

# The Role of Government in Sustainable Development: Towards a Conceptual and Analytical Framework for Scientific Inquiry

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## ABSTRACT

Epistemological constructivism is generally the product of *a priori* knowledge and a particular interpretation of phenomena. Constructivism within the social sciences can be regarded as a foundational point of departure for purposes of scientific inquiry. A conceptual framework as product of constructivism is usually designed based on a sound theoretical framework, which lies on a much broader cognitive scale of abstraction. An analytical framework is thus forged from a conceptual framework in order to understand the potential (causal) relationships between concepts in the search for meaning.

The concepts *sustainable development* and *government* are both highly complex and multidimensional. This article attempts to ring-fence the question: What does the role of government entail in sustainable development? To gain understanding of this role a constructivist approach is followed in which a conceptual and an analytical framework are designed for scientific inquiry.

“Sustainability concerns the global, long-term impact of our practices, relationships, and institutions because we live in a connected world”

– Thiele (2013:3)

## INTRODUCTION

“Sustainability concerns the global, long-term impact of our practices, relationships, and institutions because we live in a connected world”

– Thiele (2013:3)

Much has been written about *sustainable development* and the topic is presented in various models and conceptual frameworks. Also as far as the concept of *government* is concerned, a multitude of conceptual models exist for specific applications, which include public policy, systems of government, and good governance. However, a comprehensive framework for a general theory on governance is largely absent (cf. Osborne 2010:6; Frederickson et al. 2012:222). A literature survey further revealed that a comprehensive framework has failed to place government as the central actor in a setting of sustainable development. Various scholars adopt specific vantage points, or focus on single aspects of government and development. Santinha and Anselmo de Catro (2010) for example, highlight the role of technology to facilitate urban resilience; Harpham and Boateng (1997), Portney (2005), and

Savage and Dasgupta (2006) propose a governance framework for urban development; Van der Waldt (2015) focuses on government interventionism in developmental states; Roy and Tisdell (1998) and Kemp, Parto and Gibson (2005) concentrate on the significance of good governance in sustainable development; Woo-Cumings (1999) considers the significance of a developmental state; Trainer (1995) and Adelman (1999) accentuate the role of government in stimulating economic growth towards sustainable development; Haque (2004) points to a governance model considering partnerships with NGOs for development; and Cavalcanti (2000), Freire and Stren (2001), Farzin and Bond (2006) and Foray (2009) underscore the policy-making role of the government for development. From these studies the need is evident to combine the various perspectives to form a single framework for a general scientific inquiry into the topic.

According to Fiorino (2012) the *role* of government in sustainable development thus far has received limited attention in scholarly discourse. He argues that, to a degree, governmental issues are captured mainly in the social dimension of sustainability. Government's role is also mainly described in qualitative and normative terms through concepts such as community participation, empowerment, equity, and transparency. Government and its governance functions, however, transcend these social-normative dimensions. The outcomes of governance also impact on the two other dimensions of sustainability namely ecological and economic factors. As the proposed fourth enabling dimension of sustainability, governments should integrate policies by adopting and implementing a sustainability agenda. Appreciating the instrumental as well as normative contributions of government to sustainable development requires a clearer understanding of how these interventions are linked to ecological, economic, and social goals.

This article attempts to ring-fence the question: *What is the role of government in sustainable development?* How should a social scientist respond to this question? Is there is framework available to demarcate the possible theoretical approaches to answer this question and which aspects should be considered in structuring a comprehensive response? Both a government and sustainable development are highly complex phenomena, which demand a multi- and interdisciplinary vantage point. In dealing with this matter the author constructs both a conceptual and analytical framework to explore the role government plays in sustainable development. Within the limitations of a scholarly article this may seem an ambitious endeavour. Therefore, the article will only attempt to outline the potential dimensions by which to analyse the role of government in this matter. A further complication is that the concept of *role* is extremely vague, and wide open for diverse interpretations.

The proposed framework to analyse the role of government in sustainable development should make provision for the following dimensions:

- *who* – e.g. government institutions, political leaders, public managers, or pressure groups;
- *what* – i.e. framework or mandate;
- *how* – e.g. operational interventions, policy programmes, strategies, structures, systems, or resource allocation; and
- *where* – e.g. national, regional, industry, rural, or community.

Two basic assumptions serve as central theoretical arguments for the purpose of this article, namely that government and sustainable development are intricately aligned, and that government is a key actor in society to regulate, facilitate and act as catalyst for initiatives surrounding sustainable development.

## CONCEPTUAL AND ANALYTICAL FRAMEWORKS CLARIFIED

Epistemological constructivism is based on a particular interpretation and understanding of the world, rather than a purely objective perception of reality. Therefore no individual construction can claim absolute truth (Shadish, Cook and Campbell 2002:29). Within social sciences research, the theory of constructivism is a fundamental point of departure in analysing phenomena. The design of a conceptual framework as product of constructivism is usually based on a sound theoretical framework, which lies on a much broader cognitive scale of abstraction. Such a theoretical framework or “idea context” (Miles and Huberman 1994:440), should be based on theories that embody the existing corpus of knowledge on the phenomena under investigation. The theoretical framework is essential to gain clarity about the relationships between elements or issues in a given phenomenon (Ravitch and Riggan 2011). After a thorough theoretical exploration a conceptual framework emerges, which reveals the scope of concepts, assumptions, expectations, beliefs, and theories that supports and informs the investigation at hand.

According to Jabareen (2009:49) conceptual frameworks are products of qualitative processes of theorisation. Such a framework can be regarded as a network of interrelated concepts that, when combined, provide a comprehensive understanding and “soft interpretation” (Levering 2002:38) of a phenomenon. Conceptual frameworks are built on ontological, epistemological, and methodological assumptions, and each concept within a conceptual framework plays an ontological and epistemological role (Guba and Lincoln 2005). Rather than offering a theoretical explanation, conceptual frameworks provide understanding, are indeterminist, and do not enable prediction of outcomes (Levering 2002:38).

In order to facilitate analyses, an analytical framework emerges from a conceptual framework. An analytical framework can be constructed by means of concept “mapping” (Miles and Huberman 1994:133). Concept mapping can take many forms, including:

- an abstract framework that maps the relationship among concepts;
- a flowchart-like account of events and how one thinks these are connected;
- a causal network of variables or influences;
- a treelike diagram explaining the meanings of words; and
- a Venn diagram, representing concepts as overlapping circles (Miles and Huberman 1994:133, 249).

An analytical framework should be useful for purposes of scientific investigation, and are most applicable for variance mapping in studies of complex social phenomena. Analytical frameworks generally reveal patterns and causal relationship between variances or variables. As such these frameworks include research instrumentation, possible solution patterns, a model, and a method for grouping complex information (Imenda 2014:187). Analytical frameworks, on the other hand, further map the potential dimensions or vantage points that researchers could use in their analyses (Hasna 2007:48). Both conceptual and analytical frameworks provide the epistemological paradigm, which a researcher applies when examining a given research problem. Such frameworks also establish a structure that guides the research.

In operationalising the research question of this article, the author had to consider higher-level complexities regarding the design of both a conceptual and analytical framework as

basis to analyse the interrelationship between the government and sustainable development. Typical complexities include the following:

- “thick” descriptions of concepts associated with government;
- the multidimensional nature of concepts and variables surrounding sustainable development;
- the nature and wide range of approaches for the design of a conceptual framework; and
- the level of sophistication such an analytical framework may have.

In light of the above-mentioned points the article will attempt to “map” the concepts related to government’s role in sustainable development.

### **SUSTAINABLE DEVELOPMENT: TOWARDS CONCEPT MAPPING**

Thiele (2013:1) states that sustainability is one of the very few ideals or values such as democracy and human rights that receives near universal recognition. Climate change, depletion of the natural resources, and failing states, brought the notion of sustainability to the forefront. The word “sustainability” derives from the Latin *sustinere*, which literally means to “hold up”. Sustainability should not be seen as the effort to maximise a singular good. Rather, it requires an integrated and balanced response to ecological health, economic welfare, and social empowerment (Thiele 2013:9).

Sustainability in a developmental context refers to the apparent contradiction between, on the one hand, development, requiring environmental modification and intervention in nature and which exhausts natural resources; and, on the other hand, sustainability, which is a characteristic of a process or state that can be maintained for an indefinite period (Trainer 1997:219). The role of a government in this respect is to balance this paradox and to strive towards reconciling ecological (sustainability) and economic (development) interests, in order to cope with the ecological crisis without affecting existing economic growth (Sachs 1993; Baeten 2000).

The concept of sustainable development generally gained popularity during the 1970s with the Club of Rome’s report, *Limits to Growth*. This report can be regarded as the foundational document that stimulated thought on sustainability, the environment, and development (Simmons 2000:1). The most frequently used definition of sustainable development appears in the Brundtland report (World Commission for Environment and Development 1987:46) and reads: “... development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. The United Nations’ Earth Summit in Rio de Janeiro (1992) is furthermore regarded as the first major event that coordinated development efforts of countries, scientists and social service organisations to reduce humankind’s “footprint” (Wachernagel and Rees 1996). Furthermore, the United Nations’ Agenda 21 (referring to a sustainable development agenda for the 21<sup>st</sup> century) provides a comprehensive list of activities the global community should undertake to facilitate sustainability.

Some dimensions of sustainable development receive more attention from the government and its political leaders, hence an integrated approach is imperative (cf. Hasna 2007:49). Without an integrated approach governments may direct their focus only on some dimensions (i.e. political and economic) and neglect others. Humankind’s impact on the ecology resulted

in waste accumulation, pollution, “squeezing” of the natural resources (water, marine life, timber, etc.), the so-called greenhouse effect, and climate change. This condition makes it clear that present levels of output, as well as the impact on resources and the environmental are unsustainable. Yet it seems as if the global community is committed to an economic system that multiplies consumption levels (Van der Waldt 2015:37). This makes the role of the government as catalyst for change even more indispensable.

Regarding concept mapping it should be noted that sustainable development is highly dynamic and multidimensional. This method has environmental, material, ecological, social, economic, legal, cultural, political and psychological dimensions. These dimensions are deeply interrelated and interdependent. A literature review of sustainable development generally reveals the absence of a comprehensive theoretical framework to help understand the phenomenon and its complexities (cf. Beatley and Manning 1998; Jabareen 2009). Some researchers have argued that the existing definitions of sustainable development are vague (Gow 1992; Mozaffar 2001) and devoid of operative specification (Villanueva 1997). Others such as Redclift (1994), Sachs (1999) as well as Berke and Conroy (2000), point out the current lack of consensus on what exactly should be sustained. Conducting an analysis based on a conceptual framework (as described above) to the phenomenon of sustainable development will not only provide a theoretical framework. It will also shed light on the causal relationships between the framework’s core dimensions (cf. Jabareen 2009:55).

## **GOVERNMENT’S ROLE**

The critical question on the government’s role in sustainable development concerns the extent to which a government can shape, or is inevitably shaped by, the society and environment of which it is part. Classical and contemporary political theory of government, ideological perspectives, as well as the system of government influences the role that a particular society ascribes to its ruling entity. This role is highly case sensitive and depends on specific factors such as:

- demographic circumstances (e.g. size or composition of the population);
- historical realities (e.g. colonialisation, conflict, or stability);
- geographical and geological realities (e.g. size, location, availability of natural resources, or urban-rural settings);
- state of development (e.g. socio-economic status or growth trajectory);
- ideology and politics (e.g. Marxism, capitalism, liberalism, state interventionism, policies, prioritisation, distribution of wealth, development approach, or awareness); and
- system of government (e.g. spheres and tiers, level of decentralisation, constitutionalism).

Moreover, it should be noted that the role of the government in society in general has expanded dramatically over the past century. In comparison to pre-20th century functions, governments have taken on new and vast roles that typically comprise a modern state (Brown 1991:12; Greig, Hulme and Turner 2007:23; Barbier 2010:637). In his classic work, *An Inquiry into the Nature and Causes of the Wealth of Nations*, written in 1776, Adam Smith outlines three major government roles: national defense, administration of justice (law and order), and the provision of certain public goods and services. There are contemporary conceptions of the government’s role, notably the seminal contribution of Musgrave in his *Theory of Public Finance* (1959). This theory explains the roles in their most fundamental

level:

- allocative (e.g. resources, maximise efficiency, service delivery);
- distributive (e.g. equity, social security, services);
- regulatory (e.g. enforce law, policy making, protection, social justice);
- stabilisation (e.g. fiscal, monetary and economic policies to pursue objectives for control of inflation, unemployment, etc.)(cf. Zhang and Pearse 2011:10).

It is generally accepted that governments should act as catalysts for change. They should champion and set the pace for transformation, establish conducive statutory frameworks to protect the environment, and make resources available (Bovaird and Löffler 2009:29). Governments are also responsible for economic prosperity, the general welfare of the population, and overall socio-economic development. The key issue in the debate on governments' role as catalyst for socio-economic development is striking a healthy balance between environmental protection and economic growth (Jabareen 2009:180). Without a growing economy a country cannot prosper and fulfil the needs of its citizens. Without the protection of the environment, citizens of a country will not have a healthy and safe place in which to live and will not have access to clean water, air and soil (Payne and Phillips 2010:23; Hopper 2012:15).

Growing populations and rapid economic growth significantly increase the demands for natural resources and infrastructure. It has become crucial for governments to find ways of managing these demands efficiently (Fiorino 2012). Governments need to regulate actions to protect the environment and at the same time facilitate economic growth. They should also establish a "steady-state" (Daly 1973), which implies a near-constant rate of energy and material throughput that is compatible with the production and assimilative capacities of the ecosphere (Rees 2014:194). Governments, furthermore, must establish and adhere to international protocols, conventions, and treaties. In addition, governments should develop special support strategies and programmes to foster sustainable development.

Scholars are in agreement that governments need to build trust within society. As democratic institutions, governments should create a culture of openness and transparency (Berke and Kartez 1995). This requires frequent reporting on initiatives to develop, among others, communities, stimulate economic growth, and to deal with political unrest (cf. Beder 2002:55). Society should develop trust in government as the custodians of their general well-being and thus support proposed government strategies and programmes (Stymne and Jackson 2000). With regard to social equity, governments should establish the following means and structures: environmental, social, and economic justice; equal rights for development; equal economic distribution; freedom; democracy; public participation; and empowerment (Meadows, Meadows and Randers 1992; Agyeman, Bullard and Evans 2002).

A further role of government is to ensure that its executive branch, the civil service, is adequately competent, skilled and sufficiently capacitated to deal with issues of sustainable development (De Wet and Van der Waldt 2013:58). Public officials' expertise is vital to manage the implementation of various strategies and programmes that governments develop. The civil service needs to be resourced for the roll-out, built-up and operation of, for example, renewable energies.

Based on this brief overview it is evident that an integrative response to sustainable development is a necessity. Governments need to design integrative strategies for sustainable

development, which should combine social, economic, and environmental concerns in planning and management to work towards sustainability (cf. Dodds 2000). Decisions taken by governments should ensure that a careful balance is struck between the need for economic growth, social development, and the protection of the environment (Pearce, Markandya and Barbier 1989:5). These three major dimensions of sustainability are drawn from an essay by John Robinson and Jon Tinker (1997), which identifies the standard elements of sustainability, namely ecology (nature/environment), economy, and society, as three “interacting, interconnected, and overlapping prime systems”. The ecological dimension concerns the need to remain within the earth’s biophysical capacity. The economic dimension is “to ensure and maintain adequate standards of living for all people”; and the social focus is “to provide social structures, including systems of governance, that effectively propagate and sustain the values people wish to live by” (Robinson and Tinker 1997:72-82). Each system is essential for the collective survival of a society in particular and humankind in general.

## **ROLE OF GOVERNMENT: POTENTIAL DIMENSIONS FOR THE DESIGN OF AN ANALYTICAL FRAMEWORK**

Phenomena such as the dynamics underlying sustainable development can be studied at different levels of abstraction and from diverse perspectives. These levels may range from specific events (the micro-level of analysing specific events or issues), to macro-level analyses, the “big picture” studying broad trends and patterns (cf. Hasna 2007; Lozano and Huisingh 2011). Based on an extensive literature survey, the article identified relevant dimensions for the design of an integrated conceptual and analytical framework.

### **Theoretical dimension**

According to Sinclair (2007:39) a theoretical framework can be conceptualised as a map or system of concepts, assumptions, expectations, beliefs, and theories that support and inform scientific inquiry. Analysts start off with a specific theoretical perspective, or paradigm, which provides scholars with an orienting framework, or philosophical predisposition for asking certain types of questions about the indicated focus and locus of study. The sources of data consist of numerous discipline-oriented theories that deliver the empirical data of the analysis based on the conceptual framework.

The conceptual-framework analysis thus generates theories or further frameworks from multidisciplinary bodies of knowledge. On the other hand, metasynthesis, a systematic synthesis of findings across qualitative studies, seeks to generate new interpretations for which there exists consensus within a particular field of study (Jensen and Allen 1996; Sandelowski, Docherty and Emden 1997; Nelson 2006). In metasynthesis, researchers generally aim to expand their interpretation beyond the parameters of existing knowledge (Paterson *et al.* 2009). Chinn and Kramer (1999:252) view concepts as the components of theory that “convey the abstract ideas within a theory”. A conceptual analysis aims to uncover related concepts and thereby facilitate a metasynthesis (Nelson 2006).

Researchers normally use a dominant theory to deal with a given research problem, or may combine different theoretical perspectives to construct a generalisation that can guide analyses (Liehr and Smith 1999: 13). Theories that could add value to the design of a comprehensive framework on the role of government in sustainable development include the following:

- World Systems Theory
- Path Dependency Theory
- Growth Theory
- Modernization Theory
- Human Development Theory
- Classical and neo-classical theories of government
- Stewardship Theory
- Systems Theory
- Social Contract Theory
- Behavioural Theory
- Game Theory
- Principal-agent Theory
- Theories of Political Control of the Bureaucracy
- Public institutional theory
- Postmodern Theory
- Theories of Governance
- Theories of Public Organization
- Communication Theory
- Public Choice and Rational Choice Theory

The above-mentioned theories may underpin the knowledge base of scientific inquiry into the role of government in sustainable development.

### **Case-study dimension**

The identification and interpretations of concepts are largely influenced by its context (Hornby 2005:5). Concepts often reflect ideological conflicts (Liehr and Smith 1999:7). In the same vein Van der Waldt (2014:69) argues that the role of government is highly case-sensitive. A dimension built on a case study could add value to uncover the role of the government in particular contexts. Case studies may include single cases with individual units of analysis to multiple cases, including “north-south” and “east-west” perspectives. Cases could also focus on the government’s multidisciplinary role in addressing sustainable development. Comparative analyses of various cases could further reveal best practice for governments’ interventions. Such comparative analyses of various cases could, for example, compare “good” governance indexes with “bad” government practices, and contrast developed with developing countries, as well as assesses the divergence between developmental states and weak or fragile states.

### **(Multi-)disciplinary dimension**

Most so-called “wicked” social phenomena (Rittel 1973) require “thick” descriptions (Ryle 1949; Geertz 1973). The reason is that these phenomena are highly complex and linked to multiple bodies of knowledge produced from diverse disciplines. For this reason, better understanding of such phenomena requires a multidisciplinary approach. Qualitative methods serve as adequate tools to investigate these complex phenomena (Miles and Huberman 1994; Harris 2003; Myers 2009).

Sustainable development has been dealt with in a large number of disciplines, including geography, economics, ethics, law, sociology, anthropology, urban studies, planning, design, and architecture. Table 1 below briefly outlines some of these disciplinary perspectives.

**Table 1: Disciplinary perspectives on sustainable development dimensions and concepts**

| Dimension   | Discipline   |
|---|--|
| <b>Global context</b>   |  |
| <ul style="list-style-type: none"> <li>• Treaties, protocols, conventions</li> <li>• Global Governance</li> </ul> | <ul style="list-style-type: none"> <li>• Political Sciences</li> <li>• (International)Law</li> </ul> |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Institutions (i.e. UNDP, IMF, World Bank, etc.)</li> </ul>   |  |
| <b>State context</b>  |  |
| <ul style="list-style-type: none"> <li>• Weak, failed, or fragile</li> <li>• Night-watchman, minimal or nanny</li> <li>• Welfare, paternalistic</li> <li>• Enabling, regulatory</li> <li>• Developmental</li> </ul> | <ul style="list-style-type: none"> <li>• Political Sciences</li> <li>• Law</li> </ul>  |
| <b>Government</b>   |  |
| <ul style="list-style-type: none"> <li>• System of government</li> <li>• Executive authority/bureaucracy/institutional/administration/service delivery dimensions</li> </ul>  | <ul style="list-style-type: none"> <li>• Political Sciences</li> <li>• Public Administration</li> <li>• Administrative Law</li> </ul>  |
| <b>Sustainable Development</b>  |  |
| <ul style="list-style-type: none"> <li>• Social dimension</li> <li>• Economic dimension</li> <li>• Environmental dimension</li> </ul>   | <ul style="list-style-type: none"> <li>• Sociology (people dynamics)</li> <li>• Anthropology (cultural dynamics)</li> <li>• Political Sciences (power dynamics)</li> <li>• Psychology (individual dynamics)</li> <li>• Economics</li> <li>• Financial Management</li> <li>• Environmental Sciences</li> <li>• Development Studies</li> <li>• Geology</li> <li>• Biology</li> <li>• Chemistry (e.g. water, air and soil analyses)</li> <li>• Town &amp; Regional Planning (Spatial dimensions)</li> </ul> |

### Modeling as dimension

A further possible dimension according to which the role of government in sustainable development can be analysed is by employing analytical and computer-generated models. Models are abstractions from the real problem understood in terms of key variables and relationships. These aspects are abstracted in order to simplify the problem as such. Modelling allows researchers a better understanding of the problem. The model also presents a means to manipulate the situation, in order to analyse the results of various inputs by subjecting it to a changing set of assumptions. Models may be based on decision-supporting systems such as Geographical Information Systems and computer-generated mathematical simulations and models. These models may be utilised to assess the role of government on global, regional, national, and local scales. Possible models include:

- Log frames;
- Three-dimension or Three Pillar Basic models;
- AtKisson Pyramid 2030 Model;
- The Amoeba Model;
- Greensoft Model;

- Urban Development and Human Geography models;
- Green Readiness Model;
- National Energy Modelling;
- Sustainability Toolkit;
- Driving Force Pressure State Impact Response (DPSIR) model; and
- System Dynamics software modelling.

### **Normative dimension**

The ecological ethos of a country in general, and government in particular, differs from country to country. This includes issues of ethics, equity, culture, behaviour and attitude of senior public managers. Governments have the moral obligations to protect, safeguard, facilitate, regulate and enable their citizens, society and the environment. Meta-perspectives of governments' role could, for example, consider issues of ideology, diverse world views, and thereby help assess a government's decisions for the benefit of certain interests. The normative dimension focusing on the role of the government in sustainable development could reveal the "best paths" towards such development. It could also consider issues where governments' should prioritise their interventions and allocation of resources. Such a dimension could serve to evaluate the degree to which governments succeed in balancing prosperity and the general welfare of society with the protection of the environment.

The normative dimension could further be aided by existing indices that could help analyse the extent to which governments comply with internationally-accepted criteria, standards and conventions. Some of the most significant indices include:

- Environmental Performance Index;
- Sustainable Societies Index;
- Happy Planet Index;
- Ecological Footprint Analysis; and
- Millennium Development Goals.

The latest addition to these global indices is the UN's post-2015 Sustainable Development Agenda and the Sustainable Development Goals. The new post-2015 development agenda builds on the Millennium Development Goals' (MDGs) eight anti-poverty targets, which partnering countries committed themselves to achieve.

### **Legalistic dimension**

The legalistic dimension to the study on the role of government is primarily about the powers and authority of various branches of government agencies and institutions, and in particular, the legal and constitutional provisions (Bhushan 2006:14). The latter dimension helps to assess law (e.g. national legislation, departmental policies, regulations, municipal by-laws) and legal systems in a country, and considers the government's response to it. The legalistic dimension should include legal and constitutional aspects of political and administrative decisions.

### **Functional-institutional dimension**

The functional-institutional dimension considers the role of government in sustainable

development by focusing on the executive branches in the different spheres or levels of government, depending on the system of government in a particular country. The executive branch needs to be studied in detail to understand the mandate, role and functions the respective institutions and agencies take on in sustainable development. This dimension will thus highlight the nature of the strategic and operational functioning (i.e. functionalism) of government institutions. A particular useful aspect of this dimension is that it regards each aspect of society as an interdependent unit and thus emphasises the contribution of government to society's functioning as a whole (Gillett 2013:162). Functionalists generally believe that society is held together by social consensus, or cohesion, in which members of the society agree on, and work together, to achieve what is best for society as a whole (Block 1980:11).

### **Sustainability Reporting Framework dimension**

Sustainability reporting is becoming increasingly important to develop global development standards and to coordinate a country's endeavours in following sustainable development goals. Governments of countries that ascribe to these reporting frameworks thus play a significant role by adhering to the criteria, protocols, conventions, and standards contained in these frameworks. Some of the major global imperatives in this regard can be divided into mandatory requirements, voluntary guidance and other initiatives (cf. Kell 2005:71; Van Daele 2008:486; Lozano and Huisinigh 2011:101; Vigneau, Humphreys and Moon 2013). Two of the prominent International standards, which provide guidance on policies and norms regarding acceptable goals for sustainability performance, are:

- United Nations Global Compact; and
- OECD Guidelines for multinational enterprises.

On a managerial dimension, frameworks that provide detailed and integrated guidance on how to integrate the management of social and environmental issues with public and private sector operations, include:

- ISO 26000 and 14001;
- International Labour Organisation's Triplicate declaration of principles concerning multinational enterprises and social policy;
- Core Labour Standards;
- United Nation's Guiding Principles on Human Rights;
- Social Accountability 8000 standard;
- Carbon Disclosure Project;
- Greenhouse Gas (GHG) Protocol; and
- Eco-Management and Audit Scheme (EMAS).

In terms of reporting systems, various initiatives provide guidance on the measurement, communication and assurance of standards for sustainable development such as the following:

- Global Reporting Initiative (GRI);
- International Integrated Reporting Council (IIRC); and
- Socially Responsible Investment Index.

It is governments' role to design appropriate responses and initiatives in compliance with these frameworks.

**GOVERNMENT’S ROLE IN SUSTAINABLE DEVELOPMENT: TOWARDS AN INTEGRATED FRAMEWORK**

Based on a comprehensive literature survey and founded on the respective potential approaches for analysis, this section aims to operationalise the research question: What does the role of government entail in sustainable development? As stated previously, the design of a conceptual and analytical framework is a complex task and is not without certain challenges. These challenges involve the researcher following the exercise, as well as the processes followed to design the actual framework:

- the *a priori* knowledge of the researcher regarding government and sustainable development; and
- the setting in terms of ideology, culture and belief system of the researcher.

It is evident that such a framework cannot be regarded as fully neutral, objective or complete. This reality is, however, not foreign in social sciences. Regarding the actual process, the following challenges are involved:

- presenting or illustrating the frameworks;
- overcoming the possibility of reductionism – avoid excluding important elements of both multidimensional concepts;
- determining the level of sophistication and detail to include;
- the classification and categorisation system to be utilised;
- level of theoretical foundations and underpinnings to support or substantiate the inclusion of certain elements; and
- balancing the approach between a technical exercise of framework construction and the theoretical framework as such.

In light of the arguments above, Table 2 below offers a significant contribution to ring-fence or demarcate the analysis of a government’s role in sustainable development.

**Table 2: An integrated framework to direct scientific inquiry into the role of government in sustainable development**

| Analytical framework<br>(Government’s-role<br>dimensions) | Conceptual framework  |
|---|---|
| Metatheoretical and<br>theoretical dimension              | <ul style="list-style-type: none"> <li>• (Social) Contract Theory</li> <li>• Stewardship Theory</li> <li>• Growth and Catch-up theory</li> <li>• Dependency Theory</li> <li>• Agent theory</li> <li>• Human Development Theory</li> <li>• Development Theory</li> <li>• World Systems Theory</li> <li>• Path Dependency Theory</li> </ul> |

|  |  |
|--|--|
|  | <ul style="list-style-type: none"> <li>• Growth Theory</li> <li>• Modernization Theory</li> <li>• Human Development Theory</li> <li>• Classical and neo-classical theories of government</li> <li>• Systems Theory</li> <li>• Behavioural Theory</li> <li>• Game Theory</li> <li>• Theories of Political Control of the Bureaucracy</li> <li>• Public institutional theory</li> <li>• Postmodern Theory</li> <li>• Theories of Governance</li> <li>• Theories of Public Organisation</li> <li>• Communication Theory</li> <li>• Public Choice and Rational Choice Theory</li> </ul>  |
| <p>Case-study dimensions:</p> <p><i>Macro- (global) cases</i></p> <p><i>Meso- (national, state) cases</i></p> <p><i>Micro- (institutional) cases</i></p> | <ul style="list-style-type: none"> <li>• North-south and east-west perspectives</li> <li>• Developmental states vs. weak or fragile states</li> <li>• Global environment</li> <li>• Bi-lateral and multilateral co-operation and coordination</li> <li>• National government's eco vision</li> <li>• National legislation, strategies, programmes, administrative and executive, bureaucratic structures and systems, leadership, decisions</li> <li>• Infrastructure</li> <li>• Energy mix</li> <li>• Service-delivery capacity</li> <li>• Administrative capacity (i.e. skills, competencies, processes, procedures, methods, organising, coordination, finance, and budgeting)</li> <li>• Project execution</li> <li>• Monitoring and evaluation</li> </ul> |
| <p>Legal dimension (including policies, statutory and regulatory frameworks)</p>   | <ul style="list-style-type: none"> <li>• Statutory framework to deal with issues such as petroleum products, agricultural pests, development facilitation, genetically modified organisms, water, environmental management, mineral and marine resources, forests, biodiversity, air quality, and energy regulation</li> <li>• Monitoring and evaluate implementation of sustainable development programmes and projects</li> <li>• Penalties for environmental pollution</li> <li>• Central control or decentralisation</li> <li>• Health and Safety</li> <li>• Setting of parameters (i.e. water and air quality standards)</li> </ul>   |

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|  | <ul style="list-style-type: none"> <li>• Conservation</li> <li>• Monitoring systems to report on environmental damage</li> </ul>   |
| Functional-institutional dimension (facilitation role of government) | <ul style="list-style-type: none"> <li>• Executive branches on the different spheres or levels of government</li> <li>• Mandates, role and functions of the respective institutions and agencies in sustainable development</li> <li>• Nature of the strategic and operational functioning</li> <li>• Coordination between institutions i.e. “whole-of-government” approach</li> <li>• Education, awareness campaigns, skills development of public officials,</li> <li>• Structures for services and products</li> <li>• Funding for tertiary and research institutes involved in sustainable development</li> <li>• Spatial planning</li> <li>• Incentives for business to recycle (e.g. tax rebates)</li> <li>• Alternative energy</li> <li>• Technological advancement</li> <li>• Statistics</li> <li>• Administrative leadership</li> <li>• Full-spectrum and integrated sustainability strategies and programmes (e.g. food, water, energy, health, shelter, safety, ecological health, or climate stability)</li> </ul> |
| (Multi-)disciplinary dimension                                       | <ul style="list-style-type: none"> <li>• Public Administration</li> <li>• Geography</li> <li>• Economics</li> <li>• Philosophy</li> <li>• Law</li> <li>• Sociology</li> <li>• Anthropology</li> <li>• Urban studies/planning</li> <li>• Political Science</li> <li>• Engineering (energy mix)</li> </ul>   |
| Model dimension  | <ul style="list-style-type: none"> <li>• Log frames</li> <li>• Three-dimension or Three Pillar Basic models</li> <li>• AtKisson Pyramid 2030 Model</li> <li>• The Amoeba Model</li> <li>• Greensoft Model</li> <li>• Urban Development and Human Geography models</li> <li>• Green Readiness Model</li> <li>• National Energy Modelling</li> <li>• Sustainability Toolkit</li> <li>• Driving Force Pressure State Impact Response (DPSIR) model</li> <li>• System Dynamics software modelling</li> </ul>   |

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| <p>Normative dimension<br/>(including good governance and social justice)</p> | <ul style="list-style-type: none"> <li>• Fairness, equity</li> <li>• Responsiveness and accountability</li> <li>• Transparency and information flow to test public opinion on environmental concerns</li> <li>• Intergenerational welfare</li> <li>• Value system</li> <li>• Inclusive decision making</li> <li>• Living standards (i.e. housing, transportation, food, and health)</li> <li>• World views</li> <li>• Participatory and representative democracies, civil engagement, public participation</li> <li>• Honesty and fair dealing in government</li> <li>• Level of corruption and maladministration</li> <li>• Culture of consumerism which is ecologically destructive</li> <li>• Renewal of the social contract</li> <li>• Environmental Performance Index</li> <li>• Sustainable Societies Index</li> <li>• Happy Planet Index</li> <li>• Ecological Footprint Analysis</li> <li>• Millennium Development Goals</li> <li>• Social capital, resilience of communities</li> <li>• Eco-literacy, human-earth relationship</li> <li>• Gender equality</li> <li>• Inclusion of marginalised communities</li> <li>• Positive feedback loops</li> <li>• Protection of whistle-blowers on environmental damage /pollution</li> <li>• Encourage self-help, home-grown initiatives, community-focused development</li> </ul> |
| <p>Economic growth and prosperity</p>   | <ul style="list-style-type: none"> <li>• Creation of a steady state</li> <li>• Monetary and fiscal policies</li> <li>• Priorities for government spending</li> <li>• Interventions in the market</li> <li>• Capital, cost of production (total production costs)</li> <li>• Ecological accounting, taxation (e.g. pollution taxes)</li> <li>• Cooperation with private sector PPP, NGOs</li> <li>• Foreign Direct Investment, global competitiveness</li> <li>• Leverage points to intervene in systems</li> <li>• Trade barriers</li> <li>• Farmer subsidies</li> <li>• Market regulation</li> <li>• Build capital (housing, transportation, energy, industry)</li> <li>• Ecological fiscal reforms</li> </ul>   |

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| <p>Stewardship dimension<br/>(environmental and ecological)</p>  | <ul style="list-style-type: none"> <li>• Reduction of ecological and carbon footprint</li> <li>• Risk and uncertainty</li> <li>• Peak oil, peak water</li> <li>• Ecological sustainability</li> <li>• Green zones</li> <li>• Resilient cities</li> <li>• Funding research and development in new greener technologies</li> </ul>  |
| <p>Sustainability-Reporting-Framework dimension<br/>(global cooperation, indexes, treaties, conventions and protocols)</p> | <ul style="list-style-type: none"> <li>• United Nations Global Compact</li> <li>• OECD Guidelines for multinational enterprises</li> <li>• ISO 26000 and 14001</li> <li>• International Labour Organisation's Tripartite declaration of principles concerning multinational enterprises and social policy</li> <li>• Core Labour Standards</li> <li>• United Nation's Guiding Principles on Human Rights</li> <li>• Social Accountability 8000 standard</li> <li>• Carbon Disclosure Project</li> <li>• Greenhouse Gas (GHG) Protocol</li> <li>• Eco-Management and Audit Scheme (EMAS)</li> <li>• Global Reporting Initiative (GRI)</li> <li>• International Integrated Reporting Council (IIRC)</li> <li>• Socially Responsible Investment Index</li> <li>• Global decision-making structures</li> <li>• Balance global responsibility and regional autonomy</li> <li>• Balance cosmopolitanism and communalism</li> <li>• Fair use of common resources</li> <li>• World trade policy</li> <li>• Loans from World Bank and IMF</li> <li>• Shared cultural and economic endeavours</li> <li>• Border/migration control</li> <li>• Participation in initiatives such as MDG and the Millennium Consumption Goals, International Conferences on Population and Development, Cairo Consensus, Kyoto Protocol, Earth Summits, Rio Declaration, etc.</li> </ul> |

It is suggested that this broad conceptual and analytical framework could lead to the design of a *Government Charter on Sustainable Development*. Such a charter, similar to the Earth Charter and various Citizen's Charters, could make a significant contribution to frame a government's response to (or role in) the multifaceted issue of sustainable development.

## CONCLUSION

This article has argued that, within the context of scientific inquiry, both conceptual and analytical frameworks help guide the researcher to identify, classify, and investigate the

(causal) relationships between variables that may influence the role of a government in sustainable development. Both conceptual and analytical frameworks provided the researcher with a general approach or methodology, and guided the research in terms of data collection, interpretation and explanation. The various dimensions and concepts identified for this purpose make a considerable contribution to demarcate such an inquiry.

It is evident that the role of government in sustainable development entails various elements (i.e. *who, what, where, and how*), and is highly multidimensional. Governments should facilitate the creation of a shared societal and global vision for sustainable development. Such a vision can provide economic prosperity within the biophysical constraints of the natural world in a way that is fair and equitable to all of humanity, to other species, and to the vulnerable future generations.

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