainable development is objectified in terms of goals and principles, but the exact meaning of sustainable development is usually left open. Governance is seen as a means to steer the process of sustainable development. However, governance is not a straightforward concept either. It can be seen as a collection of rules, stakeholder involvement and processes to realise a common goal.*

*The central assumption in this paper is that sustainable development cannot be achieved without governance because of the nature of the sustainable development concept. Sustainable development incorporates wicked issues, social complexity and weak institutionalisation. In this paper we argue that the many perspectives on sustainable development can be described meaningfully between the extremes of the rational, objective perspective and the normative perspective of sustainable development. Furthermore, the variety of modes of governance can be captured between hierarchical governance and co-governance. From this we derive four typologies of state-society relations (governance) for sustainable development: the rational state, the rational society, the normative state and the normative society. The main conclusion of this paper is that the debate on governance for sustainable development will be clarified if the perspective on sustainable development and the mode of governance – and the combination of the two – is made more explicit.*

## **1 Introduction**

This paper deals with the linking of two complex concepts, governance and sustainable development. Sustainable development is a normative concept, dealing with different temporal and spatial scales and with multiple stakeholders. It indicates a process of changes whereby the development goal is not clearly outlined and is subject to changes throughout the process. Governance is seen as a means to steer the process of sustainable development. However, governance is not a straightforward concept either. It can be seen as a collection of rules, stakeholder involvement and processes to realise a common goal.

The central assumption in this paper is that sustainable development cannot be achieved without governance. The arguments for this statement we can find in the characteristics of the concept of sustainable development:

- in terms of the content – to realize a more sustainable world – most sustainability issues can be seen as *wicked problems* which require a change in the dominant institutions;
- in terms of the process – the involvement of a plurality of parties – most sustainability policies and projects have to deal with *social complexity* in the sense of dissent, distributed control and intelligence;

- in terms of the context – the institutional setting – most sustainability initiatives are confronted by *weak institutionalization*.

Wicked problems, social complexity and weak institutionalization undermine the rationale of 'traditional' *governing* with governments as institutions with hierarchical power, and support the idea of *governance* as a shared responsibility of representatives from the state, the market and civil society dealing with societal problems.

However, if we wish to operationalise the idea of 'governance for sustainable development', we have to deal with two important, and mutually coherent characteristics:

- firstly, we have to accept that there are *different perspectives on the concept of sustainable development*, differing from an objective, rational one where sustainable development can be clearly defined, to a more normative one where societal preferences and uncertainties shape the concept.
- secondly, we have to be aware that *multiple modes of governance* are possible to steer the process of sustainable development, ranging from a more top down approach and hierarchical relations between the government and societal actors, to bottom up approaches and horizontal relations between all actors involved.

Different perceptions of sustainable development and multiple modes to steer this societal process of change make a pluralistic approach of governance for sustainable development inevitable. We are living, after all, in a pluralistic world.

## 2 Perspectives on sustainable development

### ***The concept***

Sustainable development means different things to different people, but the most frequently quoted definition is undoubtedly 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs', and was published in 1987 by the Brundtland-Commission in their report 'Our Common Future'. The definition continues by saying that it [sustainable development] contains within it two key concepts:

- the concepts of *needs*, in particular the essential needs of the worlds poor, to which overriding priority should be given; and
- the idea of *limitations* imposed by the state of technology and social organization on the environments ability to meet present and future needs.

The concept of sustainable development requires that we see the planet and our world as a system. A system that connects space ('here and there') and a system that connects time ('now and later') (IISD, 2007).

Furthermore, the definition refers to three normative principles (Lafferty and Langhelle, 1999, in Lafferty, 2004):

- physical sustainability: (...) the need to protect and exploit natural life-support systems in a manner that secures the ongoing satisfaction of essential human needs;
- generational equity: (...) physical sustainability needs to be achieved in a manner designed to guarantee essential need satisfaction for recurring future generation;

- global equity: (...) physical sustainability must be regulated among countries such that the satisfaction of the essential needs of the world's poor is given priority over the less-essential needs among the populations of wealthier countries.

The future orientation and the multidimensional character make sustainable development a normative, subjective, complex and ambiguous concept (De Kraker, Van Laeken en Cörvers, 2005):

- The *normative principle* in the concept is that of inter- and intra-generational equity. Although this principle as such is broadly agreed upon, its interpretation varies, and consensus is often lacking when more specific standards are derived from this general principle.
- The concept is also of a *subjective nature*, as in particular the interpretation of human needs depends on personal views or preferences. People are bound to differ in opinion as to what important needs are and when these needs are sufficiently fulfilled. As a consequence they will also differ in their choice of indicators and targets for sustainable development.
- The concept is *complex*, indicating that 'everything is connected to everything', and requires the contribution of different scientific disciplines. Because of this complexity there will always be the issue of diversity in scientific knowledge, and the fundamental question of uncertainty.
- Finally, the concept of sustainable development is *ambiguous*, as it does not contain a clear statement on the relative priority or weight of the ecological, economical and socio-cultural aspects of development. This makes it rather difficult to determine whether developments are sufficiently balanced to be called sustainable.

Many more definitions exist apart from the Brundtland one. Williams and Millington (2004) state that the starting point of much of the sustainable development literature is the environmental paradox. This points to the mismatch between the Earth's resources and humanity's demand on those resources.

However, sustainable development is often seen as a contradiction in terms in the sense that development is often seen as synonymous with economic growth and thus sustainable development can be interpreted as ameliorating but not challenging economic growth. Instead, sustainable development is the discussion about what kind of world we collectively want to live in, now and in the future (Robinson, 2004).

Lafferty (2004) highlights the differentness of sustainable development as compared to other developmental objectives. This differentness is characterised by the open nature of the concept that encourages dialogue.

Sustainable development can be seen as a political or normative act, rather than a scientific concept. The power of the concept is that it brings the differences in world views and in contradictions in current behaviour to the surface and provides a playing field for the debate (Lafferty, 2004; Robinson, 2004).

**Positions and perspectives**

Not surprisingly given the plurality of issues incorporated within the concept of sustainable development in the scientific debate different positions and perspectives can be distinguished:

*Stronger and weaker sustainability*

In order to capture the diverse meanings of sustainable development Williams and Millington (2004) provide a heuristic framework based on the notions of weaker and stronger sustainability. Both notions are possible answers to the question of how the demands on the Earth can be better matched with the available resources, and are strongly dependent of the world view of the individual and society.

- *Stronger* sustainability (or sustainable development) is about revising the demands of humanity on available resources. Less consumption and a change in values and behaviour are necessary (Robinson, 2004; Williams and Millington, 2004).
- *Weaker* sustainability refers to the underlying idea that the resource stock can be expanded by better technologies for exploiting existing resources and reducing pollution and by creating renewable resources as substitutes for non-renewables. A technical fix is the answer (Robinson, 2004; Williams and Millington, 2004).

Of course many combinations of stronger and weaker sustainability exist in between these two extremes. When combining insights provided by Robinson (2004) and by Williams and Millington (2004), the following characteristics can be derived:

Weaker sustainability	Stronger sustainability
Technical fix	Individual value change
Faith in science and technology	Earth is finite
Utilitarian/collective view	Spiritual/ecocentric view
Economic development by better accommodating environmental issues	Well-being is important

*Table 1: Characteristics of weaker and stronger sustainable development*

We see in both perspectives a relatively clear idea about sustainable development: either a demand problem that threatens well-being, or a supply problem that threatens economic development. In weaker sustainability we see faith in science and technology, whereas stronger sustainability builds on changes in behaviour.

*(Ecological) sustainability*

Sustainability can be perceived as an equilibrium relation between human activities and the physical environment, and can be described as 'safeguarding the vital functions (possible uses) of the nonhuman-made biotic and abiotic physical surroundings that include humanity's life support systems, of which ecosystems form part and on which humans are completely dependent' (Hueting and Reijnders, 2004). In discussions about the concept of sustainability the importance of the natural environment as frame work for human activities is often stressed. Hueting and Reijnders argue that sustainability indicators should focus on the processes that underlie the persistence of life support systems, and that indicators for sustainability which also include economic and social elements proposed so far rather generate fog than shed light on the road to sustainable production levels. We see in this approach again a fairly clear view of sustainable development: sustainable development is defined by ecological boundaries that can be scientifically determined.

### *Sustainable development*

The basic idea within sustainable development is to link environment with development, because (global) environmental problems are the result of poverty (South) as well as of affluence (North). Sustainable development interweaves the natural science principle of 'sustainability' – which can be described as the 'capacity for continuance' – and the social science concept of 'development' – which should be understood as the 'progress of human systems', and not simply associated as economic growth.

Sustainable development quite simply means a path for human progress which goes on more or less indefinitely, and respects ecological boundaries and pays attention to social equity. It is a development path that does not shift negative external effects – in terms of environmental problems, social consequences or economic impacts – to future generations or other places.

The sustainable development perspective incorporates normativity because it includes society and societal development. It also includes the notion of not shifting negative effects, where it is undefined what negative effects are. Sustainable development thus requires the integration of economic, ecological and social objectives plus the consideration of wider equity issues, seeking mutually supportive benefits (cf. Gibson, 2001)

### *Sustainable development and sustainability*

Although sustainable development and sustainability are often used as synonyms, they signify different approaches to the concept. Robinson (2004) defines sustainability as 'the ability of humans to continue to live within environmental constraints'. He interprets sustainability as the earlier mentioned *stronger sustainability*. Sustainable development to him means ameliorating but not challenging economic growth, similar to *weaker sustainability*. Other approaches are that sustainability is a static goal to be achieved within the environmental boundaries of the Earth's carrying capacity, whereas sustainable development refers to processes towards a more sustainable society. Guy and Moore (2005, in: Brand and Karvonen, 2007) argue that 'sustainability is also locally specific', and 'more a matter of local interpretation than of the setting of objective or universal goals'. We could also say that sustainable development accepts the normativeness, subjectivity and ambiguity of the concept by leaving the definition open for discussion and allowing the developmental goal to change over time, while the concept of sustainability is more restricted.

In this discussion we see first the recurring discussion on weaker and stronger sustainability which deals with rather clear, albeit different, goals on both sides. Sustainable development however, is described as having to deal with societal development. What exactly is a sustainable society remains rather vague. We also see that it is locally specific and a matter of interpretation, in other words, context dependent and the result of societal preferences.

### **Conclusion**

In this section we argue that sustainable development is not a single, well defined concept and various perspectives exist:

- to protect the carrying capacity of the planet (sustainability)
- to harmonise ecological, economic and social-cultural developments, without shifting negative external effects in time or space from one domain to another domain (sustainable development)
- weak and strong sustainability

- economic growth prevailing or ecological limits prevailing (anthropocentric or ecocentric).

We have seen that although the content of the different perspectives can vary considerably (ecocentric or anthropocentric), the goal is seen as rather clear. However, we have also seen perspectives where the goal is more fuzzy. This is the case for all visions that incorporate societal development and link prioritisation of goals to societal preferences.

We therefore wish to distinguish between broad typologies of how sustainable development is approached. On the end of the continuum we find on the one hand sustainable development as an objective clear concept based on scientific evidence and on the other hand sustainable development as an open fuzzy normative concept that is context dependent and a result of societal preferences. This obviously leads to different approaches of operationalisation of sustainable development. We therefore propose to distinguish between on the one hand an *objective, rational perspective* and on the other hand a *normative, subjective perspective*.

Obviously, many approaches towards operationalising sustainable development exist. We believe that the different views on sustainable development have implications for implementation. Therefore we will explore in the following section different options provided within the governance domain.

### 3 Modes of governance

#### ***The concept***

The term governance represents the notion of steering, which means the manipulation of society. This notion of steering a society can encompass an array of possibilities such as 'hierarchies' (top down steering by the government, often associated with the height of the welfare state) and 'markets' (invisible hand of the market, widely promoted during the neo-liberal experiment). When talking about governance we generally accept that the state no longer has the necessary authority or means to produce a (political) position that adequately represents the general or collective interest. This is especially true for sustainable development as its characteristics – in terms of wicked problems, social complexity and weak institutionalization – support the idea of governance.

Governance can be seen as a new configuration between the domains of:

- the *state*: represents the public domain, and its main function is to define, to develop and to implement that which is seen to be in the general interest;
- the *market*: stands for private interests, and it regulates economic activities and economic production;
- the *civil society*: foresees in the personal privacy for citizens, and it forms the public opinion (Glasbergen and Driessen, 2002).

Governance can be described as a shared responsibility of representatives from the state, the market and civil society dealing with societal problems.

Sustainable development is a collective interest, just like other common interests such as sanitary and drinking water facilities, health care, education, public transportation. However, sustainable development is also different because it is complex – multi-actor,

multi-sector and multi-level problems – and because its current urgency is not very high. Consequences of unsustainable development will only become visible in the long run, whereas a disruption of water supply has immediate consequences. An important issue therefore in the debate on governance for sustainable development is the perception of urgency. There is support at government level and in society for the concept of sustainable development, but a general notion of urgency seems to be missing. Without sufficient public support there is no governmental decisiveness, and without some kind of leadership by the government it is hard to see how a societal process of change towards sustainable development will take place.

Steering sustainable development is therefore also different from steering the other collective goals. Normally, one would steer either because of perceived urgency, or because of public support even for unpopular measures. Neither of the two seems much present.

### **Modes of governance**

Several modes of governance are discussed below. In section 4 these will be combined with the perspectives on sustainable development as discussed in section 2.

#### *Hierarchical, co and self governance*

Kooiman (2003) defines governance as 'the totality of theoretical conceptions on governing interactions', and governing as 'the totality of interactions in which public and private actors participate, aimed at solving societal problems or creating societal opportunities. In his analysis he distinguishes three modes of governance:

- *self-governance* is the capacity of societal entities to provide the necessary means to develop and maintain their own identity, and thus show a relatively high degree of social-political autonomy. In other words, they have the capacity to govern themselves autonomously.
- *co-governance* is a form of 'horizontal' governing, where actors communicate, collaborate or co-operate without a central or dominating governing actor, and different manifestations of co-governance are communicative governance, public-private-partnerships, co-management, networks and regimes.
- *hierarchical governance* is the most 'vertical' and formalised mode of societal interactions, where governing entities (with the state as its hierarchical expression) influence the behaviour of other actors, even involuntarily and often with sanctions attached.

#### *Rational governance, policy networks, values and distance*

Hufen and Koppenjan (2004) distinguish four modes of governance and related instruments in order to respond to a practitioner's question regarding the suitability of certain instruments for certain problems. The four modes they mention are all from a perspective where government is the main steering actor:

- *rational governance* should be understood as an answer to observed problems that obstruct effective policy implementation. It has a strong problem solving and instrumental character. Effectiveness and efficiency are important values, and the policy basis for implementation is not open for discussion.
- *governance through policy networks* deals with decision-making processes. Interactions between participants in the networks define problems and solutions as well as the most appropriate action to be taken.

- *governance through values* tries to steer society by appealing to its values. The proper visions and words as well as consistent behaviour of leaders is important for the success of this type of governance.
- *governance from a distance* occurs when the implementation of measures becomes manifest at a different level from decision-making. Contracts or covenants are typical instruments used, but contrary to rational governance there is a discussion with stakeholders in the problem-definition process. Complexity of society is accepted but the approach is instrumental.

We see in this enumeration that governments have a stronger (rational, value governance) or weaker (policy networks) role. Sometimes the government decides on policy and problems (rational, value governance) and sometimes other parties are involved (policy networks, distance governance). The focus can be more on process (policy networks, distance governance) or on goals (rational, value governance).

#### *New modes of governance*

The NewGov project examines the transformation of governance in Europe. (NewGov website, Treib et al. 2005, Börzel et al. 2005, Börzel 2006, Smismans 2006). In this project a distinction is made between 'old' and 'new forms of governance'. New modes of governance are defined as "the range of innovation and transformation that has been and continues to occur in the instruments, methods, modes and systems of governance in contemporary polities and economies, and especially within the European Union and its member states" (NewGov scientific objectives). Various researchers within the project present different approaches to dealing with the concept. Börzel et al. (2005) mention in conjunction with old and new forms of governance the narrow and broad definition of governance. This broad definition of governance refers to structures of social order such as markets, hierarchies and non-hierarchical forms of coordination, whereas the narrow definition limits itself to non-hierarchical coordination between public and private actors and coordination among private actors. They use this latter definition as the definition for new governance: "new modes of governance refer to making and implementation of collectively binding decisions that

- are not hierarchically imposed (each actor has a veto in policy-making and voluntarily complies)
- systematically involves private actors in policy formulation and/or implementation."

On a range from increasing autonomy of private actors to increasing autonomy of public actors, new governance can be found on the side of autonomy for private actors.

Börzel et al. (2005) also mention the need for a "shadow of hierarchy" for new modes of governance to be effective. Börzel (2006) quotes Mayntz (1995, in Börzel, 2005) by stating that new modes of governance require both a strong state and a strong society. A strong state encourages private actors to become engaged rather than waiting for hierarchically imposed decisions. A strong state also prevents that strong private actors capture the policy debate for their own purposes. Weak states are fearful of private engagement because they lack the power to monitor and sanction private activities. A strong society refers to the capacity needed among private actors to participate in the policy process. They also need to possess resources (expertise, money, legitimacy) in order to be an interesting partner for public actors.

On the other hand, Treib et al. (2005) state that the classification of old and new governance has little value. New modes might be old in other empirical contexts. They propose instead to make the distinction between the three dimensions of governance – policy, politics, polity– and to be clear in a classification scheme to mention which dimension the scheme tackles. They also argue that a common flaw of classification schemes is that dimensions are mixed. The dimensions mentioned are the policy dimension (referring to regulations), the politics dimension (referring to the actors involved) and the polity dimension (referring to the types of institutional structures). They see various governance modes for each dimension that can be positioned on the continuum from public authority to societal autonomy.

Smismans (2006) argues that indeed new modes of governance are difficult to define, but are generally characterised by heterarchy, as opposed to hierarchy, which means that they refer to horizontal modes of governance among a multitude of actors involving all relevant stakeholders. Precisely the participatory aspect (involvement of all relevant actors) should be dealt with cautiously. Smisman argues that “one should be very reluctant in arguing that new modes of governance are characterised by their particular democratic participatory nature.” Often the actors most directly concerned are not involved or involved to a lesser extent than in more hierarchical forms of governance as he demonstrates with an evaluation of various modes of governance used in the Community’s occupational health and safety policy.

What the NewGov researchers have in common is that they see different modes of governance depending on the level of state or public actor involvement. This can range from hierarchical to non-hierarchical coordination (Börzel 2006, Börzel et al. 2005), from public authority towards societal autonomy (Treib et al 2005) or from hierarchy towards heterarchy (Smismans 2006).

**Conclusion**

If we try to list the insights of various authors in a table, we see that most authors make a difference between more or less hierarchical governance and the measure of state involvement and state steering.

Kooiman	Hierarchical	Co-governance	Self-governance
Hufen & Koppenjan	Rational Values	Policy networks	Governance at a distance
Börzel, Börzel et al.	Autonomy of public actors	Non-hierarchical	Autonomy of private actors
Treib et al.	Public authority		Societal autonomy
Smismans	Hierarchy	Heterarchy	

*Table 2: Different modes of governance compared*

When state involvement is high often a linear, rationalist, goal-oriented and hierarchical approach is followed. With low state involvement, or less hierarchical state involvement, we see that open deliberative systems come into existence that are non-hierarchical and more process-oriented. We would like to propose two very different modes of governance as the points between which most modes of governance for sustainable development can be captured: hierarchical governance and co-governance. Self-governance is not taken into account because there is no government involvement. In

pursuing sustainable development we tackle long-term issues on a large scale. We need government involvement to make decisions that have no immediate benefits for us and that lack societal support. We explore in the following the combination of several modes of governance with different perspectives on sustainable development (as described in part 2).

## 4 Conceptual frame work: a pluralistic approach

### ***Governance for sustainable development***

In order to deal with the collective goal of sustainable development we need to use a pluralistic approach that can deal with multiple actors and multiple levels, and that is able to help create a common vision on sustainable development and to resolve trade-offs. In other words we need governance for dealing with sustainable development. Boyle et al. (2001, in Folke et al, 2005) suggest a "triad of activities wherein governance is the process of resolving trade-offs and of providing a vision and direction for sustainability, management is the operationalisation of this vision, and monitoring provides feedback and synthesizes the observations to a narrative of how the situation has emerged and might unfold in the future." In this paper we concentrate on governance for sustainable development. Management and monitoring are beyond the scope of this paper.

In section 2 and 3 we have discussed several *perspectives on sustainable development* and several *modes of governance*. In this section we will combine the two. When operationalising sustainable development it is important to identify the mode of governance and the perspective on sustainable development. Often this step is not taken and a blind date occurs between a mode of governance and a perspective on sustainable development. When the mode of governance and the perspective on sustainable development are made explicit, this has several benefits:

- it makes it easier to understand each party's position in debates about which road to choose for implementing sustainable development;
- it is easier to choose certain instruments. Not all instruments are suitable for each approach;
- some of the problems that occur when implementing sustainable development are easier to understand because they are linked to the mode of governance in combination with the perspective on sustainable development;
- It is easier to make strategic choices for another perspective on sustainable development or another mode of governance.

In the following we first characterise the various combinations of perspectives on sustainable development with modes of governance. Then we discuss the views of several scholars on governance for sustainable development and place them in the framework. Finally, we provide some examples for each combination.

### ***Conceptual frame work***

In sections 2 we have discussed several perspectives on sustainable development. We distinguish between an objective rational perspective on sustainable development and a (deep) normative perspective.<sup>1</sup> Within the *objective perspective* sustainable development is seen as a well-defined goal, something that can be measured and that is based on scientific evidence. Some characteristics are:

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<sup>1</sup> In the first definition the normative element is hidden in science.

- ultimate goal is clear
- based on scientific evidence
- process of goal-setting is value-free
- objective measurable

The *normative perspective* incorporates the notion of fuzziness of the goal of sustainable development and the role that society as a whole plays in its definition. Some characteristics are:

- ultimate goal is vague (not objectified)
- result of societal preferences and uncertainty
- process of goal-seeking is value-laden
- contextual determined

Governance can be described as a shared responsibility of representatives from the state, the market and civil society dealing with societal problems.

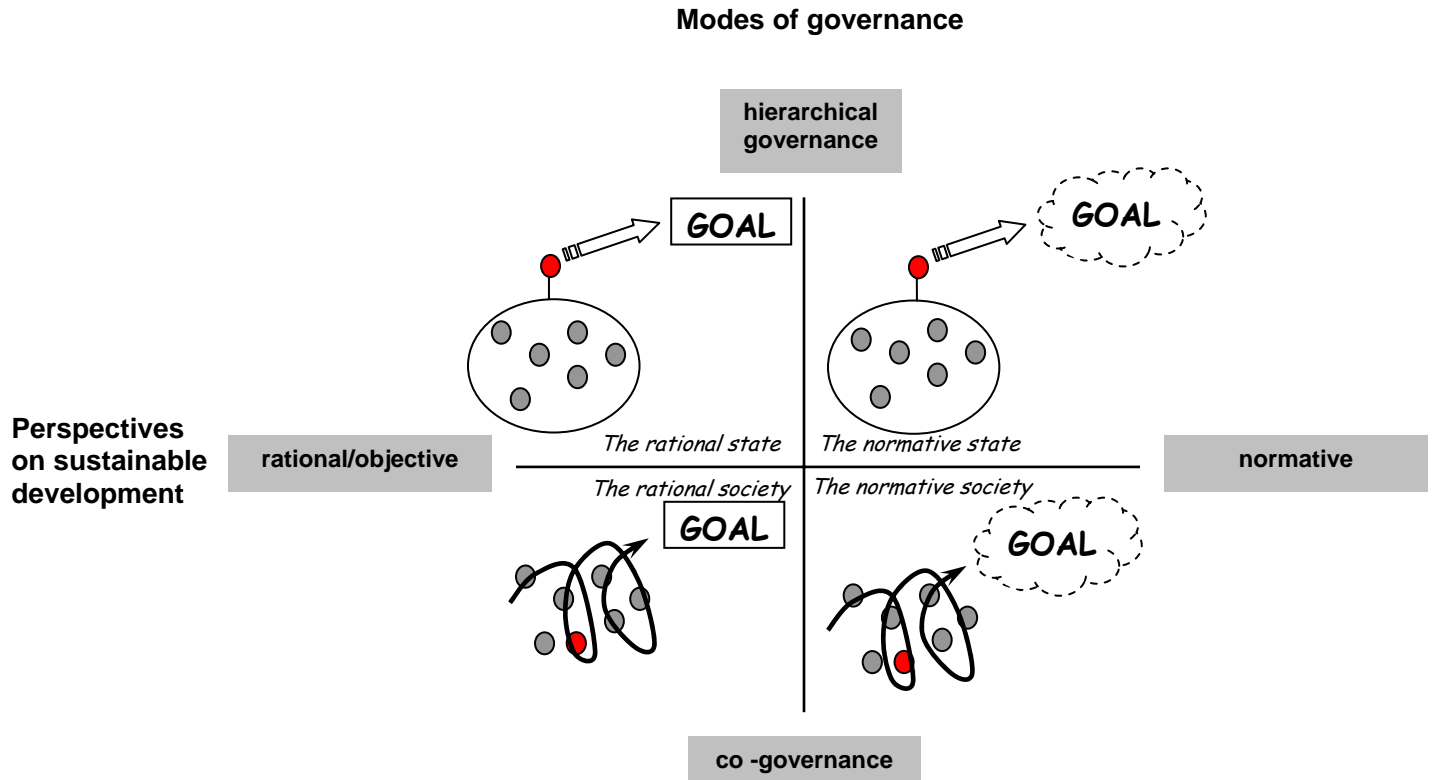
In section 3 we described governance as a shared responsibility of representatives from the state, the market and civil society dealing with societal problems. We argue that the various classifications of governance can be expressed as existing on a continuum between the extremes of hierarchical governance and co-governance. In *hierarchical governance* the state is the most important player that decides and holds power. We characterise this as follows:

- goal-seeking by the government
- vertical relation between government and societal actors
- issue of co-ordination
- steering, planning and control
- instrumental approach and directive policy
- linear political process

In *co-governance* we see that all players, state, market and society, share equal powers and operate on an equal footing in an open deliberative way:

- goal-seeking by the government and societal actors
- horizontal relation between government and societal actors
- issue of mutual interdependence
- negotiation, learning by doing, uncertainty
- deliberative approach and adaptive policy
- unfolding societal process

When combining the perspectives on sustainable development with the modes of governance, we would like to propose the following conceptual framework (fig. 1) to capture within its boundaries existing efforts and theories regarding governance for sustainable development. Obviously, a typology as we propose does not provide room for all nuances and one should be aware that mix-forms can exist.



**Figure 1: conceptual framework of governance for sustainable development**

*The Rational State*

The state is the main decision-maker. Sustainable development is seen as a clear-cut goal based on scientific evidence. Goal-setting is value-free and done to a large extent by the state. The goal is objective and measurable. Achieving it is a linear process that is coordinated by the representatives of the state. A vertical relation exists between the state and private actors. An instrumental approach is followed, accompanied by directive policy.

However, a unidirectional, linear, rationalist approach incorporates a danger of oversimplification and thus ignoring inter-linkages that are so important in sustainable development. Society might be surprised by unwanted side-effects and unable to cope with it.

*Some examples*

An example of rational sustainable development can be found in the work of Hueting, e.g. Hueting and Reijnders, 2004. They state that 'long-term sustainability of society can as far as the physical environment is concerned, only be based on physical standards'. They argue that indicators for sustainable development aggregating the three aspects of sustainable development are often not meaningful. Also, involving social actors in the construction of what sustainability is and thus of what sustainable development indicators should be, is not meaningful. Constructing sustainability indicators 'is a matter of proper division of labour between the sciences'. Although they do not explicitly state

so, it is implied that the road towards sustainable development is a pretty straightforward linear affair, dominated by science.

Instruments that tentatively belong to governance for sustainable development in the rational state typology are Cost-Benefit Analysis (when economy is the prevailing orientation) or the ecological footprint (when ecology prevails). CBA shows in monetary terms which options are best. The ecological footprint is a way of showing to what extent people exceed the resources of the Earth. It could be used as a tool for convincing people to change their behaviour.

### The Rational Society

Representatives of the state, market and civil society decide on how best to achieve the goal of sustainable development. The goal is clear, based on scientific evidence. Goal-setting is value-free and done by society, however, as goals are rather clear, the main focus lies on possible roads towards achieving the goals. The actors decide on the best or most wanted solutions by negotiation and learning by doing. Uncertainty exists regarding the best way to achieve sustainable development. We see horizontal relations between the state and societal/private actors. There is mutual interdependence between the actors involved. A deliberative approach is followed to achieve the clear goal of sustainable development. Adaptive policy is important for changing the road towards the goal as negotiation or learning lead to new insights (Rammel and van den Bergh, 2002).

However, as there is a strong belief in science and technology, these domains might easily dominate the debate and capture sustainable development as their property. Sustainable development might become something of only a few.

### Some examples

Observations from Brand and Karvonen (2007) regarding the technical fix approach to sustainable development are that "today, the technical fix approach in sustainable development is the dominant model in industrialized countries because it retains the existing power of political and economic elites." They show that the dominance of science and technology in the rational society as described above is a legitimate danger in their quote of Dryzek (1997): "in its most limited sense, ecological modernization looks like a discourse for engineers and accountants". Finally, Brand and Karvonen argue that the technocratic approach to sustainable development should not be abandoned but should be directed by society as a whole.

An instrument that could be used by this type of governance for sustainable development is multi-criteria analysis. Many different solutions can be evaluated and the best ones will be selected based on certain criteria.

### The Normative State

The ultimate goal of sustainable development is not well defined. It is seen as the result of societal preferences. Uncertainty regarding priorities dominates the goal-setting process. Although a vertical relation between the state and societal/private, actors exist, the state draws upon society in the goal-setting process. It recognises that goal-setting is value-laden and driven by the societal context. Therefore, the goal can change. However, once the sustainable development goal is clarified, the representatives of the state coordinate and steer the road towards sustainable development.

However, without broad support and involvement of society, there is a danger of private actors being unwilling to follow the path chosen for them. Furthermore, we see tension between the uncertainty in the sustainable development priorities and the linear approach.

#### *Some examples*

Bell and Morse (2005) observe that although sustainable development is often seen as a circular and boundless concept, its implementation is often surprisingly linear. Once goals are defined, a strategy or project document is drawn up, budget is allocated and the programme is implemented. Often blueprint projects are designed that require clarity on outputs prior to inception. They state that the *awareness of the journey* throughout the project should be part of project planning, and a formal structure in projects is needed that facilitates debate and learning. (Bell and Morse, 2005)

Another example can be found in the UN guidelines for making a national sustainable development strategy. The document states that creating a national strategy is not a blueprint approach and that sustainable development priorities can differ from country to country. Society should be involved in defining these priorities. A national sustainable development strategy is defined as "a coordinated, participatory and iterative process of thoughts and actions [...]". One aim of the national sustainable development strategy process is to make existing macro and sectoral strategies more sustainable and to create synergy among them. Involvement of private actors in the process is emphasised, but the main coordinator is the state. (UNDESA, 2001)

Lastly, the Dutch programme "Learning for sustainable development 2004-2007" could be placed in this quadrant as an example. This is a programme that provides funding for projects that stimulate effective learning processes that encourage more sustainable behaviour. The description of sustainable development remains open, but the programme is designed in a linear way in the sense that criteria for selection and a timeframe are clearly defined and the programme is coordinated by government. (LvDO, 2004)

#### *The Normative Society*

The state, market and society deliberate on the priorities for sustainable development and about the way to pursue the desired goals. There are horizontal relations between representatives of the state and societal/private actors. Goal-setting is a value-laden process that depends on the societal context. The process of defining the goals, taking action towards implementation, reframing the goals and adjusting the road towards them is an unfolding societal process dependent on learning by doing and negotiation. Society evolves and thus the sustainable development context changes. Uncertainty in goals and implementation is overcome by deliberation and learning. Adaptive policy is vital. (Rammel and van den Bergh, 2002; Kemp et al., 2007)

Here governance for sustainable development is not viewed as the way to get to predefined goals and outcomes but as an open, deliberative process which help to articulate what is wanted and desirable. It is accepted that:

- there are different ideas of what sustainable development amounts to for actors in various sectors (energy, transport, agriculture, food systems, waste management);
- existing solutions tend to be sustainable within these sectors rather than across the whole of society

- new developments bring new risks that cannot be anticipated;
- it is a long-term, open-ended project that precedes and supersedes limited term, democratically elected governments;
- it involves making choices and perhaps trade-off decisions on highly contested issues (which is to say that in some cases the notion of a 'trade-off' might prove to be no more than a euphemism for fundamental irresolvable dilemmas). (Farrell et al. 2005, p. 132)

A drawback in this system is that uncertainty in goals and processes make it difficult to set the priorities and decide on implementation. Society might be blocked from taking action by indecisiveness.

#### *Some examples*

Reflexive governance is proposed by Voss and Kemp (2006) as an answer to dealing with sustainable development. A characteristic of reflexive governance is that it *understands itself to be part of the dynamics which are governed* (see Smith and Stirling, 2006, on governance from the inside). Broader dynamics, which are not usually considered to be part of governance, are acknowledged to also play an important role in shaping societal development and therefore become part of governing (e.g. science, public discourse, social networking, technological development). Reflexive governance acknowledges that governing activities are entangled in wider societal feedback loops and are partly shaped by the (side-) effects of its own working (Voss and Kemp, 2005).

Voss and Kemp (2005) delineate the following 5 "reflexive" strategies of governance for sustainable development to *deliberately* deal with externalities of development.

- 1) Integrated knowledge production on problems and their dynamics, including different scientific disciplines and practice perspectives,
- 2) Adaptive strategies and strategic experiments to actively deal with uncertainty,
- 3) Systematic anticipation of long-term and indirect effects and possible lock-in to problematic development paths e.g. through explorative foresight exercises,
- 4) Iterative, participatory formulation of governance objectives, taking account of diverse and changing social values,
- 5) Interactive strategy development by actors with various sources of influence.

Reflexive governance has the power to change the foundations of governance, i.e. the concepts, practices, formal and informal institutions by which society is governed.

An example of a steering approach for the normative society could be transition management. Transition management is a forward-looking and adaptive model for steering societal change towards sustainable development goals with a great orientation towards system innovation. Transition management is a new steering concept that relies on 'darwinistic' processes of guided variation and selection instead of planning. Industrial interests in sustainable development are being exploited through innovation policy. Different trajectories are explored and flexibility is maintained, which is exactly what a manager would do when faced with great uncertainty and complexity. It is being used in the Netherlands as a model for sustainable development (for a discussion see Kemp and Loorbach, 2005 and Loorbach and Kemp, 2007).

## **5 Conclusions**

The central assumption in this paper is that sustainable development cannot be achieved without governance because of the nature of the sustainable development concept. Sustainable development incorporates wicked problems, social complexity and weak institutionalisation. In this paper we argue that the many perspectives on sustainable development can be described meaningfully between the extremes of the rational, objective perspective and the (deep) normative perspective. Furthermore, the variety of modes of governance can be captured between hierarchical governance and co-governance. From this we derive four typologies of governance for sustainable development: the rational state, the rational society, the normative state and the normative society. The main conclusion of this paper is that the debate on governance for sustainable development will be clarified if the perspective on sustainable development and the mode of governance –and the combination of the two– is made more explicit, because:

- it makes it easier to understand each party's position in debates about which road to choose for implementing sustainable development;
- it is easier to choose certain instruments. Not all instruments are suitable for each approach;
- Some of the problems that occur when implementing sustainable development are easier to understand because they are linked to the mode of governance in combination with the perspective on sustainable development;
- It is easier to make strategic choices for another perspective on sustainable development or another mode of governance.

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