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Karlskrona, June 2005

Olérs Marie Eriksson

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Executive Summary

The concepts of sustainability and sustainable development have been widely discussed, debated and researched, and even as such, our society remains unable to rapidly adapt to the challenges connected to these concepts. Our society is witnessing rapid population growth, increasing consumption and expanding resource depletion a scale larger than ever in human history. While 'sustainability' is exponentially growing in use and presence in policy-making, financial markets, organisational reporting and strategic planning, it is quite abstract and provides room for multiple interpretations. For those organisations launching sustainable development initiatives, there are few that have internalised the principled meaning within core strategic planning and core values from a whole-systems perspective. Organisations are mainly addressing single-issue solutions such as waste management or energy efficiency programs.

Strategic planning towards sustainability requires engaging in profound change; it requires an inner shift in peoples' values, aspirations, and behaviours that are guided by their mental models, as well as an outer shift in processes, strategies and practices (Senge, 2006). Many organisational initiatives to integrate sustainability into strategic management plateau after the first period of enthusiasm, and fail to become a sustained approach to continued development (Doppelt, 2003).

We hypothesise that the reason for many change efforts becoming 'unsustained', can be related to our current discourse on sustainability and its focus on implementation of new technologies and policy instruments – i.e. *what* to do. Our thesis addresses the research gap on *how* organisations that commit to sustainable development can build capacity and engagement to sustain the process on a long term. If initiatives towards sustainability loose momentum and energy after the initial phase, we presume that the method and strategy for implementation (i.e. - *the how*) and the structure of the organisation do not support a transformation towards more sustainable practices. In this paper we are looking beyond technology to focus on the organisational capacity to conduct and sustain transformational change, through the focus on social sustainability within the organisation.

Social sustainability is commonly addressed through looking at issues *external* from the organisation, as for example, corporate social responsibility initiatives for subcontractors in the developing world. We

hypothesize that integrating the organisation's *internal* characteristics, such as basic human needs, in the process of strategic continued development, will create enhanced member commitment and support long-term capacity for sustaining change. The success of any change process is dependent on the organisational capacity to tap into the members' commitment to learn, engage and participate.

Our thesis explores how organisations can be more strategic about internalising sustainability in their practices, through approaching systems for organisational governance that allow for self-organisation, build change capacity and support the meeting of basic human needs. We suggest that the organisational system for governance (resource allocation and distribution, information sharing and gathering, planning and decision-making) is one leverage point for building capacity for transformational change. Understanding governance as a structure applied within a human system, affecting behaviour, we believe that governance needs to be addressed in strategic sustainable development. Our research questions are:

- What internal factors may prevent sustainable development to become an integrated approach for organisational development?
- What strategic process guidelines can support organisations move towards sustainable governance?
- How could these guidelines be operationalised within an overall strategic planning process for sustainable development?

We are using a generic framework[1] for planning and decision-making in complex systems, as a structure for results integration. Within this framework, the principled definition of social sustainability translates: in a sustainable global society all people have the capacity to meet their fundamental human needs. Manfred Max-Neef suggests nine basic needs that are generic across cultures and historical periods: Subsistence, Protection, Affection, Understanding, Participation, Idleness, Creation, Identity, and Freedom, and that must be met to maintain physical, mental and social health (Max-Neef, 1991). We suggest that organisations can

[1] This framework is often referred to as "The Natural Step Framework. Through a process for scientific consensus, a number of researchers have developed principled criteria to direct social, environmental, and economic actions towards sustainability (Holmberg et al. 1996; Azar et al., 1996; Holmberg and Robert, 2000, Robért et al., 2000; Ny et al., 2006). This initiative led to develop The Natural Step Framework (TNSF), a structured, science- and systems-based approach to individual, organisational and societal planning for sustainability within the biosphere (Robért et al., 2005) which incorporates these principled criteria.

benefit from addressing human needs strategically through developing a governance system that consciously removes barriers for these needs to be met. We believe that doing so enhances the capacity to successfully engage in continued change due to, for example, an increase in member commitment and engagement.

Our research into what prevents sustainable development from becoming an integrated approach provides insights for individuals and organisations leading sustainability and change efforts and helps identify key internal factors affecting sustained change. From our research, we have deduced that these factors pose barriers to meet fundamental human needs, and undermine member commitment and engagement. Decision-makers can use our research to (1) build awareness of organisational change and factors hampering successful outcomes, (2) examine the systemic nature of their complex system, and (3) provide the means to strategically incorporate social sustainability considerations into their organisational structure.

Through the lenses of systems science, human needs and organisational change research, we have developed strategic process guidelines that can support organisations to approach more sustainable systems for governance (i.e. a system that does not undermine its members' capacities to meet their fundamental human needs, but rather conceives itself as a system, strategically approaching its vision through the development of the parts and subsystems). The guidelines are, in brief:

- Practice systems and upstream thinking;
- Align vision with members' aspirations;
- Engage all members;
- Ensure adequate resources;
- Ensure continued learning;
- Practice dialogue;
- Stimulate free creativity within basic constraints;
- Create adequate feedback systems;
- Provide opportunities for reflection; and
- Provide a healthy working environment.

The strategic process guidelines are intended to guide organisations to effectively support alignment with sustainability and development of synergic satisfiers for basic human needs. Potentially, an organisation

aligned with the ideas behind the guidelines, will enhance their ability to encourage proactive and confident members committed to the organisational vision of sustainability. The guidelines relate to human needs as applying them provides opportunities for satisfying multiple needs. Needs are met through various satisfiers which unlike the needs themselves, may change according to culture, time and circumstances. Dialogue, adequate information systems and staff meetings, for example, can act as satisfiers for the need for understanding, etc. Whenever basic human needs are not met, so-called "poverties" arise which can be an indicator that the organisation is operating below its potential[2]. Removing barriers for meeting fundamental human needs can thus provide a leverage point for enhancing social sustainability while building capacity for continued transformational change. Such capacity will most likely determine the success level of the overall sustainable development effort.

Our suggested governance-change process can be used in an overall strategic planning effort to integrate sustainability within the organisation. We propose that this be preceded by conducting an effort to build awareness on why sustainable governance might be of benefit for the organisation. Afterwards, the organisation can, for example, assess the current governance system and identify areas where it wants to improve, and plan and prioritize actions to build a governance system that best supports reaching their vision. A simplified model below illustrates a generic backcasting-from sustainability-principles method. This method encapsulates envisioning a desired future for the organisation within sustainability constraints, assessment of current status in relation to that vision, and forming a step-by-step strategy outlining prioritized actions to reach success.

[2] While it can be an indicator that the organisation is operating below potential, it is important to also recognise that the organisation can not be responsible to provide for all basic human needs of their members. All human have multiple opportunities for satisfiers that can be supplied outside of work (family life, community involvement, etc). We recognise the organisation as one important setting where basic human needs can be satisfied, which is significant if the aim is to build committed and engaged members.

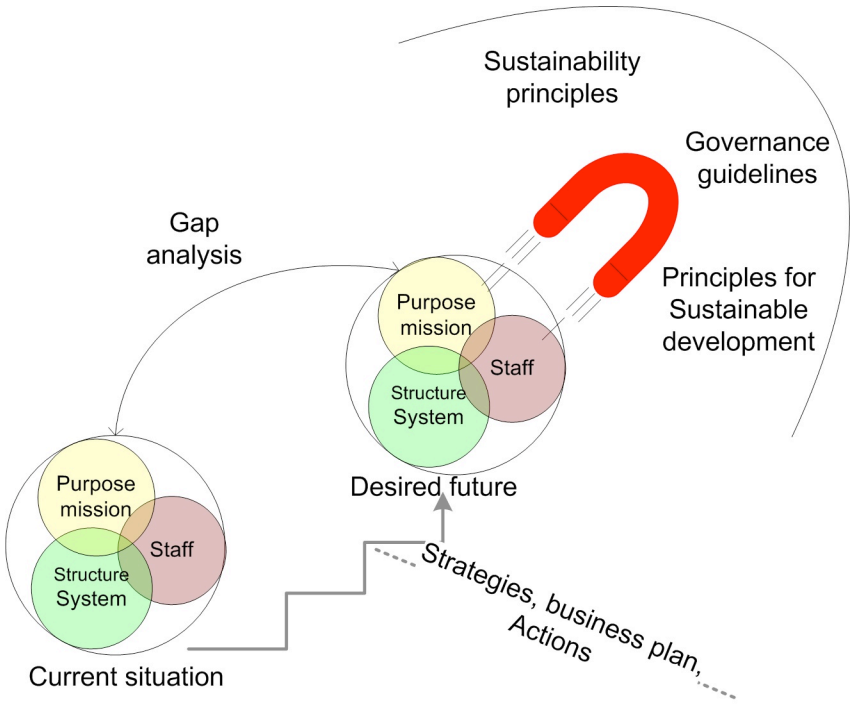

Figure E.1. Organisational Strategic Planning within Sustainability Constraints

This process allows organisations to examine their system for how they lead and manage themselves and decide on a governance system designed to best support a shared mental model of the how, what and why of their vision. If an organisation succeeds in harnessing learning capabilities, merging member and organisational interest, and growing a culture where members feel safe to invest their commitment, a self-reinforcing loop of member engagement is activated that will add a significant force for building momentum that otherwise would be lost (Senge, 1999).

Finally, we believe that any planning endeavour that involves transformational change will benefit from addressing the human aspect within the organisation. It is, in the end, what will determine its outcome.

Glossary

Adaptive Capacity: In social-ecological systems with high complexity and dynamism, individuals are able to respond to changing conditions and reorganise the system (Folke *et al*., 2005).

Backcasting: Strategic planning methodology whereby a desired future within basic constraints of social-ecological systems is determined, an analysis of the current condition is assessed, and decision-makers ask 'what can we do today to optimise our planning to reach our goal?' Measures of action are then developed through a step-by-step procedure to determine the appropriate course of action to reach the desired future (Holmberg and Robèrt, 2000:291-308; Robèrt, et al, 2005).

Biosphere: A term first described by Eduard Suess to describe the layer of life and life sustaining processes on Earth. The term has been expanded to include concepts of networks and communities of complexity and dynamic interdependence (Capra, 1996).

Human needs: Fundamental characteristics of all human beings regardless of cultural, historical, political, and spatial determinants. These inborn requirements must be satisfied for psychological, physical and social health in the social system (Robèrt *et al*., 2005).

Learning Organisation: Organisations that continually build their capacity for development and member capacity to realise their highest aspirations (Senge, 2006).

Organisation: Boundary defined group of individuals working collectively to achieve the purpose of the organisation.

Organisational governance: Organisational system for resource allocation and distribution, information gathering and sharing, and for defining how decisions are made and enforced.

Self-Organisation: All living beings have the capacity to spontaneously develop new structures and new forms of behaviour in open systems regulated by internal feedback mechanisms without a guiding design (Capra 1996).

Strategic process guidelines: Guidelines that can be used as checklists in the process of developing strategy for change.

Strategic Sustainable Development (SSD): A scientific framework for planning in complex systems to guide the strategic prioritisation of actions and tools that will move our organisations and society towards the desired future whereby Sustainability Principles are not violated (Robèrt *et al*., 2005).

Systems thinking: A the process of model creation dealing with stocks, flows, delays and feedbacks in a system. Systems thinking can be integrated into the backcasting methodology to identify upstream causes as well as leverage in the system for large-scale change (Robért *et al*, 2005; Senge *et al*., 1994).

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1 Introduction

1.1 The Global Challenge of Social-Ecological Sustainability

Change is inevitable in all social and ecological systems. History teaches us that society had always existed in a state of dynamic equilibrium, constantly challenging and changing the status quo dynamic. The key differences in the changes of today and those of yesteryear are the spatial and temporal characteristics of that change. Whereas pre-industrial human interactions with social and natural systems caused changes on a local and short-term scale, our current social-ecological interactions are producing widespread global changes (e.g. atmospheric changes to the climate and ozone layer) with temporal impacts far into the future (e.g. long term social unrest due to resource scarcity).

The deleterious consequences we face, due to human forcing on social and ecological systems, will not find its solution through single-issues such as resource efficiency or solving world poverty. Our societal structures and processes are designed such that they systematically contribute to our current unsustainable direction, and we are facing the challenge to inspire global unity around protecting the possibilities of future options. Sustainable development signifies increasing our room for manoeuvre. That requires a systemic approach to problem solving and strategic planning, through identifying leverage for restoration in both human and ecological systems.

1.1.1 Unsustained organisational development

An increasing number of organisations are adopting sustainability policies and practices, and are integrating these with their strategies for organisational development (Waage *et al.*, 2005: 1145-1163). Research has demonstrated that many organisational change efforts plateau after a first period of enthusiasm, and fail to become a sustained and integrated approach to strategic planning and development (Doppelt, 2003). We hypothesise that unsustained change efforts can be related to our current discourse on sustainable development and its focus on the implementation of new technologies and policy instruments, i.e. *what* to do. Complementary research on *how* organisations build capacity and engagement to sustain change would make a valuable contribution to the understanding on how to

successfully plan for and approach sustainability. If organisational change initiatives towards sustainability loose momentum and energy, we presume that the method for implementation (the how) was not effective to align behaviour with the organisational vision for sustainable development.

The failure to sustain significant change is not exclusive to sustainable development. A number of authors (Burnes, 2005:73-90; Doppelt, 2003; Senge *et al.*, 1999) have identified that a majority of change initiatives do not lead to desired results; stating only twenty to fifty percent of change efforts (e.g. total quality management, re-engineering and corporate transformation) are considered successful. This indicates that over 70 percent of conducted change initiatives do not lead to desired outcomes. Literature (Fritz, 1996; Hock, 1999; Senge *et al.*, 1999) suggests a common reason why change initiatives fail can be traced to not addressing the underlying worldviews and behaviours maintaining the existing status quo. The prevailing mental models are permitted to remain unchallenged.

1.1.2 Human social systems as leverage point

Sustainable development needs to incorporate the complex interactions between all systems from individuals within organisations within society within the biosphere. Sustainability can only be reached through a global perspective. Our future societal sustainable or unsustainable development ultimately depends on human behaviour and interactions. Understanding leverage points in human systems helps identify places to intervene (Meadows, 1997:78-85) in order to produce systemic transformation via small changes[3]. While many organisations attempt symptomatic solutions to social-ecological problems such as policy fixes, increasing monitoring systems and indicators, the greater leverage lies in the ability to address issues of power dynamics, information flows, systemic structure, the goals of the organisation, and most importantly, paradigm shifts and the capacity to transcend them (Meadows, 1997:78-85).

Bob Doppelt (2003) has conducted research into why sustainable development efforts are not sustained, and suggests that key leverage for transformation towards sustainability lies in changing the governance

[3] A detailed list of Meadows' leverage points is available in Appendix 1

system. How organisations chose to govern themselves affects the abilities of its members to contribute with their highest potential to reach success.

Governance is often interpreted and narrowed to formal authority executed by top management. In this paper, we define governance as how power is generated and distributed within an organisation through the system of decision-making and planning, information gathering and sharing, and resource allocation and distribution (Hock, 1999; Doppelt, 2003). The system for governance includes how an organisation develops strategies, organises behaviour and interactions, and defines rules and assigns responsibility. It reveals who has influence, who decides, and how decision-makers are held accountable to their stakeholders. Understanding governance as a structure applied within a human system, affecting behaviour, we believe that governance needs to be addressed in strategic sustainable development (SSD).

1.1.3 Strategic sustainable development

At current, there are numerous definitions of sustainability[4], and a jungle to be navigated with frameworks, management systems and tools espousing differing, and sometimes contrasting approaches for the process of sustainable development[5] (Harding, 2006:229-239). Leaders and decision-makers are truly challenged with identifying the most effective and appropriate course of action. This reveals the need for an overarching framework that facilitates strategic navigation towards sustainability. Effective planning endeavours in complex systems require an understanding of the constitutional principles for the success of the system itself, and a systems-based, structured approach (Robért, 1995; Robért *et al*., 2005).

Through a process for scientific consensus, researchers have developed principled criteria to direct social, environmental, and economic actions towards sustainability (Holmberg and Robért, 2000:291-308). This initiative led to develop The Natural Step Framework (TNSF), a structured, science-

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[4] The United Nations World Commission on Environment and Development has presented a common definition cited: "to ensure that we meet the needs of the present without compromising the ability of future generations to meet their needs." (Bruntland, 1987); Constanza and Pattern (1995:193-195) suggest the following definition: "a sustainable system is a renewable system that survives for some specified (non-infinite) time".

[5] Tools and concepts for sustainable development include ecological footprint analysis, Life Cycle Assessment (LCA), the Factor X concept, Natural Capitalism framework, and others (Robért et al., 2002)

and systems-based approach to individual, organisational and societal planning for sustainability within the biosphere which incorporates principled criteria (Robért et al., 2005) The Sustainability Principles describe the basic constraints for what we must not do in order to avoid further destruction on the biosphere and nature's cyclical process that sustains all life. They can be used to direct our actions towards a desired state of ecological integrity and resilient social communities. The principles for sustainability are the following (Robèrt et al., 2000:243-254; Ny et al, 2006: 61-77):

In a sustainable society, nature is not subject to systematically increasing:
1. ...concentrations of substances extracted from the Earth's crust;
2. ...concentrations of substances produced by society;
3. ...degradation by physical means;

and, in that society. . .

4… people are not subject to conditions that systematically undermine their capacity to meet their needs.

The term 'needs' in the fourth principle goes beyond meeting physical and economic needs to include fundamental constituents for individual and societal health. The concept of human needs will be explored further in section 2.2.

The current practical application of the fourth principle for social sustainability mainly focuses on the organisational effect on the external world. For example, the current discourse on social sustainability examines global issues of abuses of power, equitable distribution of resources, and how people's capacity to meet their fundamental human needs is undermined (Robért *et al.*, 2005). Having a global perspective in mind is essential, though we sense there is a risk that the social perspective becomes abstract for organisations to grasp. If the fourth principle could be expanded and further developed, we hypothesize that organisations would be supported to bring the abstract concept of social sustainability to concrete actions.

1.2 Thesis purpose

1.2.1 Internalising social sustainability

In our research we have explored how social sustainability can be implemented *within* an organisation, and how this provides capacity for building commitment and engagement to support strategic sustainable development (SSD).

The Natural Step Framework (TNSF) provides an application for social sustainability known as the 'Social Template' (Robèrt, 1995; Robèrt *et al*., 2005). We will explore how it can be further developed to support organisations to become more strategic about building capacity for profound change, through internalising social sustainability.

The framework and its forth principle define social sustainability as when all humans in our global society have capacity to meet their fundamental human needs and are not being subjected to political, environmental or economical abuses of power. We thereby deduce that if abuses of power are eliminated through altered structural changes in the organisational governance system, the barriers preventing the capacity to meet fundamental human needs will be removed. We elaborate below on how the process of aligning organisational structures can comply with a principle-level understanding of social sustainability.

1.2.2 Thesis scope

We are limiting our scope to include organisations that are engaged in sustainable development efforts as part of their strategic management. Our research is intended to be generic enough to be applicable for any organisation (government, business, non-profit, school, etc). We recognize that one of our constraints is the limited research that has been conducted on organisational change towards sustainability and what factors make these efforts succeed long-term.

1.2.3 Societal contribution

The success of SSD depends on the understanding and confidence of the people that are to drive and sustain the change. It is dependent on organisational capacity to unleash its member's creativity, knowledge and

spirit towards a common purpose. Research on resilience and adaptive governance suggest that robust, adaptive strategies of social-ecological systems accept uncertainty, take advantage of rapid change and surprise, and turn them into opportunities for development (Folke *et al*., 2005: 441-473). Therefore it is relevant for organisations to consciously develop the capacity to be adaptive in times of change and uncertainty.

Our research develops an enhanced understanding of capacity building through the focus on human needs within an organisation. When there are barriers preventing basic human needs to be met, potential engagement can be lost. Approaching organisations as living systems helps visualise the relationships and interactions between its parts, and helps identify where to intervene in the system for the most effective solutions. The awareness of organisations carrying characteristics of living systems and the prerequisites of human needs can inspire and guide organisations to take a greater social responsibility beyond their boundaries.

1.3 Research Questions

- What internal factors may prevent sustainable development to become an integrated approach for organisational development?
- What strategic process guidelines can support organisations move towards sustainable governance?
- How could these guidelines be operationalised within an overall strategic planning process for sustainable development?

2 Background

2.1 Framework for Strategic Sustainable Development

2.1.1 Introduction

The complexity and dynamics of social-ecological systems and the intricate task of identifying appropriate strategies and tools have limited the effectiveness of initiatives to advance sustainable development (Robèrt, 2000:243-254; Robèrt *et al.*, 2002:197-214; Robèrt *et al.*, 2005; Waage *et al*., 2005: 1145-1163). The Natural Step Framework is developed with the intent to structure this complexity and enable strategic planning for sustainable development (Robèrt *et al*., 2005).

2.1.2 Five level framework

Figure 2.1 Five Level Framework

The systems level (Level 1 - system) of the framework constitutes of our social-ecological systems. It describes fundamental natural laws (e.g. thermodynamics) and constituents of social systems (e.g. self-organisation). The second level (Level 2 - success) outlines the definition of success, where sustainability is the desired outcome. The four Sustainability Principles define 'success' for society within the biosphere and were described in section 1.1.3. These can be rephrased to guide organisations and their role in society within the biosphere, and they can be completed with other principles of success that are specific for the respective organisations.

The Sustainability Principles for organisations are to (Ny *et al*., 2006):

1. …eliminate our contribution to systematic increases in concentrations of substances extracted from the Earth's crust.

2. …eliminate our contribution to systematic increases in concentrations of substances produced by society.

3. …eliminate our contribution to systematic physical degradation of nature.

4. …eliminate our contribution to the undermining of humans' capacity to meet their needs worldwide.

The Sustainability Principles for organisations provide the overarching constraints for their actions within society within biosphere.

The third level of the framework (Level 3 - strategy) is the core of the structured approach, as it informs a step-by-step approach to select logical stepping stones within an overall strategy for sustainable development. The fourth level (Level 4 - action) incorporates the actions an organisation chooses to strategically act towards the vision. These actions could for instance include developing a cross-department team to provide support for sustainability initiatives and feedback to decision-makers, operational resource efficiency programs, and training of auditing staff to include social and ecological considerations in the organisation's financial reporting. This level speaks to 'what you do', while the fifth and final level (Level 5 - tools) describes the tools available to enhance capacity and build energy for the process, to provide quantitative and qualitative data, and assist actions (level 4) that are strategic (level 3) to arrive at success (level 2) in the system (level 1). There are many well-known tools in the organisational

development arena including various kinds of management systems such as in the ISO series (e.g. ISO 14001), Life-Cycle Analysis, Ecological Footprint analysis etc.

2.1.3 Principles for sustainable development

While Principles of Sustainability, as mentioned above, provide the basic constraints for SSD, there are also identified principles to guide the process of being strategic (Level 3) (Robèrt *et al*., 2000:243-254; Robèrt *et al*., 2002:197-214). These principles for sustainable development support the process of choosing appropriate actions in order to align development, policies, change initiatives, and technologies towards the sustainable vision. Below follows a brief description of principles for strategic investment and social development.

Backcasting from Principles. A vision of the desired future is developed through aligning the organisation's core purpose and core values,[6] with basic constraints of sustainability (level 2, section 2.1.2. Backcasting is a method whereby participants ask themselves where they want to be in the future, regardless of technological, or other constraints of today, analyse their current situation, and decide on a step-by-step strategy to achieve their future desired state aligned with Sustainability Principles (Holmberg and Robèrt, 2000:291-308; Robèrt, et al, 2005)[7].

Steps in the Right Direction: Decision makers choose actions that will lead strategically towards the desired sustainable outcome, i.e. towards compliance with the success principles and the organisations' vision (Robèrt *et al*., 2002:197-214).

Select flexible platforms: Selected actions should not only move the process in the right direction, but also have the capacity to serve as steppingstones for progress further ahead. Such platforms should not build on any assumptions as regards the specifics of distant futures, but rather can be

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[6] Collins and Porras (2002) describe the core ideology of the organisation as the interplay between values and purpose. The authors assert that successful organisations are those that articulate a vision with their values and purpose determined, and pursue the vision by creating organisational and strategic alignment towards it.

[7] The term 'backcasting' was originally termed by John Robinson. Prof. Robinson utilized his backcasting methodology with scenario analysis, whereas the backcasting approach within this framework is only constrained by scientifically derived principles that act as constraints to generate creative tension between the desired future and current reality (Robert *et al,* 2005).

flexible with regard to different possible routes towards compliance with the success principles (Robèrt *et al*., 2002: 197-214).

Good return on investment: Actions have a better chance of leading to successful outcomes if prioritized to provide a good rate of return on financial, ecological, social and perhaps political capital. This principle ensures that the process is well supported and does not halt due to lack of resources (Robèrt *et al*., 2002: 197-214).

Dialogue and encouragement: Dialogue and encouragement is essential for teamwork and community building. Encouraging leadership that for example celebrates progress, and foster a respectful and listening environment is an important aspect of implementing sustainability efforts (Robèrt *et al*., 2002:197-214).

Transparency: Transparency is an indirect aspect of dialogue and encouragement; highlighting it allows peers to see, understand and correct mistakes (Robèrt *et al*., 2002:197-214).

2.2 Planning for Social Sustainability: The Natural Step Social Template

2.2.1 An Introduction

The strategic five-level-framework described above, can be used to structure and align organisations' operations and visions towards sustainability. This section presents a more detailed description the social aspect of sustainability (i.e. the framework applied to social sustainability) through presenting a brief introduction to The Natural Step Social Template. Our research focuses on how to enable organisations to become more strategic about social sustainability, and we have used The Natural Step Social Template as the overarching framework for structure.

2.2.2 The System

The systems level (Level 1) of the framework describes the characteristics of social systems including fundamental human needs. These characteristics are present regardless of cultural, ethnical, and regional differences. An area of growing research is developing an understanding of natural systems

characteristics to inform our understanding of complex social systems (Ackoff, 1997:23-37; Burnes, 2005:73-90; Capra, 1996; Cook, 2004; Flowers and Guillame, 2002:16-21; Harder *et al*., 2004: 79-104; Hock, 1999; Robèrt et *al.,* 2005; van Eijnatten, 2004:430-449). We attempt to explore these issues for an enhanced strategic planning framework for social sustainability (section 2.3). Both the characteristics of social systems and basic human needs are described below.

Characteristics of social systems

Developers of TNS Social Template identified that planning in social systems need to enable self-organisation, diversity and interdependence as essential systems' characteristics (Cook, 2004; Robért *et al*., 2005).

Self-organisation. All living organisms, from the smallest cell to human beings have the capacity to meet their needs by spontaneously creating new structures and new behaviours by processes of feedback in an open system (Capra, 2004).

Diversity. An essential element of the resilience to adapt to change in our environment is diversity. Nothing survives in isolation; creativity, adaptability and the capacity to adequately cope with change results from the diversity in the system (Cook, 2004).

Interdependence. In order to sustain life, all organisms are interlinked and their actions ultimately have an impact on other aspects of the system itself (Cook, 2004).

Empathy. As humans, we are part of both natural and social systems; our actions will ultimately have societal and ecosystem consequences. Our capacity to respond to changes in the environment and the social realm ultimately depends on our capacity for empathy. It is our innate capacity to identify, psychologically and emotionally, with others that supports our capacity to self-organise while allowing for interdependence and diversity. Empathy is a constitutional human capacity, fundamental for our capacity to create meaningful social structures, and is free of religious connotations, political affiliations, nationalist ideals, and moral implications (Cook, 2004). This capacity, however, may serve us well if we choose to act ethically.

Fundamental Human Needs

The Social Template incorporates the categorisation of fundamental human needs identified by the Chilean economist Manfred Max-Neef, as developed in Human Scale Development (1991). The needs are systemic, interdependent, non-overlapping, shared across cultures and historical periods, and generic (Cook, 2004; Max-Neef, 1991; Robèrt *et al.*, 2005). A true 'need', dissimilar from 'want', is, when unsatisfied, an impoverishment that will eventually lead to social, mental and/or physical disease (Hudgens, 2002). Max-Neef identified the following basic needs: Subsistence, Protection, Affection, Understanding, Participation, Idleness, Creation, Identity, and Freedom (Max-Neef, 1991). A 'need' contrasts with a 'want', which implies an aspiration, a goal, or a desired state or condition. What many people characterize as needs are actually wants.

Satisfiers. Needs are met through different satisfiers which unlike needs, may change according to culture, time and circumstances. *Singular Satisfiers* satisfy one need while steadfastly ignoring others (e.g. staff insurance satisfies the need of protection; an organisation's intranet is one way to satisfy the need for understanding). *Synergic Satisfiers* meet several needs at once (e.g. annual social events for staff family satisfy the needs of participation, affection, identity, creation and idleness).

2.2.3 Success level

Social sustainability requires that people must not be subject to conditions that undermine their capacity to meet their needs (Cook, 2004; Ny *et al*., 2006; Robért et al., 2002:197-214; Robért et al., 2005). This fourth Sustainability Principle is the basic constraint for organisations and society at large to be socially sustainable. Peoples' capacity to meet their fundamental human needs can be prevented through abuses of power (Cook, 2005; Robért et al, 2005).

Abuses of power

Individuals and institutions can, through political, environmental and economic means abuse their power (Cook, 2004; Robért *et al*., 2005). Abuses of power jeopardise the capacity for people to meet their needs and the expression of the characteristics of social systems. Governments, corporations, community organisations, etc, are in the position to contribute to or undermine people's fundamental human needs. Whether their authority

comes through democracy, the market place or other agreements, power is a part of the structure of society (Cook, 2004; Robért *et al*., 2005).

Power can also be nurtured and grown within an organisation through flexible organisational structures that facilitates the empowerment of members (Piero and Melia, 2003:14-35). Through the sharing of power with others, it is possible to expand the total amount of power available to the organisation (Piero and Melia, 2003:14-35). Whatever the benefits of sharing power are, organisational management that holds on to power in an abusive way most often stifles change and innovation (Piero and Melia, 2003:14-35).

Economic abuses of power: Actions and decisions that wilfully, or unintentionally, restrict equitable access to capital or income-generation opportunities, consolidate financial resources, and engage in exploitative and destructive practices. Examples include paying wages that are insufficient to live on or engaging in exploitative labour practices (Robért *et al*., 2005)

Environmental abuses of power: Actions and decisions that compromise peoples' ability to interact with each other and the natural system in ways that ensures their needs are met. Examples include failing to provide members with safety protection, health care and an overall working environment that doesn't contribute to physical or emotional illness *(*Robért *et al.,* 2005*)*.

Political abuses of power: Actions and decisions that restrict participation in political processes, restrict information and education opportunities, and enacting measures that would undermine the capacity for people to self organise to meet their needs. For example, abuses of political power include prohibiting members to organise themselves in unions, discriminating policies, or failure to promote educational opportunities *(*Robért *et al.,* 2005*)*.

2.2.4 Strategy level

The strategy level (Level 3) of the Social Template supports organisations to act strategically towards social sustainability. The criteria for decision-making involves prioritizing those actions that are in the right direction of social sustainability, consider abuses of economic, environmental or political power, are economically viable and ensure continuous development. In addition, decision makers ask themselves 'would we, the decision-makers,

like to be subject to this kind of decision-making' that takes into account principles of participation, transparency, responsibility, and honesty (Cook, 2004; Robèrt *et al*., 2005). This is also known as The Golden Rule test. It is not prescriptive and we can adhere to it in a vast array of behaviours and actions. The questions decision-makers ask themselves when selecting strategic actions towards social sustainability are:

- Does it involve people sufficiently (Participation)?
- Is it open to reasonable scrutiny (Transparency)?
- Is accountability clear (Responsibility)?
- Are we being truthful (Honesty)?

2.2.5 Action level

All actions that strategically lead towards a desired future of social sustainability are organised in this level (Level 4) of the framework.

2.2.6 Tools level

Tools (Level 5) to be strategic include monitoring and evaluating (e.g. ISO 14001), building capacity (e.g. training), assessment (e.g. employee surveys) and strategic tools (e.g. management systems) (Robért *et al*., 2005).

2.2.7 Gaps in the Social Template

The current social template provides a starting point for organisations attempting to address the complex issues of social systems. However, the TNS Social Template has not been tested as a strategic planning framework for organisations (Cook, personal communication, 2006). It is still in its infancy of development and requires research and practical application with organisations grappling with social sustainability issues within and beyond their boundaries.

In addition, social sustainability is often referred to and planned from the perspective *external* to the organisation. A comprehensive framework applicable for a diversity of organisations and effective to address complex social issues needs to address the internal systems of the organisation. And finally, in our opinion, the Social Template's strategic guidelines (Level 3)

are abstract and non-concrete to guide actions. It would benefit the progress towards more sustainable organisations if planning frameworks would be designed to go beyond encouraging the organisation to ask themselves as decision makers if they are taking in to account participation, accountability, honesty and transparency sufficiently.

2.3 The Systems' Paradigm for Organisational Development

The challenge of sustainability requires that we have a comprehensive understanding of the system in which we operate. Systems science is therefore central to sustainable development in general and to TNSF. In this section we explore some key aspects of systems science and how it relates specifically to the benefits of perceiving organisations as living systems.

2.3.1 Characteristics of systems

The systems' paradigm[8] offers new insights on organisational structures, processes and interactions. A key contribution of this discipline is the insight that network patterns are common to all living systems (Capra, 2002). The definition of a living system includes the notion that networks continually create and re-create their parts. This 'self-making' mechanism in living systems was termed autopoiesis by Humberto Maturana and Francisco Varela (Capra, 1996). Autopoiesis is a concept of self-organisation whereby functions and networks are not predetermined; instead, the system develops by processes of emergence from the resulting interactions of its networks (Capra, 1996). Living systems are organisationally closed, meaning that they incorporate all the parts needed to function towards its purpose. But they are materially and energetically open, requiring a constant flow of matter and energy to support the ability to self organize and develop. Self-organisation is "the spontaneous emergence of new structures and new forms of

[8] The 'systems paradigm' refers to non-linear models, complexity and chaos theories, and the concepts of self-organization, dissipative structures, bifurcation points, and emergence. See Capra, 1996; Harder et al., 2004; Hock, 1999; van Eijnatten, 2004, for a more detailed exploration of the historical foundations and literature on this paradigm as it relates to organizational development.

behaviour in open systems far from equilibrium, characterized by internal feedback loops" (Capra 1996:85).

Ilya Prigogine complimented the work of Maturana and Varela with non-linear thermodynamics to describe how open systems operate far from equilibrium (i.e. a dynamic complex system with a constant flow of matter and energy) (Capra, 1996). Prigogine's theory of dissipative structures states that feedback processes in open systems that operate far from equilibrium develop new capacities and new structures, while also increasing in complexity. Dissipative structures create spontaneous emergence of new forms of order when the flow of energy increases in a system (Capra, 2002). This concept also refers to self-organisation and emergence; two notions recognized as the dynamic origin of development, learning, and evolution. Capra asserted (2002), 'creativity – the generation of new forms, is a key property of all living systems'. This new knowledge of emergence, self-organisation, and dissipative structures allows for greater understanding of complexity. The understanding of autopoiesis, dissipative structures and self-organisation enhances our understanding of complex systems. While the theories of Prigogine, Varela, and Maturana were initially developed by studying chemical systems, the knowledge gained is valuable for understanding organisations as complex systems.

2.3.2 Organisations as living systems

The knowledge and emerging understanding about complexity, self-organisation, and dissipative structures allows us to comprehend organisations in a more systemic manner. There is an increased awareness of the hidden nuances in structures that provide feedback in the system and how it operates at the 'edges of chaos'[9] to form new behaviours, patterns, functions, and structures (Flowers and Guillame, 2002:89-112; Hock, 1999; van Eijnatten, 2004:430-449). Organisations are social systems comprised of networks of interdependent relationships and individuals striving to meet their own individual needs, as well as striving for the common purpose of the organisation itself. Organisations are complex, dynamic, unpredictable and non-linear systems, and their characteristics have in the past decade been

[9] The 'edge of chaos' refers to a condition, a state of being whereby order emergences from chaotic interactions. This concept is often used metaphorically in the organizational literature to refer to the state where the system is operating far from equilibrium, or status quo, and while difficult to plan with such dynamism and constantly changing conditions –this is the state where the most innovation occurs (Flowers and Guillame, 2002:16-21).

explored through amalgamating knowledge from the biological sciences, complexity and chaos theories, and the field of organisational change (Ackoff, 1997:23-37; Burnes, 2005:73-90; Cook, 2004; Doppelt, 2003; Fritz, 1996; Gibbons, 2000:20-23; Harder *et al*., 2004:79-104; Hock, 1999; Robért *et al*., 2005; Senge, 1990; van Eijnatten, 2004; van Eijnatten and Putnik, 2004:418-429; Yoon and Kuchinke, 2005: 15-21; Zemke, 2001). A 'chaordic enterprise' has been introduced to explain complex and dynamic organizational systems that operate in a complex, non-linear dynamical environment, which it is an inseparable part (van Eijnatten and Putnik, 2004:418-429). The concept of chaordic systems was introduced by Dee Hock (1999) and is rapidly growing in the literature describing organisations as living systems. Chaordic systems are used to examine relationships, develop patterns of interaction when planning and decision-making, and also to explore network relationships beyond traditional hierarchical structures of governance. Cross-department teams are one example of a chaordic organisational style. In terms of actual decision-making, planning and solution generation, systems thinking is a means to explore non-linear relationships beyond cause-and effect that is also increasingly utilised (Gibbons, 2000:20-23).

Healthy systems are characterised by the capacity of their parts to develop through relationships and interactions that contributes to the wellbeing of the whole, rather than undermining it (Harder et al., 2004:79-104). Jamshid Gharajedahi and Russell Ackoff (1984:289-300) suggest that understanding social systems requires understanding it in a systemic manner, the structure, function, and processes as well as the complex interactions of all of these components. Senge (1999) expands on the above notion of living systems to include the concept that systems are defined by their common purpose, and the behaviour of the system reflects this purpose and interdependent interaction of the parts.

Understanding an organisation as a system offers a model to see relationships and underlying circumstances for system behaviour, rather than focusing on individual events and actions (Montuori, 2000: 61-73). The tools of systems thinking[10], including systems dynamics, are designed to identify high-

[10] Systems thinking is the process of model creation dealing with stocks, flows, delays and feedbacks in a system, using causal loops diagrams and systems analysis. Systems thinking can be integrated into the backcasting methodology to identify upstream causes as well as leverage in the system for large scale change (Robért *et al*, 2005, Senge *et al*., 1994).

leverage points in systems that will have considerable impact. Organisational longevity is directly related to the capacity of an organisation to learn and adapt to change. Understanding the organisation as a living system can contribute to increased resilience and adaptation to changing environmental conditions. Living systems are stable due to their capacity for learning and collaborative nature (Holland, 2002:19-21). We have, in our thesis, used systems science as one lens when researching the development of strategic process guidelines.

3 Methods

3.1 Introduction

Our research is outlined in three phases: initial, core and final phase. We developed a triangulation of methods and a step-by-step outline of the guideline development and their practical implication.

3.2 Initial Phase

A triangulation of methods was developed to guide the design and implementation of the research. It served as an aide to prioritize actions, guide literature reviews, develop the results, and to ensure validity. The following triangulation was developed (explained in detail below):

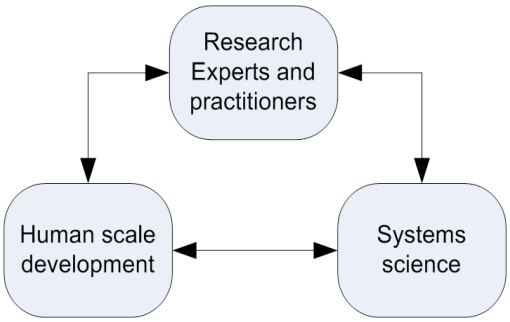

Figure 3.1. Methods Triangulation.

Research

The initial phase of the research consisted of a review of relevant literature in the fields of sustainable development, governance, organisational change and learning, fundamental human needs, and systems science to identify the key concepts. We intuitively felt that these key concepts were complementary and compatible in order to answer the research questions.

With the spatial and temporal limitations of the research agenda, we also felt it necessary to interview knowledgeable experts that could provide us with insights, and feedback on our research development. Our experts identified

practitioners to interview for a real-world perspective and feedback on our results.

Reasoning from Basic Human Needs

In our research we used the nine fundamental needs described by Manfred Max-Neef (1991) in Human Scale Development theory as one lens for looking at social sustainability in organisations.

Reasoning from Systems' Science

In our research we used systems science as another lens for looking at social sustainability in organisations. We used logic and inference to develop a list of guidelines that can help approach strategic sustainable development (SSD), through awareness of the organisation as a living system.

3.3 Core Phase

3.3.1 Factors preventing change

With the limited research conducted in organisational change and sustainability, we used two main sources to answer our first research question. Research and interviews was conducted to identify the internal factors that prevent sustainability to become a sustained approach to organisational development.

3.3.2 Strategic Process Guidelines

Utilising the knowledge of SSD, organisational change, governance, systems science, and basic human needs we developed readily understandable strategic process guidelines to enhance social sustainability within the organisation through approaching sustainable governance. Our guidelines follow from existing principles for sustainable development relating to social sustainability, specifically dialogue and transparency (Robért, et al, 2002).

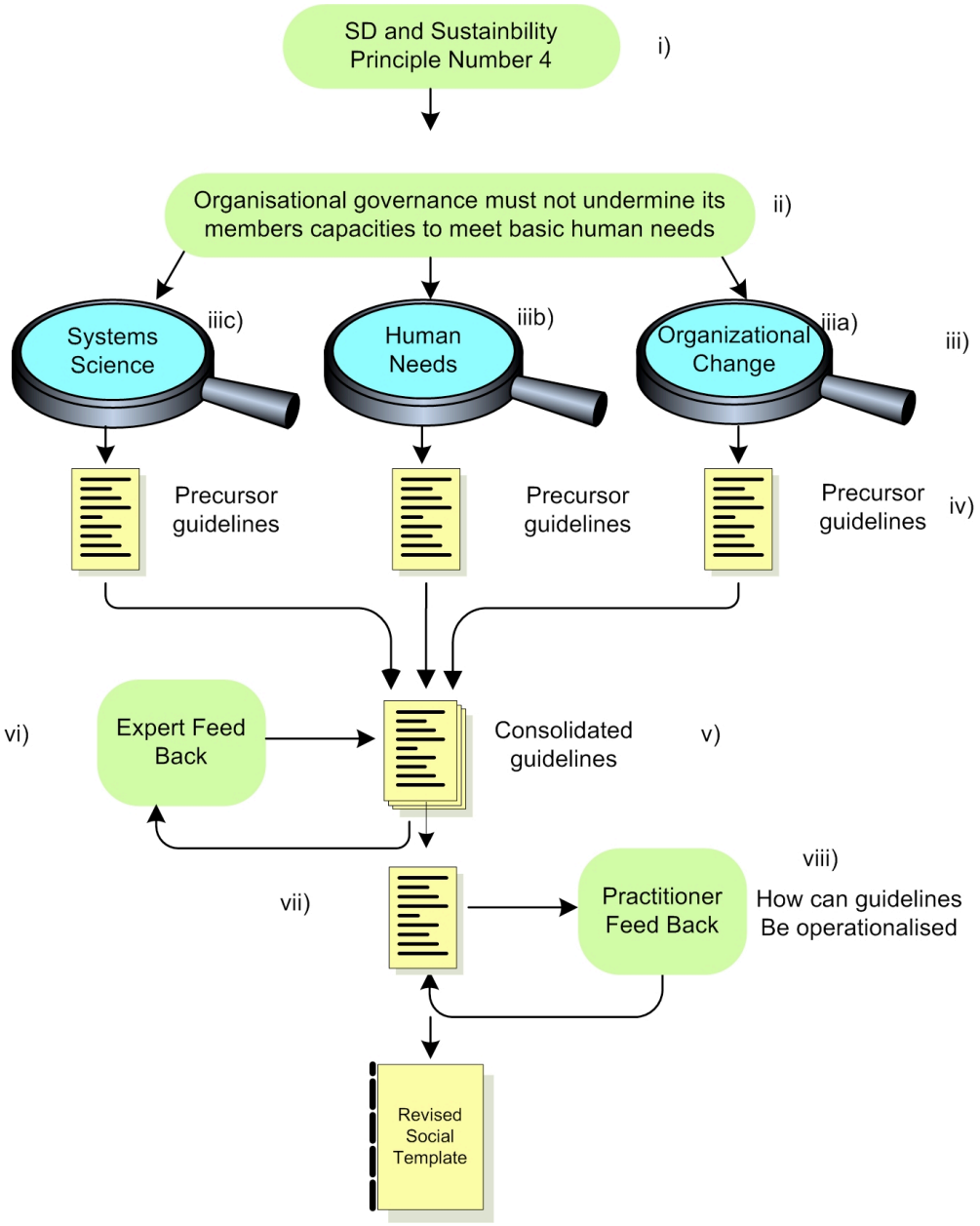

Figure 3.2. Method for developing strategic process guidelines.

i.) Our starting point was looking at the fourth Sustainability Principle in an organisational context, as well as our understanding of SSD in management processes. While social sustainability issues are normally addressed in terms

of external impacts - for example corporate social responsibility and reporting initiatives, we limited the scope of our research to explore ways of working strategically with social sustainability through the focus on the members of an organisation.

ii.) We logically deduced that an organisational governance system must not systematically undermine the capacity of its members to meet their fundamental human needs (section 3.3.1).

iii.) We conducted a literature scan to identify and review relevant literature in the fields of sustainable governance, organisational change and learning, fundamental human needs, and systems science. We concluded that these key concepts were complementary and compatible in order to answer our research questions.

From each of the three key areas described above: expert research in organisational change and sustainability, human scale development theory's nine fundamental human needs, and systems science we developed specific lists of guidelines derived from each area.

iii.a) The list developed from expert research on organisational change and sustainability also aided our results for our first research question focused on identifying organisational factors that create barriers to change efforts towards sustainability.

iii.b) Utilizing Manfred Max-Neef's Human Scale Development theory (section 2.2.2) describing nine fundamental human needs, we initially developed a list of guidelines reasoned from our understanding that can help approach SSD, through removing barriers to social sustainability. An iterative process was used to develop synergic guidelines.

iii.c) From our research on systems science and complex social systems, we developed a list of guidelines for sustainable governance specifically related to organisations as social systems and their characteristics.

iv.) We reviewed each list comparatively and, taking into account of the principles for sustainable development that relate to social sustainability (dialogue, encouragement, and transparency), we asked ourselves the following test questions to consolidate the guidelines:

1. Are they based on a scientifically agreed worldview ('new science of

living systems', organisational change theory and human scale development)?

2. Are they necessary to achieve sustainable governance within an organisation?

3. Are they sufficient to achieve sustainable governance within an organisation?

4. Are they concrete to guide action and serve as a direction when generating solutions for profound change?

5. Are they concrete to guide the development of synergic satisfiers to meet fundamental human needs?

v.) From our test questions and dialogue about the essential, non-overlapping and complementary components from each area of core research, we developed a preliminary set of consolidated guidelines for approaching sustainable governance.

vi.) To further improve validity and practical application we identified experts in the fields of SSD and organisational change and engaged in dialogue about the validity of our guidelines in order to identify gaps, challenges, and opportunities. The criteria used to select our experts included: experience with SSD, practical experience implementing sustainability initiatives in an organisation and experience with the Natural Step.

vii.) Interviews, both in person and via conference call enabled us to gain insights that helped develop a final consolidated list of guidelines for sustainable governance. This stage allowed us to answer our second research question.

viii.) The guidelines were formulated for generic application in any organisational setting and therefore required further expert feedback as to how they could be used in a strategic planning process for sustainable development. We identified strategic processes for the application of the guidelines by utilising our pre-existing knowledge in SSD and traditionally applied management systems.

3.4 Final phase

The final phase of our research included further emergent dialogue on our conclusions and validity of results.

4 Results

4.1 Introduction

In our research we reviewed internal factors of organisational systems that prevent sustainable development to become an integrated approach to organisational development. In addition, we identified strategic process guidelines that could aide organisation to align their structures and processes to social sustainability. And finally, we developed the practical application of the guidelines in strategic planning process.

The presentation of our results is as follows:

1. Section 4.2: What prevents change efforts from sustaining themselves? (corresponding to research question 1: What internal factors may prevent sustainable development to become an integrated approach for organisational development?)

2. Section 4.3 and 4.4: Precursor guidelines and social sustainability through sustainable governance (corresponding to research question 2: What strategic process guidelines can support organisations move towards sustainable governance?).

3. Section 4.5: Process of implementation (corresponding to research question 3: How could these guidelines be operationalised within an overall strategic planning process for sustainable development?).

4.2 What prevents sustained change efforts?

4.2.1 Sustainable development and profound change

The research connecting sustainable development to transformational organisational change is still poor. Based on our initial literature scan, we decided to focus on the work conducted by Bob Doppelt (2003) and Peter Senge (1990, 1994, 1999, 2006) since these references were most relevant for identifying factors that prevent sustainability from becoming a sustained approach for organisational development. Bob Doppelt's research is relevant

as it is the main source we have identified that specifically focused on this issue. Doppelt has spent three years researching sustainability efforts and suggests the organisational system for governance as one leverage point for reaching enhanced change capacity. The work of Peter Senge is relevant because it covers two decades of research on how organisations can be supported to build capacity for profound change.

Sustainable development and profound change are closely interrelated since altering operations within sustainability constraints often require transcending to new paradigms. Both Doppelt (2003) and Senge (2006) have identified that change initiatives predominantly apply a mechanistic approach. In his book *Leading Change Toward Sustainability*, Bob Doppelt (2003) recognizes that society's shift towards sustainability requires that organisations start being understood and administrated from a systems perspective. To the detriment of sustainable development, Doppelts' research identified that the majority of both public and private organisations believe that sustainability simply involves better controls, incremental improvements and increased efficiencies to their existing harmful linear production systems (Doppelt, 2003).

4.2.2 Sustainability blunders

> "*Since leaving the counselling field and settling into the environment policy arena, I have been continually struck by the lack of attention by government, business and environmental leaders to how organisations change. The major constraint in any transformation process is the ability of people to accommodate change*"
>
> Doppelt, 2003

Doppelt summarizes that there are seven common blunders organisations fall prey to, and are the main reasons for sustainable development efforts being unsustained (adapted from Doppelt, 2003):

1. *Patriarchal thinking that leads to a false sense of security.*
   The prevailing mentality for sustainable development is that environmental issues are managed through complying with governmental laws. This is a reactive form of leadership and management. Often it involves a hierarchical structure that sends a message to those in the middle and bottom that they are not responsible for their own decisions or actions – their job is to do what authorities tell them to. This is the dominant governance style today that is a product of the need to control the highly fragmented linear 'take-make-waste' production system that is the cornerstone of most organisations. A false

sense of security arises and members see no reason to change since the necessity to do so is not clear. Change is imposed on members that are not prepared and the effort fails to challenge the current belief systems that support business-as-usual.

2. ´Siloed´ approach to environmental and socioeconomic issues.
Organisations have separate departments for managing "sustainability", health and environment safety issues. This prevents identifying cause and effect of systemic problems that demand system wide solutions. The result is the loss of a whole perspective and a culture where innovations are not encouraged to spread and pollinate across departments.

3. No clear vision of sustainability.
Organisations do not provide a clear vision of the sustainable development change initiative, and there are no first order principles to guide decision-making. It is difficult to be successful in reaching a desired state if the destination and purpose are unknown.

4. Confusion over cause-effect
Organisations lack upstream thinking. Most organisations place the majority of resources in dictating technologies and practices used to control the symptoms of problems such as emissions, waste and ecosystem impacts. Few place major emphasis on designing out the root cause of problems.

5. Lack of information.
Organisations cannot transform themselves unless all members are willing to actively support and participate in the effort. Meaningful involvement demands that people clearly see the need, purpose and strategies for the change before they stop resisting it. A continued flow of clear and easily understood information is needed to generate this type of understanding.

6. Insufficient mechanisms for learning.
People learn by doing, judging the results and altering their behaviour. When members of an organisation are given few opportunities for testing new ideas and few rewards are given for doing so, limited learning will occur.

7. Failure to institutionalise sustainability.
Organisations fail to create alignment with sustainability. The ultimate success of any sustainability initiative is found when (1) sustainability based thinking, perspectives and behaviour is incorporated into the

everyday operating procedures and culture of an organisation, and (2) when organisational vision, purpose, strategies, values, implementation plans are aligned and send the same message.

The above leads to a fragmented and linear approach to sustainability in a system that is in reality very complex and demands a whole-perspective, co-operative and transparent approach to arrive at sustainable solutions.

4.2.3 The prevailing management system

> *"I believe that, the prevailing system of management is, at its core, dedicated to mediocrity. It forces people to work harder and harder to compensate for failing to tap into the spirit and collective intelligence that characterizes working together at their best"*
>
> Peter Senge, 2006

In the book *The Fifth Discipline* (revised edition, 2006) Peter Senge presents characteristics of the prevailing management system, which influence an organisations capacity to successfully undertake profound changes. Senge presents a list that was developed by a group of business and education innovators (Booth, Sweeney, Senge, Wagner, and influenced by the work of W Edwards Deming) to summarize the prevailing system for management (Senge, 2006):

1. Management by measurement.
- Focus is on short-term metrics and what can be measured.
- Intangibles are devaluated.

2. Compliance-based cultures.
- Getting ahead by pleasing the boss.
- Management by fear.

3. Managing outcomes.
- Management sets targets.
- People are held accountable for meeting management targets (regardless of whether they are possible within existing system and processes).

4. "Right answers" vs. "Wrong answers".
- Technical problem solving is emphasised.
- Diverging problems (systemic) are discounted.

5. Uniformity.
- Diversity is a problem to be solved.
- Conflict is suppressed in favour of superficial agreement.

6. Predictability and controllability.
- To manage is to control.
- The “holy trinity of management” is planning, organising, controlling.

7. Excessive competitiveness and distrust.
- Competition between people is essential to achieve desired performance.
- Without competition among people there is no innovation.

8. Loss of the whole.
- Fragmentation.
- Local innovations do not spread.

4.2.4 Internal factors preventing sustainability

Comparing the blunders summarized by Doppelt with the prevailing management system, we found similarities and overlaps. Both authors agree that few organisations institute meaningful cultural change efforts that build capacity for sustaining a process of continued development towards sustainability (Senge, 2006; Doppelt, 2003). We suggest that these common approaches to governance and management, as described above, undermine members’ capacities to meet their fundamental needs. Below follows a merging summary of the two lists and how they relate to fundamental human needs:

1. Patriarchal thinking that leads to a false sense of security
   Compliance-based cultures
   Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom

2. ´Siloed´ approach to environmental and socioeconomic issues,
   Management by measurement
   Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom

3. No clear vision of sustainability
   Loss of the whole

Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom

4. Confusion cause-effect
   Managing outcomes
   Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom

5. Lack of information
   Uniformity
   Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom

6. Insufficient mechanisms for learning
   Right-answers vs. wrong answers
   Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom

7. Predictability and controllability
   Excessive competitiveness and distrust
   Failure to institutionalise sustainability
   Cause barriers for members meeting the needs for understanding, identity, creativity, participation, freedom, affection, idleness, protection

Prevailing organisational systems stress order and rule; individual behaviour and independent thinking is discouraged (Hock, 1999). Organisations undermine the capacity of their members to meet their needs through mechanisms of power distribution affecting the structure, purpose and function in these social systems. These rigid mechanistic structures have created a society where people are alienated from their work, and from their organisation in which they are involved (Hock, 1999). Reasoning from our understanding of basic human needs and research on organisational change and sustainability, we inferred that the prevailing system for management and governance creates institutional barriers that undermine meeting basic needs.

Satisfiers for meeting basic human needs vary whether in a workplace or domestic setting, (for example, the need for affection in a member's private sphere might be satisfied through close relations with loved ones, while within the organisation it can be satisfied through an atmosphere of trust and

feed-back systems that include appreciation). The average North American and European workday is between 6-8 hours per day. Poverties can arise through abuses of power in the workplace (for example, lack of health and safety equipment) contributing to potential energy loss trying to satisfy basic needs, rather than contributing with their highest potential towards approaching organisational vision. For people to contribute with their highest potential, a system for governance and management that removes barriers for meeting human needs, can be a potent and rewarding aspect of implementing social sustainability within an organisation.

4.3 Precursor guidelines

To develop a comprehensive selection of guidelines for a governance system supporting progress towards sustainability we utilised three separate lenses. Below is presented the precursor guidelines that have been deduced through reasoning from the theory of fundamental human needs, logic and inference from systems science and research on sustainable- and organisational-development.

The results are presented as follows:

Section 4.2.1: Guidelines derived from organisational change

Section 4.2.2: Guidelines derived from fundamental human needs

Section 4.2.3: Guidelines derived from systems science.

4.3.1 Guidelines from research on organisational change.

One perspective for reasoning what generic strategic process guidelines for sustainable governance might look like draws on organisational change research (4.1.1).

Doppelt (2003) suggests one key to building capacity for successful long-term and fundamental change, is to align the way an organisation governs itself with basic principles of sustainability. Flawed information, decision-making and resource allocation systems make it hard to foster a culture where sustainability is a shared value and norm. When there is a gap

between the current culture and the objectives and goals that organisations set for them, the old culture will prevail. A prerequisite for alignment between culture and the sustainability initiatives that organisations commit to is a governance system that has feedback systems that supports the effort.

Peter Senge (2006) proposes that one main aspect of building capacity for profound change (which, in its essence, is what sustainable development requires) is to learn and apply the disciplines of a learning organisation. We explored both Doppelt's suggestions for sustainable governance and Senge's characteristics of a learning organisation to identify strategic guidelines relevant for approaching more sustainable forms of governance.

The Learning Organisation

The Learning Organisation (LO) is a concept that is becoming an increasingly widespread concept in modern organisations (Sharma, n.d.). A Learning organisation is often referred to as an organisation in which continuous learning occurs and has the following characteristics (adapted from Senge, 1994). In a learning organisation:

1. People feel that they engage in practices that truly matter to them and to the larger world. They contribute to their individual development and to the development of society as a whole.
2. All individuals are enhancing her or his capacity to learn and create.
3. Team-work is recognised as a strategy for achieving creative and intelligent results.
4. The organisation continually becomes more aware of its underlying knowledge base – their intrinsic values, the store of tacit and unarticulated knowledge within employees.
5. Visions emerge at all levels, and the task of the top management is to manage the process, so that the emerged visions become shared visions.
6. Members are learning what is happening at all levels of organisation, so that they can understand their roles and contributions, and how their actions influence others.
7. Members feel free to communicate about their own and their colleagues biases and assumptions that shape worldview.

8. People treat each other as colleagues; they trust each other and respect each other. There is little place for "top-down" relationships.
9. People are not afraid of making mistakes, taking risks, experimenting, and transparency in assessing results.

Fostering a learning organisation can contribute to building a culture where members have the capacity to meet their basic needs.

Sustainable governance

Utilising systems thinking and an understanding of what governance aspects create barriers for change Bob Doppelt (2003) suggests the following guiding principles as checklists towards approaching sustainable governance:

1. *Follow a clear vision and an inviolate set of principles focused on conserving the environment and enhancing socio-economic well-being.*
   Every system has a purpose that defines it as a distinct entity.

2. *Continually produce and widely distribute information necessary for expanding the knowledge-base and measuring progress toward the core purpose.*
   A system has feedback mechanisms that provide info on progress. Sustainable governance systems produce and disseminate timely and credible environmental, social and financial information to provide the feedback needed for continued learning and improvement.

3. *Engage all those affected by the activities of the organisation.*
   Systems must have all its parts present in order to achieve its purpose. Leaving out some of its parts will cause system to operate below potential, and even fail. Recognise the various roles and responsibilities of members and establish how these should be engaged in planning and decision-making processes.

4. *Equitably share resources and wealth generated by the organisation.*
   Even if all the parts are present, if some are not engaged or fully functional, the system will not work at its optimal level. Equity is a prerequisite for full engagement and support.

5. *Provide people with the freedom and authority to act within an agreed upon framework.*

Systems do not act randomly. They have rules that define how parts interact and clarity over goals, roles and responsibilities. Within these boundaries power and authority are decentralised and people have both the freedom and the responsibility to act.

Learning organisation and sustainable governance

The concepts of sustainable governance (Doppelt, 2003) and characteristics of learning organisations (Senge, 1994) are compared and merged into one list of suggested strategic process guidelines from these sources, suggesting the following process guidelines:

1. *Follow a clear vision and an inviolate set of principles focused on conserving the environment and enhancing socioeconomic wellbeing.*
   Visions emerge at all levels, and the task of the top management is to manage the process, so that the emerged visions become shared visions. For example: Interface is an international carpet manufacturer that expresses their vision, 'to be the first company that shows the entire industrial world what sustainability is in all its dimensions: People, process, product, place and profits — by 2020 — and in doing so will become restorative through the power of influence' (Interface Corp. website, 2006). Interfaces' vision provides the guiding beacon and the use of the four sustainability principles frames the decisions to reach the vision.

2. *Continually produce and widely distribute information necessary for expanding the knowledge-base and measuring progress toward the core purpose.*
   All individual are enhancing their capacity to learn and create. Teamwork is recognized as a strategy for achieving creative and intelligent results. People are not afraid of making mistakes, taking risks, experimenting, and transparency in assessing results. Organisation-specific indicators, communication and monitoring systems can be developed to provide information and measure progress. Developing a clear and aligned system for information and communication is important to increase member awareness and building a case for change.

3. *Engage all those affected by the activities of the organisation.*
   In a learning organisation people feel that they engage in practices that truly matter to them and to the larger world. They contribute to their

individual development and to the development of society as a whole. Transition teams comprised of multi-department representation can offer a means to engage members and aide with developing cross-functional strategies and measures.

4. *Equitable share resources and wealth generated by the organisation.*
   People treat each other as colleagues; they trust each other and respect each other. There is little place for "top-down" relationships. This can be supported by tailored reward systems that provide resource distribution in alignment with vision and goals of the organisation. For example, the marketing department' reward program can feature benefits for those that reduce packaging.

5. *Provide people with the freedom and authority to act within an agreed upon framework.*
   Members are learning what is happening at all levels of organisation, so that they can understand their roles and contributions, and how their actions influence others. Members feel free to communicate about their own and their colleagues' biases and assumptions those shape their worldview Training programs can provide a shared mental model for the organisations vision and guiding principles for strategy development and actions. The communication of this is essential for all members to understand their role and the constraints of the system.

4.3.2 Listed guidelines from theory of human needs

As explained in section 2.2.1 Manfred Max-Neef put forward human scale development theory asserting fundamental human needs as intrinsic requirements that must be satisfied in order for people to be physically, psychologically and socially healthy (Robért *et al*, 2004)

By reasoning from human needs, we developed a list of guidelines for sustainable governance to prevent violations of human needs within organisations**.**

The organisational system for governance can remove barriers for members meeting their needs by:

- Provide a working wage for adequate living condition (*subsistence*).

- Provide a safe physical working environment (*protection*).
- Foster a caring and congenial atmosphere where members are genuinely appreciated for their contributions (*affection*).
- Ensure that all members have access to all information needed to pursue their role (*understanding*).
- Engaging all members in planning and decision-making processes (*participation*).
- Ensuring balance between action and reflection (*idleness*).
- Stimulating members to develop and test new ideas (*creation*).
- Recognise and appreciate all members (*identity*).
- Stimulate members to act under own initiative within defined responsibilities (*freedom*).

The theory of human scale development recognises the value of identifying synergic satisfiers (i.e. meeting multiple needs at once) rather than satisfiers that address only one need at a time. From this point, we developed a list of guidelines that could lead to synergic satisfiers. The synergic strategic process guidelines are as follows:

- Align the organisation's vision with personal aspirations. (*creation, participation, identity, affection and understanding)*
- Provide a safe working environment free from environmental, political and economical abuses of power (*protection, subsistence, affection*,)
- Create feed-back systems that ensure understanding; and monitor, encourage and reward progress (*Understanding, participation, creation, affection)*
- Practice Action-learning*. (participation, affection, freedom, understanding, creation)*

4.3.3 Listed guidelines from the systems paradigm

Organisations are dynamic and complex living systems. Strategic sustainable development (SSD) requires strategic process guidelines based on the sound science of living systems to navigate with. Using logic and inference from systems science we developed the following guidelines:

1. **Create structures for self-organisation and emergence.**

Living systems can self-organise (i.e. learn, change, and adapt) when there is a flow of information, energy, and matter into the system (Capra, 2002; Wheatley and Kellner-Rogers, 1995:6-10). Self-organisation can enhance an organisations ability to adapt to changing environments and offers opportunities for full participation and innovation from their members. Organisations can create adaptive structures by ensuring there are shared visions, clear roles and responsibilities, and a shared purpose by all members. Ensuring these elements will enable individuals and teams to self organise towards the collective vision.

2. **Develop structures for communication and intra-relationships**.

Living systems have parts and subsystems within which interactions and processes determine the functions of the whole (Yoon and Kuchinke, 2005: 15-21). A system is an organization of networks; it is a community of relationships. Learning, adaptive capacity for change, and development all rely on the information shared in the system and the strength of relationships. Therefore, organisations will improve their change capacity by increasing the learning and information sharing opportunities (Harder *et al*., 2004:79-104). Relation building can be encouraged through social and team-building events, and dialogue sessions with key decision-makers to provide feedback and develop vertical relationships.

3. **Relationships are key.**

Communities, or human systems, are made up of networks of relationships that are interdependent (Harder et al., 2004:79-104). To understand a complex human system examining the interdependencies and interactions of the networks of relationships help identify leverage points in the system (Meadows, 1997:78-85). Organisations can adopt structures and processes that emphasize relationship-based interactions, for example, cooperative team assignments and cross-department work.

4. **Support behaviours that respect and encourage diversity.**

Diversity in a system is critical to adaptive capacity and responsiveness

(Robért *et* al*.,* 2005*).* An organisation can foster interpersonal values and process whereby there is diversity of opinions, experiences, and capacities within the members of the system An organization requires mechanism to provide opportunities for shared learning to fully capitalise on their diversity. A diverse organisation benefits from greater variety of perspectives regarding the organisations strengths, weaknesses, problems, solutions, and opportunities (Harder *et al*., 2004:79-104). Policies that emphasise respect for diversity can be formulated to actively support the development of diverse perspectives in processes and structures.

5. **Incorporate social-ecological measurements within the monitoring, accounting, and decision-making protocols.**

From the old mechanistic paradigm, we value what we can measure. In organisations, the storytellers are the accountants who use financial indicators to determine healthy or unhealthy states (Hock, 1999). In social systems, what provides vitality and resilience are the qualitative relationships and environment in which we operate, all non-quantifiable in measurement terms (Fritz, 1996; Hock, 1999). In addition, feedback is a condition of living systems that provides the necessary information relative to its purpose for development. Organisations need monitoring, auditing and reward systems, to ensure progress and explicitly value what brings it to life: the social and human capital.

6. **Practice and utilise systems thinking for awareness raising, solution generation, and decision-making**

We cannot understand a system by examining parts in isolation; instead we have to study the patterns of engagement. Sustainability initiatives are often guided by linear cause and effect patterns of thinking while appropriate in certain circumstances, sustainability requires systems thinking. Therefore, understanding the dynamic interplay of relationships and impacts throughout the system will be identified. Delays in the system can also be addressed with a long term, systemic approach. Systems thinking assists with identifying potent leverage to produce large scale systems changes with minimal efforts (Meadows, 1997: 78-85). For example, teams can use systems thinking to identify the underlying aspects of their 'problem' to correctly identify the source and the best course of action that does not contribute to future problems.

4.3.4 Consolidated guidelines

The challenge of sustainable development requires transformative organisational change. An effective leverage point and upstream solution is to align an organisational governance system with basic principles for sustainability (Appendix 3 illustrates some causal loops related to our reasoning). The following list of consolidated strategic process guidelines are derived from the precursor lists. Detailed descriptions of the guidelines are found in section 4.3.3, at the strategy level (Level 3) of the revised Social Template. The consolidated guidelines were developed through a process of logic and inference looking at how the different lists above could be summarized to one list of guidelines that are:

- based on a scientifically agreed worldview;
- necessary to achieve sustainable governance within an organisation;
- sufficient to achieve sustainable governance within an organisation;
- concrete to guide action and serve as a direction when generating solutions for profound change; and,
- concrete to guide the development of synergic satisfiers to meet fundamental human needs.

Summary of consolidated guidelines:

- Practice systems and upstream thinking.
- Align vision with members' aspirations.
- Engage all members.
- Ensure adequate resources.
- Ensure continued learning.
- Practice dialogue
- Stimulate free creativity within basic constraints
- Create adequate feedback systems.
- Provide opportunities for reflection.
- Provide a healthy working environment

Justification Matrix Guidelines:	**Reasoning from human needs theory (Human Scale Development)**	**Reasoning from the systems paradigm**	**Reasoning from organisational change theory**
1. Practice systems- and upstream thinking.	Removes barriers for understanding and identity	Understanding the system and building capacity to identify leverage within is essential when planning in complex systems for effective strategic sustainable development.	Members are learning what is happening at all levels of organisation, so that they can understand their roles and contributions, and how their actions influence others
2. Align vision with member's aspirations.	Remove barriers for creation, participation, identity, affection and understanding.	Systems consist of parts and sub systems all integrated and interdependent for a shared purpose. These subsystems and parts also have their own purposes as well, yet are aligned with ensuring the health of the whole system.	Visions emerge at all levels, and the task of the top management is to manage the process, so that the emerged visions become shared visions
3. Engage all members.	Remove barriers for meeting the needs for participation, identity and creation.	Living systems are networks and relationships of their parts and subsystems. All are engaged, to varying degrees in the core purpose of the whole system.	In a learning organisation people engage in practices that truly matter to them and to the larger world. They contribute to their individual development and to the development of society as a whole
4. Ensure adequate resources.	Remove barriers for meeting the needs for subsistence, protection, participation and understanding.	Due to the interdependent nature of a system, deficiencies in one subsystem or part will ultimately affect the productivity and effectiveness of the whole.	Organisational success spurs from investing in its members.

5. Ensure continued learning.	Remove barriers for meeting the needs for participation, affection, identity, creation, and understanding.	Relationships are essential in a functioning system; opportunities to strengthen shared understanding and co-develop increase a living systems' capacity to be responsive and adaptive.	Enabling continued learning is at the essence of building an organisation with adaptive capacity for continued change.
6. Practice Dialogue	Remove barriers for meeting the needs for participation, identity, affection and understanding.	Living systems develop through cumulative mutual interaction between parts; in social systems dialogue is an essential part of our co-evolution.	Dialogue constitutes an important base to arrive at shared understanding necessary to pursue common goals.
7. Stimulate free creativity within basic constraints	Remove barriers for meeting the needs for participation, creation, affection and understanding.	Boundaries exist in all living systems.	Members feel safe to try out new ideas and make mistakes.
8. Create adequate feedback systems.	Remove barriers for meeting the needs for understanding, participation, creation and identity	Living systems have the ability to learn and adapt when fed by inputs of information. Feedback in the system allows it be responsive and creative when change is necessary.	Members are learning what is happening at all levels of organisation, so that they can understand their roles and contributions, and how their actions influence others
9. Provide opportunities for reflection.	Remove barriers for meeting the needs for idleness, freedom, understanding and creation		Balance between action and reflection
10. Provide a healthy working environment	Remove barriers for meeting the need for protection	A healthy system is one in which the parts are collectively operating at an optimal level for the effectiveness of the whole.	

Table 4.1: Justification for consolidated guidelines.

4.3.5 Practitioner feedback.

We presented our consolidated list of guidelines to five (5) independent practitioners (leaders within organisations that were familiar with TNS framework and have conducted significant change work with the aim to reach enhanced sustainability within their practices) and requested feedback. Our feedback sessions took the form of informal dialogue preceded by a brief presentation on our research and guiding framework. We presented the guidelines and all confirmed the validity, sufficiency and potential for application. We recognise that our lack of structured interview may have hampered the quality of constructive feedback gained.

Though all practitioners were positive about the strategic guidelines, some questioned the effectiveness in certain situations. One critique referred to cultural sensitivity around the issues of sustainable development; when working with organisations and supporting their change efforts, one must be sensitive to their capacity and readiness to drive change from this 'human' angle that we are presenting. One interviewee stated that our approach would not work with large corporations, since "they are only interested in raising their profit, and won't invest in initiatives that don't give explicit and fast return on investment". It does not mean that what we have developed would not work for them, but the different cultures and circumstances of each organisation affect their capacity to deal with continued change from the angle we propose. The subjective nature of social sustainability is difficult to quantify when organisations calculate a return on investment.

4.4 Social sustainability through sustainable governance

4.4.1 Revised Social Template

This section presents the results of our research integrated within the Social Template to enhance its practical application concerning social sustainability within organisations. A framework, as previously mentioned, provides a comprehensive guiding tool for strategic change. The overall aim is to provide an increased awareness of the organisation as a living system with inherent characteristics in the system (Level 1) and strengthen the practical application of social sustainability internally of organisations. Our contributions to the development of the Social Template are the strategic process guidelines and management processes for governance systems.

Further research is required to explore other areas to improve the application of the Social Template. The strategic process guidelines are presented at the strategy level (Level 3).

4.4.2 Level 1 - System

As with any complex system, organisations have the capacity to be *self-organising* (where every member has the capacity to meet their own needs), *diverse* (where specialised pursuits by each individual are not only accepted but openly regarded as an asset for resilience) and *interdependent* (where the diverse members depend on and trust each other) (Cook, 2004; Robért et al., 2005). Self-organisation is an important concept for organisations to understand the overall function of their system. Human beings possess the inherent capacity to adapt to change in effective and creative ways (Collins and Porras, 2002; Fritz, 1996). There are aspects in the organisational system though, that prevent that capacity through rigid structures and interactions and abuses of power (section 2.2.3) such as insufficient or misleading information sharing.

4.4.3 Level 2 – Success

For an organisation to be resilient and to have the capacity to sustain change in society within the biosphere, people are not subject to conditions that systematically undermine their capacity to meet their needs (Ny *et al*., 2006:61-77; Robért *et al*., 2000:243-254; Robért *et al*., 2002:197-214; Waage *et al*., 2005: 1145-1163). Following from the fourth Sustainability Principle, we logically deduced that an organisational system for governance must not undermine the capacity for its members to meet their basic human needs. Organisations can build this principle into their overall vision that includes their core purpose and core values, aligned with the Sustainability Principles.

4.4.4 Level 3 - Strategy

The Golden Rule

As described in section 2.2, the Golden Rule is encouraged to guide decision makers when utilising the in the Social Template. Decisions about appropriate actions to take towards the organisations vision are substantiated against the 'Golden Rule Test'. Decision-makers ask themselves 'would we, the decision-makers, like to be subject to this kind of decision-making' that

takes into account principles of participation, transparency, dialogue, responsibility, and honesty (Robért *et al*., 2005). We recommend all members utilise the Golden Rule test when developing measures as it instils empathy as the starting point for selecting appropriate actions. Further, the strategic process guidelines developed (and explored below) also instil the principles of empathy, participation, transparency, dialogue and responsibility in a manner that guides concrete actions. The 'Golden Rule Test' and the presented guidelines are complimentary components of a strategic approach to social sustainability.

Strategic Process Guidelines for Sustainable Governance.

The following list of consolidated strategic process guidelines is derived as explained in methodology section 4.2.4. They are intended to be integrated within the overall organisational strategic management process for planning and prioritising sustainable development initiatives, to guide governance change strategies. There is no 'right' way to conduct a change initiative, and therefore it is important to avoid guidelines that are detailed and prescriptive, since that can hamper the resilience and adaptive capacity necessary for a world in constant change. The guidelines are intended to provide a conceptualisation of the organisation as a living system comprised of individual members aspiring towards their own visions, as well as the purpose and vision of the organisation.

The guidelines are proposed to act as checkpoints to guide organisations towards building skilful members[11] that are engaged, committed and prepared for the change effort. Most importantly, they are designed to facilitate growing and sustaining shared mental models among all members: first, exploring the vision, and second, asking how to collectively approach it. Building shared visions is one of the essential ingredients for growing motivation and commitment. The guidelines are thus general considerations from which organisations, through dialogue, can form and create how they want to be governed for best results. The governance change strategy is then reflected in the company vision, business goals, codes of conduct and action

[11] Skilled employees constitute organisations most valuable resource. What characterizes a skilled member has moved from focusing on functional knowledge to more intangible assets as skilful communication, networking, problem solving and co-learning. Organisations today need to continually enhance members' skills to respond to the emerging demands of customers, investors and society as a whole.

planning. The strategic process guidelines for sustainable governance are as follows:

1. Practice systems and upstream thinking.
Organisations are complex and dynamic social systems, consisting of individuals, interfacing with a diversity of stakeholders and existing within society. Sustainable development calls for a whole systems perspective to planning since a linear and fragmented approach has proven poor ability in identifying systemic solutions that helps designing out problems (Doppelt, 2003).

Generating commitment to change towards sustainability requires that members can clearly see the necessity to do so or otherwise the system will maintain its current status quo. The dominant belief system within an organisation is a strong balancing force against new ideas until a compelling case for change is made. Systems-thinking[12] can help provide the understanding of why and how the organisation should change. Integrating systems thinking into organisational practices can help raise awareness on the necessity to alter the organisation in line with more sustainable practices as well as the ability to identify where in the organisational system to intervene to lever results (Gibbons, 2000: 20-23). Leverage for sustainable change lies in targeting root causes rather than symptoms and being proactive rather than reactive.

What might the practical application of this guideline imply? Through continued practice on thinking systematically and laterally (i.e. as opposed to linear, cause-and-effect), members can enhance their capacity to distinguish symptoms and root-causes for unsustainable outcomes. An action is the practice of problem solving through drawing causal loop diagrams that show interrelationships of various factors hindering/facilitating progress (see Appendix 3 for example). It can develop member potential to see patterns of interdependence underlying problems and differences between short- and long-term consequences of actions (Senge *et al*., 1999). We encourage organisations to engage in actions (e.g. stakeholder forums) that enhances awareness on how the

[12] Systems thinking is the process of model creation dealing with stocks, flows, delays and feedbacks in a system, using causal loops diagrams and systems analysis. Systems thinking can be integrated into the backcasting methodology to identify upstream causes as well as leverage in the system for large scale change (Robért *et al*, 2005, Senge *et al*., 1994).

organisation creates value, what processes are involved, what stakeholders are affected, etc. Members and stakeholders can be invited to identify where the Sustainability Principles are violated and brainstorm alternative solutions using systems thinking tools.

2. Align vision with aspirations.
With the understanding of organisations as social systems, the aspirations of its subsystems (members) and the purpose of the whole (organisation) provide a lever for tapping into sources of engagement and commitment. Research shows that motivation spurs when people are engaged in issues that deeply matter for them (Senge, 1999, 2006; Doppelt, 2003). When an organisational vision and values are aligned with members' aspiration and values, commitment and morale is thus likely to increase[13]. If the organisation can find ways to link its vision to the personal aspirations of the members, it has a greater chance of building long-term engagement to support the sustainable development effort. Members will be far more effective learners if they go to work with a sense of purpose, and have the opportunities to turn their commitments into productive actions (Senge, 2006).

What might the practical application of this guideline imply? Members can be invited to co-create the vision and strategy for the sustainable development effort. Engaging in dialogue on what gives the organisation life and purpose provides opportunities for members to reflect on their own values and aspirations and how they are (or not) aligned with the organisation. One practical example is to have the human resource department facilitate development sessions to dialogue with members and share personal aspirations and how this might be achieved in concert with aspiring towards the organisations vision. The common pursuit of sustainable development can provide members and organisations with a meaningful purpose within which common values and commitments can be pursued.

3. Engage all members.
All parts and subsystems within living systems, organisations included, are engaged to achieve the overall purpose to ensure adaptability and

[13] The 2002 GlobeScan International (public opinion and stakeholder research agency) survey showed that eight in ten people working for a large company felt greater motivation and loyalty towards their jobs and companies the more socially responsible their employers became.

resilience. Diminishing the capacity of some parts might cause system to operate below potential and even fail (Doppelt, 2003). Engaging all members not only implies that members are contributing in forming and pursuing the organisations vision, but also are given the opportunity to continuously grow and develop through ensuring capacity to meet their needs.

What might the practical application of this guideline imply? Members and stakeholders can be engaged in the organisations processes for continued planning and decision-making. This should not be interpreted as all members and stakeholders need to be engaged in the same way or to the same degree. It is important that all members are recognized and supported as important contributors, and not treated as disconnected parts. Stimulating members to engage in stakeholder dialogue and partnerships can be one valuable strategy to reach members engagement and commitment[14]. It provides great learning opportunities and members can contribute new knowledge and leadership skills back to their organisation.

4. Ensure adequate resources

Due to the interdependent nature of living systems, capacities and deficiencies in one subsystem or part will ultimately affect the productivity and effectiveness of the whole *(*Robért *et al.,* 2005*)*. Every component of a system requires adequate resources for pursuing its role, or the effectiveness of the whole is undermined. Members of organizations need to have adequate resources to accurately understand and contribute to the vision and purpose of the organisation. This involves having access to informational, social, pedagogical, technical and financial resources.

What might the practical application of this guideline imply? Through analysing the organisations processes in relation to vision, strategies and goals gaps in resource allocation can be identified. Is resource allocation

[14] A survey from the Corporate Citizenship Company indicates that employees who are involved with community programmes through their work place are significantly more likely to recommend the company, stay with it, and be motivated in their jobs.

and distribution sufficient and aligned with the needs of the organisation? Engage in dialogue with the members from the question: "Do you have what you need in order to pursue your roles and responsibilities? If not, how can we improve?"

5. Ensure continued learning.
A successful organisation is capable of rapid learning and adaptation (Ackoff, 1997:23-37) and the ability to learn is even critical for organizational survival (Montuori, 2000: 61-73). Continued learning is one of the most important mechanisms that can help organisations to overcome new barriers and adapt to challenges in a rapidly changing environment. All learning derives from experience, and mistakes are a good source of learning that spurs from practicing how to identify, diagnose and correct them. We encourage organisations to practice learning in an action-oriented rather than adaptive way. Adaptive learning can be described as a reactive form of knowledge expansion, which involves searching direct solutions for immediate problems. Action oriented learning involves turning real problems into a learning laboratory. The learner then seeks both to learn how to resolve the problem and learn from their experiences through a balance between action, evaluation and reflection (Doppelt, 2003).

If people are motivated to learn continuously, both individually and in group settings, increases the overall flexibility and adaptive capacity of the organisation. It is important to not only stimulate knowledge expansion within individuals and their teams, but also to be spread across all different departments, to avoid the ´siloed´ thinking that prevent system wide solutions to be created. Planning for sustainable development is truly challenging due to its complexity, and the opportunity to learn and work together with this common challenge can become sources for fulfilment, pride and loyalty within the organisation. Training in social and environmental (sustainability) dilemmas is in itself a great source for building skills that will be useful in many situations; from leadership and team-working, to negotiating and problem-solving (Doppelt, 2003).

What might the practical application of this guideline imply?
Organisations can for example support teams to be formed around specific (social and environmental) problems and provide resources to engage in forming solutions for improvement. These teams can be cross-

departmental, so that members at the same time learn from different sectors and enrich each other's understanding. In areas where capacity building in specific areas is needed, in house trainers and facilitators can be trained to train their co-members. We encourage experiential oriented learning that for example can imply forming learning groups around topics as; identify future potential risks related to sustainable development (e.g. new policies, legislations, costs, consumer demands, resource scarcities, etc) and present scenarios how these might affect the organisation. Important sources for learning come also from expanding learning outside organisational boundary and inspire members to learn in partnerships with civil society organisations and local communities.

6. Practice dialogue

Living systems develop through cumulative mutually reinforcing patterns of interaction (Harder *et al.*, 2004:79-104). In social systems, development depends on our capacity to reach agreement, to work cooperatively and collectively towards our shared purpose. Dee Hock (1999) emphasises that language is our primary tool to reach agreement, although its use is complicated by the fact that every word uttered or written is ultimately conditioned by sets of experiences, values and beliefs of the contributor, and interpreted by the recipient by quite another. Relationships of agreement are complex, and yet to derive a common purpose, dialogue is necessary to expose the paradigms of the members to come to a shared intent, direction and principles of engagement and pursuit (Hock, 1999). Organisations can practice dialogue by allowing space (physical and psychological) and commitment to the process; the outcome of which is increased trust and energy to reach organisational goals (Hock, 1999).

An organisational system wherein the parts are trained in open and dialogic communications is likely to have less unresolved conflicts that sink resources and consume energy (Bohm *et al.*, 1991). Learning effectively from others requires creation of a culture in which constructive conversation and discussion is continuous (Ackoff, 1997:23-34). The art of dialogue is an effective means to spur co-learning and arrive at shared understandings. Dialogue means to be able to expand common understanding through the ability of suspending thoughts, impulses and judgement. It is a way of exploring hidden values and intentions that influence our behaviour, and provides an arena in

which collective learning takes place and out of which a sense of increased harmony, fellowship and creativity can arise (Isaacs, 1999).

Dialogue is not discussion or debate. These forms of conversation contain an implicit tendency to hammer out an agreement or have one's opinion prevail. In dialogue, a group of people can explore the individual and collective presuppositions, ideas, beliefs, and feelings that subtly control their interactions. It can reveal the often puzzling patterns of incoherence that lead the group to avoid certain issues or, on the other hand, to insist, against all reason, on standing and defending opinions about particular issues (Bohm *et al.*, 1991). It can be of great value for organisation to engage stakeholders in continued dialogue to acquire information about the surrounding world wherein organisations experience themselves as the centre. From the stakeholders' eyes, the organisation might be the periphery and can help identify new opinions that might affect future success (Larsson, 2005).

What might the practical application of this guideline imply? At the essence of dialogue is learning through unfolding a process of creative participation between peers. After having learnt the basics of dialogue, the organisation finds settings in which it can help to enhance understanding and learn together. For example dialogue can be practiced as team inquiry in to problems to learn more about underlying factors and explore possible ways forward. Dialogue can facilitate an exploration of member suggestions for how organisation can improve their practices and to conduct surveys on progress in relation to strategic goals.

7. Stimulate free creativity within basic constraints

People have an inherent need for creation. We encourage fostering an innovative culture where members are encouraged to try out new ideas and feel comfortable with making mistakes. If members are allowed to have ownership over work objectives and feel they have the freedom to act under their own initiatives, motivation to contribute to organisational success will increase[15]. Human beings have an inherent desire to create, and grow confidence and trust by being rewarded for participating in co-

[15] Jake Reynolds, *Helping People Learn*, 2002, CIPD Research report. Cambridge Programme for Industry, Cambridge University, UK

creating solutions that benefit the organisation (Fritz, 1996). A prerequisite for engagement is that the organisation provides clarity over roles, rules and responsibilities, and that these are continuously revised. This in turn, requires a clear understanding of organisational vision and strategies to ensure that all actions will pursue the desired direction

Sustainability is a highly complex issue to grasp, and it is easy to become overwhelmed by existing threats. Threatening messages can be necessary to undermine the current status-quo, but it is important that it leads to open people up for new ways of thinking, to see the opportunity and joy that lies in co-creating solutions and new innovations for a sustainable future (Doppelt, 2003).

What might the practical application of this guideline imply? Organisations can begin a process of inviting members to participate in awareness raising events to understand the Sustainability Principles and generate solutions to align the organisations' vision, purpose and culture with them. After engaging in a process leading up to clarity over roles and responsibilities in relation to vision, the organisation can encourage member to present alternative ways of how to conduct their responsibilities within these constraints. Individuals and departments can address their own strategic goals and identify measures and processes that align with the overall organisational vision as well. Clear roles, responsibilities, purpose and overarching principles of conduct are the essential constraints within which individual and group creativity emerges by our innate capacity to self organise (Doppelt, 2003; Hock, 1999).

8. Create feedback systems and measure progress.
Living systems have the ability to learn and adapt when fed by inputs of information (Wheatley and Kellner-Rogers, 1995:6-10). Feedback in the organisational system is an iterative process that allows for responsive and creative change when necessary (Montuori, 2000: 61-73). This guideline supports creating feedback systems that ensure understanding, and monitor, encourage and reward progress. The process involves continually producing and distributing readily understandable information about the intentions of the organisation as it relates to all elements of the sustainability plan, including, the vision for what the organisations members seek and the goals and the strategies for how to reach success. We encourage distributing all necessary information,

while also ensuring that all members have metabolised it to be able to start practically bridging the gap between current status and desired future. In other words, produce and disseminate all information (environmental, social and financial) in a transparent and interactive manner to provide the feedback needed for continued learning and improvement. The vision and strategies for sustainable development need to be tirelessly communicated to become infused in the organisational culture.

In addition, beyond communication purposes, the organisation needs feedback systems that incorporate continued monitoring and auditing of progress towards goals. Reward systems can be designed to take into account the contribution of individuals and teams toward longer-term social and environmental goals as well as short-term financial objectives. By encouraging and rewarding progress in alignment with the organisational (sustainability) vision, engagement and commitment will grow.

What might the practical application of this guideline imply? Ensure that sustainable development objectives are clearly reflected in members' personal targets and rewards. The organisational vision for sustainable development can be reflected in a performance evaluation, remuneration and personal development plans. A bad example would be: performance bonuses for a procurement team dependent on achieving lowest cost contracts. It would be little surprise if they display waning interest in the working conditions of the supplier base. The challenge is to create feedback systems with opportunities and incentives that maximise employee contribution to organisational performance. Analyse existing information-, monitoring- and auditing systems and ensure they sufficiently provide necessary information on progress (or lack thereof).

9. Provide opportunities for reflection.
Reflection is an important part of acquiring the ability to continuously reflect on how to improve performance, also called double-looped learning[16]. Successful change initiatives have a balance between action

[16] Single-loop learning can be described as occurring when the emphasis is on 'techniques and making techniques more efficient'. Any reflection is directed toward making the strategy more effective. Double-loop learning, in contrast, involves questioning the role of the framing and learning systems which underlie actual goals and strategies(Usher and Bryant: 1989)

and reflection and afford people with "white space" (i.e. opportunities to think and reflect without the pressure to make decisions) (Senge *et al.*, 1999). Reflection is not only an individual activity. Engaging in reflective conversations together with co-members increases the capability to build shared understanding and to coordinate effective action (Senge *et al*., 1999). Our basic needs for understanding, identity and idleness can be synergically met by measures developed in line with this guideline. We recognise that organisations are dealing with constant time and resource pressures. Therefore creating opportunities for reflection might not be a strategic priority. Reflection can, however, allow for members to deliberate and consider their actions and behaviours, potentially leading to more productive actions, less time spent on correcting mistakes, and overall improved financial performance.

What might the practical application of this guideline imply? Providing opportunities for reflection can be approach in numerous ways. For example, when members are introduced to new tasks they are also given the assignment to verbalise how they intend to solve and conduct the work. The ideas can be explored verbally through reflective dialogue with a colleague and/or superior. When the task, or tasks are completed, members ask themselves, 'how did we do, what can we learn, how did I contribute to this success/failure, how can we/I improve?' These questions can guide a post-action reflection in an iterative learning process.

10. Cultivate a healthy environment

Members are part of their organisational system, as well as other systems beyond the organisations boundaries. Appropriate considerations are required to ensure that members are contributing in an optimal manner and interacting with other members and the physical environment such that health and well-being is prioritised. If organisations provide a suitable work-life balance and clearly demonstrate a concern for health and safety – then staff morale and commitment will increase, reducing staff turnover and boosting productivity (Reynolds, 2002).

What might the practical application of this guideline imply? Compliance with existing environmental safety and health laws is the minimum requirement for a healthy environment. The built environment can greatly influence a members' health and the vitality of relationships

and member interaction. Organisations can let their members participate in suggesting their vision for a working environment that would be inspiring to work in. Green spaces and natural lighting systems, organic paints and the design of the work-space such that it is not psychologically isolating are a few means for creating a healthy environment.

We will describe the process of integrating the guidelines within an SSD framework in section 4.5.

4.4.5 Level 4 – Actions

All actions that an organisation and its members take to be strategic for sustainable development are considered at this level (Level 4). Each guideline above provides opportunities to develop actions that organizations can take to improve their social sustainability performance. Appropriate actions are those that lead us to improve our social fabric, build capacity for continuous improvement, and assist with monitoring and evaluating our progress.

4.4.6 Level 5 - Tools

Members and decision makers of organizations choose the appropriate tools to apply their actions strategically to support the overall change process. There are three categories of tools: capacity building (e.g. team-building and training), system assessment (e.g. monitoring technology) and strategy tools (e.g. backcasting from principles and management systems).

4.5 Process of implementation

4.5.1 Introduction

The above guidelines are intended, as mentioned, to be part of the overall SSD process. In this final section we provide examples on how the process guidelines can be integrated in the organisational strategic management process. We recognise that what we present below is a simplified outline for integrating the guidelines, and requires adjustment for each organisation. To inform the strategic management process with the strategic guidelines we applied our pre-existing knowledge of strategic sustainable development (see Robért *et al*., 2005). In addition, interviews with experts and practitioners supported the development of our outlined approach.

4.5.2 Awareness raising

Before new practices and innovations can be integrated within an organisation, dominant perspectives about how the organizations does, and 'should' operate requires surfacing and testing; otherwise we fall prey to familiar and comfortable patterns (Senge, 1990). Preceding the strategic sustainability planning process usually includes working with awareness efforts of various scopes to build a case for change towards sustainability (e.g. basic science, systems thinking, basic human needs, the current status of the biosphere, and the four system conditions, etc). We suggest including a dialogue on:

- Organisations as living and complex systems, and how systems can build adaptive capacity.
- Organisational governance and power dynamics that influence member interaction and relationships.
- The necessity of removing barriers for human needs within an organisation and how this can support building capacity for change over the long-term.
- The content within the guidelines and how they relate to governance (see 4.2; revised social template).

- Barriers within the organisational system that inhibits sustained change.

- The relations between all of these abovementioned concepts and how they can reveal leverage for activating a self-reinforcing energy that improves change initiatives.

4.5.3 Strategic management – the Deming Cycle

The classical Deming Cycle[17] is a commonly used simplified model to illustrate the continued process of strategic management and continued improvement. It is known as the PDCA-cycle for plan, do, check and act/analyse. We will explore strategic sustainable development for organisational governance through this approach.

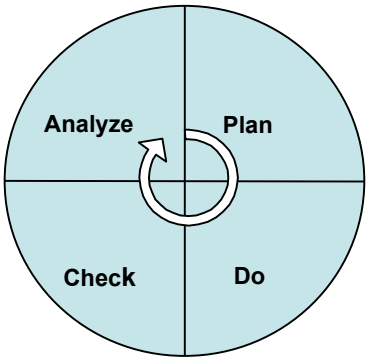

Figure 4.1. The Deming Cycle for strategic management

The planning phase

The planning phase involves answering the questions: *what does success look like, how do we plan to achieve success and how do we prioritise*? Our research results are to be used to guide organisations to redesign their

[17] The cycle is named after professor W Edwards Deming, former professor at Massachussets Institute of Technology (MIT). The PDCA cycle was originally developed by Walter A, Shewhart, a Bell Laboratories scientist who was Deming's friend and mentor, and the developer of Statistical Process Control (SPC) in the late 1920s. Sometimes the cycle is referred to as the "Shewhart Cycle".

governance systems to effectively implement sustainable development in their practices.

Depending on the organisations current status, change capacity (see Appendix 2) and size, the scope of efforts needed in the first phase naturally varies. If organisations ask for consulting support in the process of answering the questions attached to the planning phase, the consultant needs to be sensitive to what degree they should intervene. We suggest that it is more sustainable to strive to empower the organisation to run the process internally, and not become dependent on the consultant. The proceeding process is utilised by The Natural Step to assist organizations with strategic sustainable development; we have integrated our results in this context.

Vision building

Initially, the organisation decides on a process for how to align its vision, purpose and core values within the constraints of sustainability. If a SWOT (strengths, weaknesses, opportunities and threats) analysis is conducted in order to gain an adequate assessment of the current state, we suggest tools for assessment (Appendix 2) for internal operations concerning: 1. Organisational readiness for change; 2. Analyse existing governance system in relation to our guidelines. As with operations, accurate analysis of 'how do we govern now?' is important when developing a governance change strategy (Doppelt, 2003). Depending on the situation, organisations can decide to undertake wide member and stakeholder assessments (Appendix 2) to acquire a deeper knowledge on the various aspects of basic human needs, their governance system, and current change capacity. If the organisation decides not to conduct extensive assessments, it can instead form teams that, through dialogue, explore questions relating to the strategic process guidelines (both methods can be approached in concert, though):

- How do we ensure that our members/stakeholders acquire a whole-systems perspective on our operations?

- How do we ensure that our members/stakeholders have adequate understanding enabling them to think proactively rather than reactively?

- How do we ensure opportunity for personal aspirations in pursuing organisational vision?

- How do we engage members/stakeholders in continued planning and decision-making?
- How do we ensure that members/stakeholders have adequate resources to act towards vision?
- How do we ensure continued individual- and co-learning?
- How do we expand and practice our dialogical communication skills in our daily operations?
- How do we encourage our members/stakeholders to contribute and test their own ideas?
- How are feedback systems aligned with the organisational vision for sustainability?
- How do we reward and monitor progress?
- How do we provide opportunities for reflection so members continuously learn how to improve operations?

What initiatives and/or programs are in place to ensure a healthy working environment for our members? The answers to the questions above are then scrutinised by the team members and individuals by asking, "is this sufficient?" If the answer is no, it follows; "how can we improve?" The results from the assessments/group dialogues provide an aspect of the current status that can be disseminated to all members. The next step is to decide if and how the organisation wants to create a governance system that is in compliance with the strategic process guidelines. We suggest inviting members and stakeholders in this process. This can be part of the strategic planning process that could include:

1. *Revisit and recreate the organisational vision, core purpose and strategy within sustainability constraints*.

Members and stakeholders are invited to contribute to and reflect on the organisational vision, core purpose and strategies. We will not proscribe a method for the process but give and example how an organisation,

Scandic Hotels[18], have incorporated the social aspect of sustainability within these areas:

Part of vision: "In the new millennium Scandic is:

- A good citizen of society
- An attractive place to work, where members of staff are co-owners.
- Known for our high quality of services and competence"

Part of mission (how Scandic creates value, what it is good at):

" ´Omtanke´ is the basic shared value" (Omtanke is Swedish for being caring, attentive, positive) " ´Omtanke´ encompasses much more than just good service. It is an attitude; a way of life. Examples of omtanke are a positive attitude to being there, co-operation in order to look after others well and showing attentiveness. …. Taking your share of the responsibility, co-operating and sharing your knowledge are important for a good working environment. Rapid, open and direct communication means a great deal for participation. Care and mutual respect also makes it pleasant to work with people.

Don't forget yourself. A prerequisite for ´omtanke´ for others is that we as members of staff are fairly happy with ourselves. It is a matter of working with the right preconditions, providing support and noticing the results of peoples work. It is also about achieving a balance between life at work and your personal life. You need to work, but you also need to be happy and you must want to stay with us for a long time….. We want to encourage commitment within society and support of local activities. By creating networks both at work and in our leisure time we can carry out good work and strengthen the relationships with the world around us…. We must offer a secure and meaningful job in a developing environment".

Excerpt from Strategy:
"We will actively continue our environmental and social commitment. We will be an attractive employer and be valued highly by customers and guests."

The above excerpt is from Scandic's phrasing of vision, mission and strategy. It reveals one example how the content from the social template can be translated into organisational vision. The content was thereafter closely linked to what it means to be a leader pursuing and energising the movement of achieving the Scandic vision.

2. Forming the Action plan
From the description of the vision, core purpose, values, an action plan is formulated presenting the organisation's goals, responsibilities, financial requirements, monitoring provisions, and indicators of successful

[18] From "Being a Scandic Manager", 1997, published with permission from Roland Nilsson, former CEO.

outcomes. The outcome from the previous sessions may result in concrete goals related to social sustainability within the organisation.

Example:

Goal – All staff members feel that they are listened to and valued for their ideas and contributions.

Various suggested indicators relating to goal:

- 40% increase in testing and implementation of ideas received from members.
- New system implemented for inventory of member ideas (Yes/No)
- 5 innovations/ideas received from members tried out.

Doing and implementing

The next phase of the Deming Cycle concerns implementation, and answers the question: ”*How can we be efficient?”* If the organisation is experienced with process development, we suggest unfolding the system for governance in the same manner.

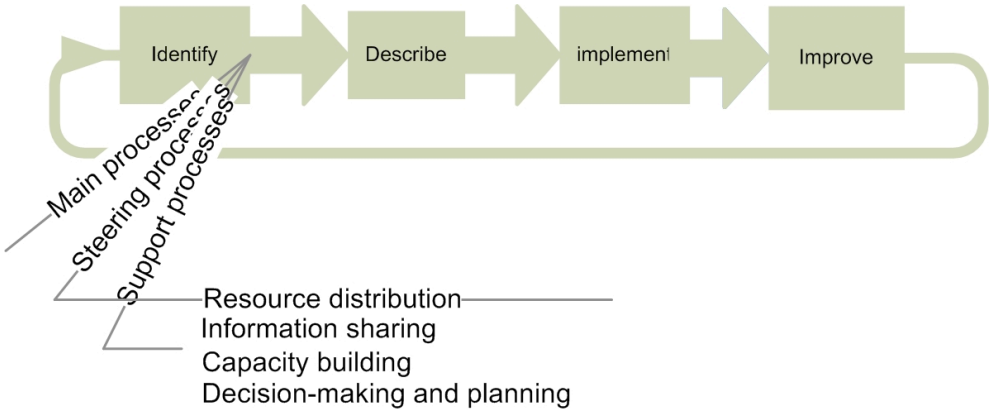

Figure 4.2. Continued process management.

Process development can be divided into main, steering and supporting processes. Issues for governance can be found in both steering as well as support processes. One suggested way to proceed is to unfold the processes for information gathering and sharing, decision-making and planning and resource allocation and distribution as a start. If there is a need to go deeper within the different processes, we suggest revisiting the guidelines to find areas for improvement.

Checking and analysing

We will briefly touch on the two last phases of the Deming Cycle. The check phase involves answering the question "*How do we check that we develop in the right direction*?" The act/analyse phase means answering the question "*How can we continuously improve*?" We recommend that the monitoring and auditing of governance change strategy is, if possible, integrated in the existing management systems that organisations use (e.g. auditors of ISO 14001 can be trained to monitor social sustainability aspects). This further adds to the aspiration of working with a whole-systems perspective. Creating new systems for monitoring and auditing involves creating more work and costs that might diminish motivation for sustainable change.

We explored how to use the Deming Cycle as one means to integrate SSD with governance systems. The Deming Cycle is a staple of planning and management, thus, it is widely known and used, in addition to communicating sustainable governance in language strategists understand. The Deming Cycle and sustainable development share some complementary perspectives (Rushinko, 2005:54-61). Both incorporate an integrated approach to planning and action that takes a long-term view, and acknowledge the importance of participation and improvement of members for empowerment and engagement.

5 Discussion

5.1.1 Research strengths

Our research synthesises the concepts of systems science, basic human needs and organisational change in to a comprehensive approach for organisational governance integrated within an overall SSD context. With limited previous research on these concepts as they relate to strategic sustainable development as well as the 'business' case for social sustainability, we believe our findings will be the starting point for an important area for further research. Our results were supported and well received by the practitioners that we interviewed.

As stated above, the feedback from experts and practitioners has mainly been positive, stating that what we have developed is intuitive and contributes important factors to address when planning for sustainability. Our solid methodology to derive the guidelines was enhanced by checkpoints with expert and practitioners along the way. We do recognise though, that the number of practitioners and informal dialogue technique for our interviews comprised our capacity ensure absolute validity.

We still trust that our results are of value to practitioners interested in how to foster their organisations in a sustainable direction by altering governance systems that undermine member capacity to meet their basic needs. . The area of our research has been the subject of limited studies and so, by bringing light on it, hopefully it will lead to continued research.

5.1.2 General considerations

Building Engagement

What we are proposing are means to build engagement and personal commitment, which is complex; identifying a one-method-fits-all is not our intention. Counterproductive to our aim, imposing a structure for how to create engagement might be non-inspirational. Instead, the guidelines are intended to create aspirations for how the organisational could be structured in order to harness the creative tension between the desired future and the current situation – on a personal level and organisation-wide. The application of the suggested guidelines is intended to support the creation of shared mental models of a vision and comprehensive strategy for sustainable

development within the organisation, which can become an important source for enthusiasm and energy that can determine the success-level of the change initiative. They can foster an energising working atmosphere that inspires people to take action, and encourage contribution with highest potential to the development of the organisation

Return on Investment

In any SSD change process, gaining short term 'wins' and effectively communicating those wins can be effective to generate motivation and encouragement for further progress. Investing in a governance change strategy and compliance with suggested guidelines involves few apparent returns on investments (i.e. it is difficult to demonstrate explicit short-term wins as changes in structures and processes takes time before resulting in new paradigms). As organisations embark on the journey where sustainability is the destination, it is important to recognise that reaching the desired results through profound change is often a long-term investment - time, financial, and social and human capital expenditures. After harvesting 'low hanging fruit' (i.e. small successes to build energy and commitment), perseverance is required to reap the benefits of sustainable development.

Working with change is complex and re-learning takes time. Motivation from all members of an organisation is required, and commitment from the core decision-makers is essential. We are aware that the guidelines and strategic approach to social sustainability is difficult to implement when individuals hold closely to the power they want to retain. We are also cognisant that our recommended approach will not build a strong business case and motivation for large corporations that seek primarily short-term return on investments. What we are proposing is potentially one of the most difficult change initiatives in sustainable development: challenging and changing mental models of people's perception of their interdependence within the system.

5.1.3 Validity

Validity of literature research

Our literature scan revealed that the discourse on organisational change is primarily business-focused. Our intention of developing generic guidelines for any organisation has mainly been influenced through a business lens.

Therefore, there may be limitations to applying results to non-profit organisations or ad-hoc network organisations. We recognise the significant limitations we posed on ourselves by limiting the scope for organisational change research and the barriers that prevent sustainability to two main authors. However, as an early attempt to reconcile these challenging interrelated concepts, we hope that our thesis provides a good basis for further study in this area.

In addition, there are multiple interpretations for how systems science can be used to understand organisations. While research that links the natural sciences and organisational development is emerging and becoming widely accepted for understanding the organisational system, there are significant caveats (Burnes, 2004). Organisational complexity and chaos theories have been derived from various disciplines including biology, physics, chemistry, and mathematics. The application of these theories in an organizational context and approach to capacity building is under-researched.

Consultation with experts and practitioners

Our consultation with researchers followed the guideline of selecting individuals with previous knowledge of the SSD framework. While allowing for an easier flow of dialogue without awareness building needed of our core concepts, the limited scope provided narrow feed-back.

A few comments included the necessity to expand the scope to beyond the organisational boundaries (e.g. supply chain). While this critical comment is important, our research focused solely on the internal social aspects due to time constraints.

Another challenge to our validity is that we did not use a coherent formulation of questions to use consistently in all interviews. We chose to engage in dialogue and prompt the experts and practitioners with general questions related to their arena and experiences. We recognise that the spatial and temporal restrictions of our research agenda limited the possibility for us to go in depth, as we would have preferred. If possible, we would have included a wider range of interviews, and interview methodologies, to guide and support our findings.

6 Conclusion

Our research began with the intention of identifying concrete barriers to systemic change in organisations, and identifying how to integrate an understanding of basic human needs into strategic sustainable development. In addition, social sustainability and profound organisational change are intimately connected because of the human dimension they evoke. This requires altering the structures and processes of an organisation in order to foster new behaviours and new ways of working collaboratively. As mentioned, we elaborated on the strategic approach of the existing Social Template, which uses the Golden Rule Test as a generic principle to scrutinize decision-making. We believe that the Golden Rule alone is insufficient to guide concrete action, and show in this study an expansion of the practical application of the Social Template and planning in complex systems, and the practical implications of basic human needs integrated into an organisational context.

We found that organisational structure and system for governance can contain barriers impeding success that might be hard to identify because of the nature of hidden power dynamics, causal relationships and interrelationships that do not show on an organisational chart. We suggest that identifying these hidden dynamics and structuring governance to allow for self-organisation, interdependence and diversity is an effective means to build capacity for continued change. This, in turn, needs to be linked with leadership that is effective in energizing members to bridge the gap between current reality and desired future. Our strategic guidelines are developed with the aim to support this process:

- Practice systems and upstream thinking.
- Align vision with members' aspirations.
- Engage all members.
- Ensure adequate resources.
- Ensure continued learning.
- Practice dialogue.
- Stimulate free creativity within basic constraints.
- Create adequate feedback systems.
- Provide opportunities for reflection.
- Provide a healthy working environment.

Strategic management can be integrated with these guidelines and can support the building of engagement and commitment of pursuing the organisational vision, as they address the human aspect of organisational development.

Recommendations for further research

With the limited temporal scope of our thesis we feel there are vast areas to explore in the field identified through our study. We would like present two paths to be explored:

Continued research. There is an abundant gap in the literature regarding organisational systems and structures for creating environments conducive to sustainability. We suggest further research on the links between social sustainability, systems science, basic human needs and organisational change. The disciplines of learning organisations may contribute to the understanding of the individual-organisation dynamic. In addition, exploring the implications of altered organisational structures on mental models would be an asset as well in a case study or broad organisational study.

Practical testing. How can the strategic process guidelines and backcasting from sustainable governance be applied in a variety of organisations? We suggest our results being applicable to any organisation and this can be tested through action research. In addition, we also suggest further testing of our findings with a panel of experts, with the intent to improve the validity and applicability of our results.

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Appendices

Appendix 1

Places to Intervene in a System (in increasing order of effectiveness)

Donnella Meadows. 1997. Whole Earth 91: 78-85.

12. Constants, parameters, numbers (e.g. subsidies, taxes, standards)

11. The sizes of buffers and other stabilizing stocks, relative to their flows.

10. The structure of material stocks and flows (e.g. transport networks, population age structures)

9. The length of delays, relative to the rate of system change.

8. The strength of negative feedback loops, relative to the impacts they are trying to correct against.

7. The gain around driving positive feedback loops.

6. The structure of information flows (e.g. who does and does not have access to what kinds of information)

5. The rules of the system (e.g. incentives, punishments, constraints)

4. The power to add, change, evolve, or self organize system structure

3. The goals of the system

2. The mindset or paradigm out of which the system – its goals, structure, rules, delays, parameters –arises

1. The power to transcend paradigms

Appendix 2

Assessments

We present three suggested assessments to be used in strategic planning for enhancing understanding and awareness on the current status of the organisations' governance system and preparedness for sustainability.

1.Assessing the governance system: (Through connecting the assessments to human needs, the guidelines and governance).

Questions directed to members (and stakeholders). To be answered on a scale from 1-6 (1= strongly agree, 6= strongly disagree)

- I have a clear understanding on my organisations purpose, (sustainability) vision and goals.
- I understand how the processes of all departments fit together to accomplish these goals and vision.
- I have a good understanding of the whole value-chain and processes that are related to what we produce.
- I am continuously involved in how we can improve our processes.
- It's clear to me in what way my work contribution is important for approaching organisational vision.

- I have a clear understanding of my role and responsibilities
- I am encouraged to act with freedom within my role and responsibilities.
- When I engage in new assignments I am provided with the support I need to learn how to perform these with full confidence.
- The roles and responsibilities within the organisation are continuously and transparently revaluated.
- I have the resources I need to contribute with my full potential to accomplish organisational vision.

- I am continuously encouraged to expand my knowledge base and I am given the resources for doing so.
- I am continuously expanding my knowledge through working in teams with others.
- I am given the time to reflect on how I can improve my assigned work processes.
- I can clearly see the rewards for contributing to the sustainable outcomes of my actions

- I feel that my participation and engagement is highly needed for organisational success.
- I participate in decision-making that influences my work.
- I am engaged in planning that determines the content and performance of my work
- My organisation encourages me to contribute with my own ideas and test these.

- The atmosphere at my work allows me to speak openly.
- The way we communicate with each other at work builds trust and confidence in my self and others.
- I am allowed to and feel confident to make mistakes.

- My organisation encourages me to build networks and engage in partnerships within and beyond the organisation that supports our vision of success.
- My work is in alignment with my personal aspirations and values.
- I am motivated and committed to my work and the organisations purpose.
- I feel protected (physically and emotionally) when I am at work.

2. Assessing the governance system: Adopted from Doppelt (2003).

Information, feed-back and learning mechanisms

- My organisation/team is explicit and clear about the type of knowledge, understanding and insights needed for success.

- We have taken steps to gather the data we need and to establish mechanisms to turn the data into the required knowledge, understanding and wisdom.
- We have designed ways to share information with all those affected by the activities of our organisation/unit in a manner that helps them gain knowledge, understanding and wisdom.
- My organisation/team actively and systematically obtains ideas and inputs from all those affected by activities in the organisation to learn how to improve our thinking and decisions.
- My organisation provides opportunities for professional development.

Decision-making and accountability mechanisms

- My organisation/team is explicit and clear at all times about the types of decisions that are being made.
- We are explicit and clear about the roles that team members will play in each type of decision.
- We have established clear criteria about if, when and how an external approver can override a team's decision.
- We have explicit agreements related to how decisions will be enforced and accountability is ensured.

Resource allocation mechanisms

- We are explicit and clear about the types of resources we need to achieve our goals.
- We have effective mechanisms to decide how much, when and where each resource will be required.
- We have adopted mechanisms to assure that resource allocations are based on priorities, not power or authority.
- Our decision-making mechanisms provide equitable sharing of resources among key units and stakeholders.

3. Assessing the sustainability initiative: Adopted from Doppelt (2003).

Questions directed to members (and stakeholders). To be answered on a scale from 1- 6 (1= strongly agree, 6= strongly disagree)

Creating a new organisational mental-model and purpose

- The members of my organisation/team feel a compelling need to adopt sustainability practices and thinking.
- My team represents all the key interests and includes the right people with the right skills, credibility, new ideas and intelligence.
- The members of my organisation have a clear shared understanding of what we are striving to create (operationally and culturally).

Designing and testing the new approach

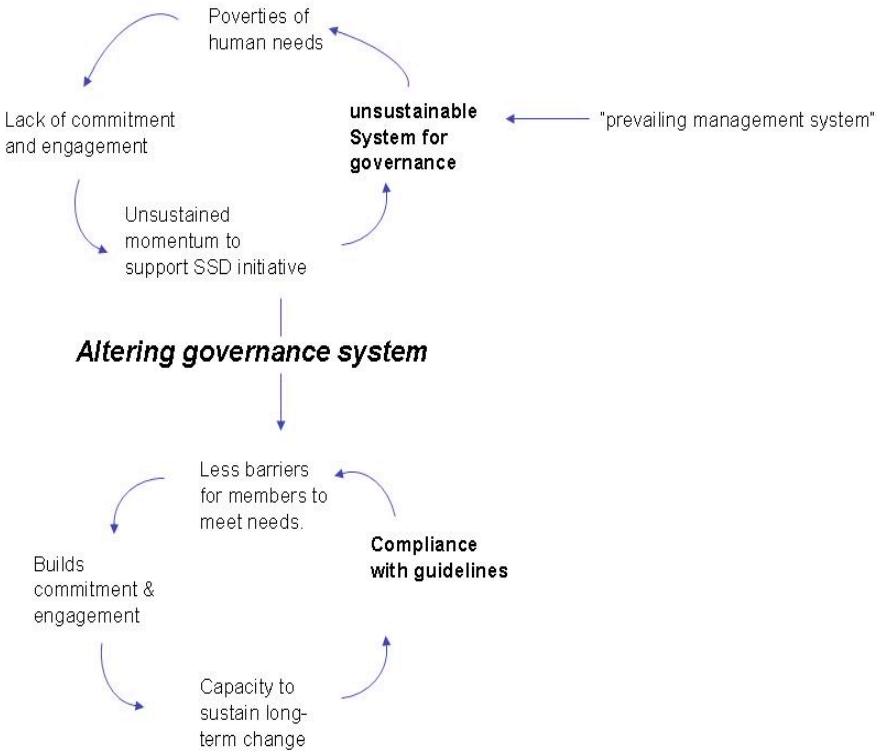
- My organisation/team has adopted effective operational and people-change strategies that directly link to our vision.
- My organisation/team relentlessly communicates our vision and strategies using every possible vehicle and role modelling.

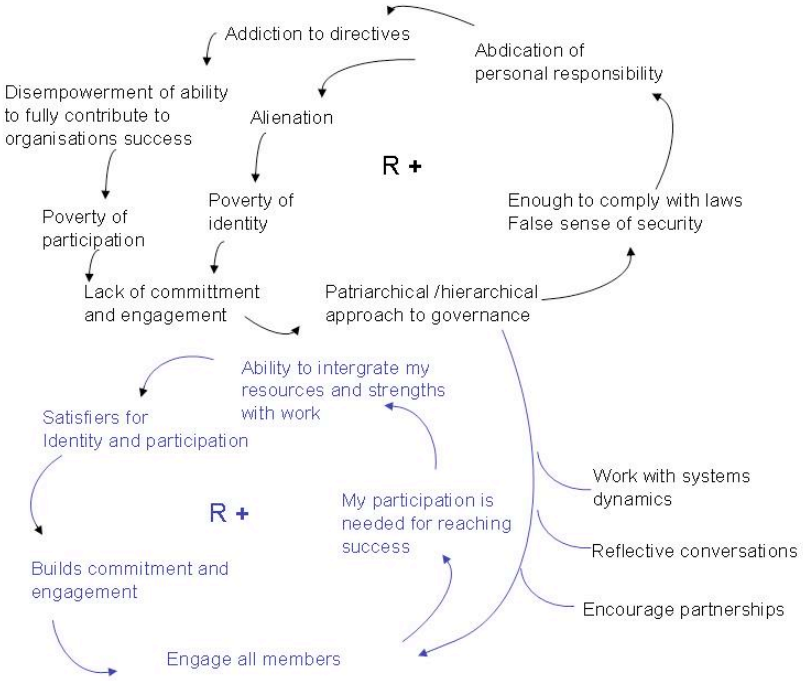
Making sustainability stick and stay over time

- My organisation/team has adopted mechanisms to continually encourage and reward learning and innovation to overcome barriers.
- My organisation/team has taken explicit steps to embed sustainability in standard operating procedures and policies.

Appendix 3

Example of causal loop diagrams showing basic interrelationships.




Addiction to directives
Abdication of personal responsibility
Disempowerment of ability to fully contribute to organisations success
Alienation
R +
Poverty of participation
Poverty of identity
Enough to comply with laws
False sense of security
Lack of committment and engagement
Patriarchical /hierarchical approach to governance
Ability to intergrate my resources and strengths with work
Satisfiers for Identity and participation
Work with systems dynamics
My participation is needed for reaching success
R +
Reflective conversations
Builds commitment and engagement
Encourage partnerships
Engage all members

Appendix 4

Statement of Research Co-Creation

In the spirit of co-creation, what follows is an exploration of our collaborative contribution directed by dialogue and our personal and professional commitment to each other and our research. Our group worked diligently to develop and practice an equitable distribution of work drawing on our individual strengths and interests. In addition, we developed our own individual visions and aspirations early on in the process for what we wanted to achieve, personally and professionally during this time together. What manifested was a created space for each one of us to contribute in a manner that was to the best of our individual capacities. The different roles performed are noted below:

Group development: Early on we collectively developed processes for working together, leading to different portions of contribution. We tried to the best of our abilities to practice dialogic leadership and nurture a supportive working environment.

Research design and methods: A great deal of time was spent developing our research strategy and methodology design. Our personal interests guided the course of concept development and arena of specialty. We used dialogue and shared documents to contribute to and explore how our concepts related together. This is highly evident in the design of our produced research.

Literature Search: We distributed the literature search in terms of collaborative and individual arenas. There were essential concepts that we collectively needed to know and understand. In order to maximize our time, we also undertook research in different areas congruent with interest.

Interviews: Each person was responsible for searching out and contacting organizations and individuals for our expert and practitioner interviews. We all had experience interacting with and interviewing experts, detailing notes and information received, and exploring how their information could be integrated into the research.

Presentations: We all participated in preparing and presenting our research and findings.

Project Management and Communication: All three members shared the role of research communication (e.g. meeting minutes) and project management (e.g. timelines, goals, etc).

Written Thesis: As we began writing our thesis early one, we collectively distributed the concepts to be written for our conceptual framework (e.g. The TNS framework, basic human needs, governance, etc). As the research developed we continued to distribute the writing based on interest and capacity. For the final thesis report, we each took turns writing, editing, formatting, and reviewing all sections.