

# **Transitions governance: Towards a new governance paradigm**

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## **Abstract**

This paper presents a framework for governance in the context of large scale and long term societal change (transitions). We argue that existing theories of governance offer interesting descriptive insights for such a framework, but do not present innovative prescriptive ideas for governance of transitions. In this paper we distill and abstract the basic and more generic notions in a number of key governance fields, and try to relate these to emerging theory on transitions and their governance. More specific, we build upon the interactive governance paradigm and link it to transition thinking and transition management. Our paper thus seeks to outline the contours of transitions governance and develop two operational links in the form of transition governance frameworks for detecting the societal potential for system's change and for orienting the societal system towards transitions.

Keywords: transitions, governance, dynamics, forces, regime.

## **1. Introduction**

Societal transitions are long-term dynamic processes of structural change in which the societal system and its context undergo fundamental changes. The complexity of such transitions is reflected in the diversity of interests, paradigms and practices of actors, in the changing dynamics of both the system and its context in the uncertain and emergent processes of change (Loorbach, 2007; Stagl, 2007). Transition processes take place throughout history, and undoubtedly, take place again driven by fundamental change in international economy, ecology and society. Governance and policy so far do not explicitly deal with transitions, which are inevitable necessary to deal with persistent problems in for example energy-supply, food-production, mobility and climate change. The issues and problems arising during a transition tend to persist conventional forms of intervention (Frantzeskaki and Loorbach, 2008), thereby challenging policy practices and interventions.

In a changing societal context, which becomes increasingly multi-leveled, multi-actor and complex, governance itself is shifting towards more adaptive and reflexive approaches (Meadowcroft, 1997). For societal systems that undergo fundamental changes, a new mode of governance is needed that takes into account not only the structure but also the dynamics of the system. Our research aim is to work towards a governance paradigm that acquires the knowledge and insights of system dynamics by building upon the interactive governance paradigm (Kooiman, 1993; 2003) and further extends it in two ways: (i) by

suggesting a new form of governance structures capable to respond to continuous processes of societal system change, and (ii) by linking the interactive governance principles (co-production, co-allocation co-management and co-evolution [Kooiman, 2003]) with transition management principles (Loorbach, 2006; 2008) taking into account inherent system properties of diversity, dynamics and complexity (Kooiman, 2003).

When developing a transitions governance paradigm, we focus on two fundamentally different aspects of the societal system: (i) radical change of the societal system respecting the dynamics of change is at the core of the societal transitions as processes of system's evolution and (ii) sustainability as the normative orientation of societal change is essential.

Our paper tries to further develop this line of thought. Respectively, the two key research objectives of our governance research include: (a) to add to an emerging view of governance indicating that for societal systems undergoing a transition, governance structures rely on a complex adaptive nexus of interacting actors and systems (Holland, 1995; Kooiman, 1993, 2003; Voss, 2000; Klijn, 2008), and provide our insights and thoughts for such a view of governance (b) to formulate governance principles for transitions governance taking a complex adaptive systems' perspective.

The paper unfolds in five sections. We start by providing an analysis of governance paradigms and how they implicitly conceptualize the societal system, its change and its dynamics (Section 2). For developing transitions governance thinking, we take a three step approach. First, the concepts and principles of transitions governance are presented (Section 3). More particularly, viewing the societal system as a complex adaptive system, we take a systems' perspective and we show how system's characteristics (expressed in the form of diversity, dynamics and complexity) indicate transition governance principles (Section 3.1). We expect that the application of systems' approach to provide a better understanding of societal system transitions and their characteristics as well as of associated governance modes for those systemic features.

Second, we introduce a detection framework that aims at detecting macro-societal determinants of transitions. The macro-social determinants or forces provide insight for the transition capacity or potential of the societal system that are linked to diversity, dynamics and complexity (Section 3.2). Having detected the transition capacity of the societal system, we assume that careful intervention can be designed respectively to the system's state and potential.

Third, the transition governance principles for diversity, dynamics and complexity are associated and operationalized with transition management principles that constitute an orientation framework of transition management (Section 3.3). The orientation framework includes processes tenets to orient societal transitions taking into consideration its diversity, complexity and dynamics. The formulation of transitions governance principles as a modified version of the interactive governance paradigm is the fruit of our governance analysis. Limitations and implications of transitions governance are presented and concluding remarks are included in Section 4.

## **2. Theoretical grounds of governance**

Governance is a relatively new concept used in political studies and public administration literature and signals the recognition by policy practitioners that a mono-disciplinary approach for the societal system produces ineffective means of intervention. The modern societal systems are far too complex and dynamic to manage with conventional hierarchical and/or control oriented means. Thus a meta-level interdisciplinary approach is needed. In the need of a new approach, political science and sociology scholars have integrated and welcomed insights from different fields such as economics (e.g. the new institutional economics view on sociopolitical systems or transaction economics) and social sciences (e.g. neo-functionalistic approaches) so as to enhance the view on the structure of the societal system and on more efficient and feasible means of intervention. Governance as a term and as a concept belongs to the new frameworks that emerged for analyzing and conceptualizing steering mechanisms, methods and intervention patterns to the societal system. Governance “has emerged as an alternative model of steering as a result of what appears to be a decreasing ‘fit’ between institutional structures on the one hand the recurrent patterns of behavior in the environment of these structures on the other” (Pierre, 2000, p.242-243; North, 1990).

We agree with the dual definition of Pierre (2000, p.3) on governance as “the empirical manifestations of state adaptation to its external environment as it emerges in the late twentieth century” and “a conceptual or theoretical representation of co-ordination of social systems and for the most part the role of the state in that process.” In a number of governance studies, different uses of the term governance are presented (see Pierre, 2000; Klijn, 2008). We choose neither to follow nor to replicate such analyses, but mainly to focus on what the distinctive characteristics are those that differentiate every theory and that aid our understanding of the societal system functioning and steering. A governance framework thus is not else than a composite of steering or coordinating mechanisms and activities. Steering and coordination hence are at the core, given that “governance denotes the steering capacities of a political system, the ways in which governing is carried out, without making any assumption as to which institutions or agents do the steering” (Stoker, 2000, p.98).

In our review of the different governance frameworks, we observed that the conceptualization of the structure or the behavior of the societal system differs for every framework and the different conceptualizations significantly frame the propositions that compose the governance framework. More specifically, the four prevailing governance frameworks that we reviewed and which have before been explicitly used as foundations of transitions thinking (Kemp and Loorbach 2003) include: (a) governance of networks, (b) deliberative governance, (c) reflexive and adaptive governance and (d) interactive governance. For every one of those frameworks, the conceptualization of the societal system differs.

### **2.1 Governance of networks**

According to network governance scholars (Kickert, 1993; Rhodes 1996a; Koppenjan and Klijn, 2004; Noteboom, 2006; Klijn, 2008), the societal system is comprised by integrated networks of actors that “resist government steering, develop their own policies

and mould their environments” (Rhodes, 1996a, p.52). Rhodes explored the evolution of the governmental institutions in Britain and the effectiveness of governance practices that made him argue that the shortcomings of other governing practices result from the emerging pattern of society as a self-organizing networks. More particularly, Rhodes (1996a; see also Richards and Smith, 2002) reviewed different models of governance (e.g. Westminster model, the minimal state, corporate governance, and more) to conclude that governance as self-organizing networks has comparative advances given that the societal structure evolved in a form of networks. According to Rhodes (1996a, p.15) “governance refers to self-organizing, interorganizational networks characterized by interdependence, resource exchange, rules of the game and significant autonomy from the state.” Consequently, new modes of governance need to consider network characteristics and particularities so as to be effective (Rhodes, 1996b, p.658) and so as to sustain the governance networks “if they are to achieve satisfactory outcomes for their participants” (Klijn, 2008, p.519).

### ***2.2 Deliberative governance***

Deliberative governance views the societal system as a cohort of actors where a bottom-up organization and regulation is possible. Hajer and Wagenaar (2003, pp.9-13) present the characteristics of the network society that make conventional governance and policy science methods inefficient, hence suggesting a deliberative approach to deal with the radical uncertainty of networks in society. Deliberation of power centers is the core idea of deliberative governance. The deliberative governance framework suggests a sociopolitical system without a center where actors actively participate in policy analysis/design process (Hajer, 2005), self-organize and regulate their needs and demands in the form of “meaningful and legitimate political actions, agreed upon in mutual interaction to improve our collective quality of life” (Hajer, 2003, p.191). Actions and mechanisms of this deliberative mode of governance orient the societal system towards “an enhanced conception of democracy” (Hajer and Wagenaar, 2003, p.24).

Deliberative governance also refers to new practices of coordinating activities through deliberative forums that constellate “negotiated social governance” (Hirst, 2000, p.19). In the same vein, Healey (2006) presents collaborative modes of governance for participatory policy design set-ups. What collaborative planning as a mode of governance suggests is an active collaboration and involvement of social actors so as to induce social learning and to yield policy designs/decisions that are coherent and consistent with social interests (Hirst, 2000, p.33).

### ***2.3 Reflexive governance***

Reflexive governance scholars (Voss et. al., 2006; Voss, 2007) conceptualize the societal system as a constellation of interactions between actors and between structures and actors that need to be –when not remain- reflexive to each other’s change and interests. According to reflexive governance scholars, the social inquiry reflexively shapes its own constitution that allows only for multi-actor steering by procedures (Van der Meer et. al, 2005). Hence reflexive governance emphasizes the opening of the policy problem definitions to incorporate multiple interests, uncertainties and policy instruments (Voss and Kemp, 2005, p.4; Voss, 2007, p.36-37).

## **2.4 Interactive governance**

Interactive governance conveys that governance of sociopolitical systems mainly takes place in interactions between actors in all levels of the (societal) system (Kooiman, 1993, p.41). Kooiman (2003) views complexity, dynamics and diversity of interactions to have a dual role: first to be the characteristics of the system and of the interactions that need to be taken into account for governance actions and second, to be the products of interactions and system's governing interventions. A distinctive characteristic of interactive governance is therefore that complexity and dynamics are viewed as inherent to the system / as system characteristics. The societal system or more precisely the sociopolitical system is regulated through different forms of interactions between the actors (interferences, interplays and interventions) (Kooiman, 1993, p.38-39).

The above described theories of governance are primarily based on observation of an evolving policy practice towards (different forms of) governance. This evolution in policy can be said to have originated from the rising complexity of social networks and problems. The described forms of governance however are not explicitly based upon the type of persistent problems introduced in the beginning of this paper. How for example to deal with uncertain changes on the long-term for which a fundamental change in established practices and institutions is necessary? An interesting proposition of transition management is that the concepts of societal transitions in them of multi-level and multi-phase offer a framework for analyzing and describing these processes. Combined with the starting points derived from existing governance literature, especially interactive governance of Kooiman, the transition concept offers a way to formulate basic governance starting points for transitions.

Interactive governance positions diversity, complexity and dynamics at the core; while adapting multiple orders of governance for societal systems. Transition thinking has as foundation idea that societal transformation incorporates diversity of actors, ideas and innovations, complexity at systems' level and dynamics that change over the course of a transition. Therefore, the governance principles and conceptualizations of interactive governance will be the starting concepts for transitions governance. Interactive governance could be in this way, the foundation of a transitions governance paradigm given that it points at the dynamic nature of a societal system recognizing the complexity of social issues and problems.

## **3. Towards a transitions governance paradigm**

In this section we build upon the basic propositions formulated by Kooiman in his interactive governance theory but we reformulate them by following the key ideas of transition management. We formulate starting transitions governance principles as well as an operational link by developing a detection and an orientation framework. The detection framework includes macro-social conditions/determinants that describe and detect the system's characteristics that converge to dynamics, variety and complexity. The orientation framework includes different governance tenets that are related to different objectives in terms of system dynamics and to different patterns of change.

### 3.1 Basic principles of the transitions governance paradigm

Transition governance adheres system's characteristics so as to orient or deliberately guide semi-autonomous system development. We will also use diversity, dynamics and complexity to analyze systems under transition and as starting concepts to explain and derive the transition governance principles.

*Diversity* is a system's characteristic that is assigned to the components of interactions among actors. Diversity is a primary characteristic of the actors and consequently assigned to their interactions. Kooiman's (2003, p.17) writings on actors in governing interactions imply that an enabling social context may benefit the actors' interactions and contribute to their innovative potential. Following the same vein, transitions thinking looks at the societal domain to spot and invigorate innovation. An enabling context may therefore yield social interactions that are fruitful and diverse in the form of innovation for transitions. These fruitful social interactions and the favoring context co-produce innovative capital that is necessary (but not necessarily sufficient) for a societal transition. We come thus to formulate the first transition governance principle:

Transition Governance Principle 1:  
Co-producing innovative capital of societal system and its context

*Dynamics* are a key characteristic of the societal system and are formed and produced by "a mutual tension of forces" (Kooiman, 1993, p.37; see also Kooiman, 2003, p.57-58). These forces constitute the context of actor interactions and are conversely actor interactions influence those forces. Given that the societal context influences and constitutes the ground for societal interactions, the empowerment of innovative ideas, practices and societal innovators (niches) require a context of empowerment. Empowerment dynamics are conceptualized as products of resource- and power related forces. Resources and power differ but are present in all levels of social structuration. Therefore flow, mobilization and orientation of resources have to occur in multiple directions. Consequently, for the empowerment dynamics to be in place, governance instruments/interventions need to promote co-mobilization and co-orientation of resources in a power play. At this point, we arrive to the second transition governance principle:

Transition Governance Principle 2:  
Co-mobilizing and co-orienting resources


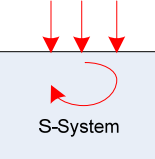
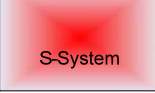
(Different type of) *Complexity* is inherent to and emerges from the different forms of interactions (Kooiman, 1993, p.39-40). Complexity is inherent to the system and can be partially understood with traditional approaches of governing. Societal systems involve a high level of uncertainty and complexity given that they not only evolve and change continuously but also contain all the different forms of interactions that co-evolve with and within the societal system. Consequently, for dealing with complexity, governance instruments/interventions need to find effective ways to deal with complexity (Kooiman, 2003, p.179) and promote the co-evolution and co-adaptation of the societal system to system and context changes.

Transition Governance Principle 3:  
Co-evolving and co-adapting of the societal system to system and context changes

Keeping in mind these three governance principles, we suggest that detecting the forces or macro social conditions that influence the transition of societal systems is important so as to govern in respect to system's state or potential for change. We thus suggest the introduction of a detection framework of macro-social determinants (Table 1). Those macro-social determinants can be either stimulating or inhibiting to the change and detect the state of the system in the form of forces that result in dynamics of the transition (Frantzeskaki and de Haan, 2009). In our attempt to form principles of governance of transitions, we base our governance modes on the state of the system. More particularly, we suggest a mode of governance reflexive to the system: investigate the state and the potential of the system to change and then interfere/intervene and interact accordingly. Hence, we first introduce a detection framework that suggests a set of forces that detect the state of the system under transition and second, we propose a set of transition governance tenets as an orientation framework for governing transitions (Loorbach, 2008).

These tenets or basic principles of transition management have been developed over the past years as a result of theoretical synthesis and experimental implementation. They were derived by combining insights from governance and policy studies and complex system theory and transition thinking. The basic principles formulated were then applied in a wide number of cases and different contexts (such as national systems like energy supply, construction and health care and such as regions and cities (see also: Loorbach, 2008). Based upon experiences, the basic principles were evaluated and reformulated, and thus emerged in an iterative way between theoretical reflection and practical experience. The tenets are very general principles that give direction to the type of processes that could stimulate speed and direction of transition processes. However, they need to be tailored to the context in which they are applied every time anew: depending for example on the phase of transition, the type of system, the actors involved and the space for experimental implementation. With this, the transition management framework offers no more, but also no less, than a possible heuristic for operationalising interactive governance in the context of large scale social change.

**Table 1: An outlook of transition governance concepts and frameworks.**

System's view of a systems' change (CA societal system)	Systemic feature of societal system under transition	Platform of Governance Principles			
 <p>Change-from-within</p>	DIVERSITY	<p><b>Co-producing</b></p> <p>↳ <b>Co-producing innovative capital of societal system &amp; its context</b></p> <table border="1" data-bbox="900 467 1848 565"> <tr> <td data-bbox="900 467 1423 565"> <p><b>Detection framework</b> <i>(macro-social determinants of change that capture innovative potential)</i></p> </td> <td data-bbox="1430 467 1848 565"> <p><b>Orientation framework</b> <i>(process tenets to pull the innovative potential)</i></p> </td> </tr> </table>		<p><b>Detection framework</b> <i>(macro-social determinants of change that capture innovative potential)</i></p>	<p><b>Orientation framework</b> <i>(process tenets to pull the innovative potential)</i></p>
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 <p>Internal &amp; external-induced change</p>	DYNAMICS	<p><b>Co-allocating, co-steering and co-managing</b></p> <p>↳ <b>Co-mobilizing and co-orienting resources</b></p> <table border="1" data-bbox="900 654 1848 816"> <tr> <td data-bbox="900 654 1423 816"> <p><b>Detection framework</b> <i>(macro-social determinants of change that capture resource mobilization &amp; change absorption)</i></p> </td> <td data-bbox="1430 654 1848 816"> <p><b>Orientation framework</b> <i>(process tenets to mobilize resources and initiatives)</i></p> </td> </tr> </table>		<p><b>Detection framework</b> <i>(macro-social determinants of change that capture resource mobilization &amp; change absorption)</i></p>	<p><b>Orientation framework</b> <i>(process tenets to mobilize resources and initiatives)</i></p>
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 <p>Emerging change</p>	COMPLEXITY	<p><b>Co-evolving</b></p> <p>↳ <b>Co-evolving and co-adapting of the societal system to system and context changes</b></p> <table border="1" data-bbox="900 946 1848 1039"> <tr> <td data-bbox="900 946 1423 1039"> <p><b>Detection framework</b> <i>(macro-social determinants that capture triggers of changes)</i></p> </td> <td data-bbox="1430 946 1848 1039"> <p><b>Orientation framework</b> <i>(process tenets to seize and seek momentum)</i></p> </td> </tr> </table>		<p><b>Detection framework</b> <i>(macro-social determinants that capture triggers of changes)</i></p>	<p><b>Orientation framework</b> <i>(process tenets to seize and seek momentum)</i></p>
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Notes:

- Governance principles of interactive governance paradigm
- Governance principles of transitions governance paradigm
- CA: Complex Adaptive
- ->forces or agents of change



## 3.2 Detection framework

### 3.2.1 Forces detecting and conveying diversity

Macro-social determinants or forces of transitions that capture the innovative potential of actors in all levels of societal structuration are presented in this section. Those forces detect the diversity in innovation -present in the societal system- in the form of practices, demands and unconventional social interactions and include:

Presence of a niche: A niche can be considered a group of actors who adopt a new practice, a new routine, a new service or technology. The presence of niches is a condition for a further development following a different developmental pathway.

Presence of new demand: The presence of a new demand is possible to appear any time during the lifetime of the societal system. The term 'demand' although having the connotation of market demand, contains more than consumer demand. For example, a new demand can refer to a new societal demand for social security, for anonymity, for improved quality of life or else.

Presence of a new functioning: The presence or appearance of a new functioning – where functioning refers to an idea, practice, service, and/or technology- refers to the emergence of an infant functioning that is the result of either a technical development (development in science and knowledge) or a merging of existing functionings (hybrid functioning). In its broad definition, a new functioning is societal innovation: not only referring to technological application (i.e. technological niche) but also innovations reflecting to societal functioning such as car sharing (aiming at reducing mobility impact in cities). The presence of new functioning does not preclude that is going to be adopted by actors hence it is distinguished by the presence of a niche in that refers to actors using or adopting a new functioning.

### 3.2.2 Forces detecting and conveying empowerment dynamics

Macro-social determinants of change or forces of transitions that capture the mobilization and interaction of actors in the form of power are presented in this section. Those forces detect the empowerment dynamics within the societal system in the form of resources flow; legitimization/standardization and power exercise and include:

Provision of resources: A resource may be capital in the form of either investments in a market, funds for research and development, legitimate power, political power, space or other natural resources or commodities. Provision of resources is often entitled as niche empowerment and/or just empowerment.

Standardization of practices/routines: Standardization of practices/routines refers to the provision of a law-like pattern of a practice/routine. For example, the routine of driving in city streets is standardized by the driving rules and positioning of traffic lights, signs and infrastructure.

Exercise of power (over the system by external or internal centres of influence): Exercise of power from an internal or external centre of influence to the system includes the control and/or the protection of the system and/or the new functioning.

When centres of influence internal to the system exercise any kind of power to it, we refer to self-regulation of the system and the direction of the force is internal to the system. Self-regulation is emergent and has the notion of power sink within the system. Self-regulation is observed when volunteers take action to protect a resource for example a reforestation or a cleaning from oil spills by Greenpeace.

### ***3.2.3 Forces detecting and conveying complexity***

Macro-social determinants or forces of transitions that capture the triggers of change intrinsic to the system and to its context are presented in this section. These forces or triggers capture emergent features of the societal system that trigger change and include:

*Systemic failures:* Systemic failures include systemic inefficiencies, ineffectiveness as well as inadequacy between demand and supply of the system. Ineffectiveness of the system concerns the inability of the system to fulfil the demand or objective that it is designed for or set operational for. Inefficiency of the system concerns the misallocation of resources and the mis-utilization of resources for needed functions of the system. Inadequacy of the system to fulfil the promises can also be regarded as a systemic failure.

*Crises:* A crisis is characterised by the extreme influence it poses in the processing of the transition after its appearance. Examples of crises are riots or experience of societal unease and war.

*Exogenous events:* Exogenous events are sudden events that surprise the societal system. Exogenous events are uncontrollable and unpredicted. Examples of exogenous events are natural disasters (such as a hurricane, an earthquake) and an accident (such as Chernobyl accident). What distinguishes an external event from a crisis is that a crisis is characterised by multiple causality and impact, whereas the origin and effect of an exogenous effect is simpler.

## **3.3 Orientation framework**

### ***3.3.1 Process tenets to enhance and orient governance for diversity***

For governing diversity, “influencing diverse social (...) entities by protecting, maintaining, creating, promoting or limiting similarities or dissimilarities of their qualities” is a guiding principle (Kooiman, 2003, p.194). For transitions, diversity of social actors translates into innovation of practices and ideas hence innovative capital. We operationalize and link the transition governance principle for diversity of innovation to process tenets that strive to orient policy interventions towards pulling of the innovative potential of the societal system.

Transition Governance Principle 1:  
Co-producing innovative capital of societal system and its context

#### **Transition process tenets:**

*Focus on frontrunners.* We define frontrunners as actors with peculiar competencies and qualities: creative minds, strategists and visionaries. These frontrunners are active

at different levels and in very different domains, be it within business, government, science, societal organizations or in everyday life. Frontrunners are able to generate dissipative structures in complex systems terms and operate within these deviant structures.

Create space for niches in participatory platforms (transition arenas) and through experimenting (transition experiments). A niche is a new structure, a small core of agents, that emerges within the system and that aligns itself with a new practice or functioning. Niches need space and opportunities so as to build up and increase their innovative potential. Transition arenas as participatory platforms for vision building and societal innovation and/or transition experiments can create space for niches; while remaining reflexive to societal needs and open to innovative ends.

Promote guided variation and selection. Diversity is required to avoid rigidity within the system. Rigidity here means reduced diversity due to selection mechanisms which means that the system cannot respond flexibly to changes in its environment. Rather than selecting innovative options in a too early stage options are kept open in order to learn about the pros and cons of available options before making a selection. Collective choices are made “along the way” on the basis of learning experiences at different levels. Through experimenting we can reduce some aspects of the high level of uncertainty so that it leads to better-informed decisions.

### **3.3.2 Process tenets to enhance and orient governance for empowerment dynamics**

“Societal dynamics are important for governance in two respects: the linear and non linear dynamic patterns of societal change form the basis for governing and the dynamic forces can also be used for governing purposes” (Kooiman, 2003, p.203). Transitions governance opts for reinforcing or damping power-related loops so as to support societal transitions. Thereby, we operationalize and link the transition governance principle for empowerment dynamics to process tenets that strive to orient policy interventions towards mobilization of resources and legitimization of initiatives and/or transition practices.

Transition Governance Principle 2:  
Co-mobilizing and co-orienting resources in the power vortex

#### **Transition process tenets:**

Promote radical change in incremental steps. Radical, structural change is needed to erode the existing deep structure (incumbent regime) of a system and ultimately dismantle it. Immediate radical change, however, would lead to maximal resistance from the deep structure, that cannot adjust to a too fast, radical change. Abrupt forcing of the system would disrupt the system and would create a backlash in the system because of its resilience. Incremental change allows the system to adjust to the new circumstances and to build up new structures that align to the new configuration. Radical change in incremental steps thus implies that the system heads for a new direction towards new attractors, but in small steps. To reconcile these seemingly

incompatible aspects of radical versus incremental change is at the core of transition management.

*Seize social learning.* Social learning is a pivotal aspect of societal transition processes, aimed at ‘reframing’, changing the perspective of actors involved. Two important components are learning-by-doing (developing theoretical knowledge and testing that by practical experience) and doing-by-learning (developing empirical knowledge and testing that against the theory). Social learning in transition processes stimulates the development of visions, pathways and experiments that form a new selection environment.

*Allow and formulate objectives to be flexible and adjustable at system level.* The complexity of the system is at odds with the formulation of specific objectives. With flexible evolving objectives one is in a better position to react to changes from inside and outside the system. While being directed the structure and order of the system are also changing, and so the objectives set should change too.

### **3.3.3 Process tenets to enhance and orient governance of transitions’ complexity**

We operationalize and link the transition governance principle of complexity of societal transitions to process tenets that strive to orient policy interventions towards seizing and seeking momentum that emerges in the system.

#### Transition Governance Principle 3:

Co-evolving and co-adapting of the societal system to system and context changes

#### **Transition process tenets:**

*Design regarding the dynamics:* The dynamics of the system create feasible and non-feasible means for governance. This implies that substance and process are inseparable. Process management on its own is not sufficient – insight into how the system works is an essential precondition for effective management. Systems-thinking (in terms of more than one domain (multi-domain) and different actors (multi-actor) at different scale levels (multi-level); analyzing how developments in one domain or level interact with developments in other domains or levels) is necessary to be able to take into account such possible modes and levers for governance.

*Adhere long-term thinking (at least 25 years) as a framework for shaping short-term policy.* Societal transitions evolve in long-time periods and involve long-term system dynamics. Thus, the link between long- and short-term is inevitable for understanding the nature and dynamics of transitions. This means processes of back- and forecasting: the setting of short-term goals based on long-term goals and the reflection on future developments through the use of scenarios.

*Anticipate and adapt.* Anticipating future trends and developments, taking account of weak signals and seeds of change acting as the harbingers of the future, is a key element of a pro-active, long-term strategy as transition management. This future

orientation is accompanied by a strategy of adaptation, which means adjusting while the structure of the system is changing.

#### **4. Concluding remarks**

Transitions are long term societal processes of change that aim at and result in fundamental changes of the societal system. Transitions governance takes into account not only the continuous developing dynamics of change within and outside the system but also the diversity and variety that such change processes create. For developing the basic starting principles of transitions governance we build upon interactive governance concepts and conceptualizations (Kooiman, 1993;2003) and adopt core concepts and ideas of transition management. We further introduced two operational links of transition governance principles: a detection framework and an orientation framework. More particularly, we suggest a mode of governance reflexive to the system: investigate the state and the potential of the system to change and then interfere/intervene and interact accordingly. Those two frameworks aim to provide policy designers with a tool towards transitions governance in practice. More specifically, we suggest a thorough investigation of the societal potential and capacity for change (in the form of forces) to be detected (with the detection framework) before designing interventions to orient the system towards a transition (where process tenets from the orientation framework might be valuable/useful).

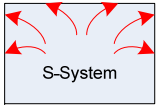
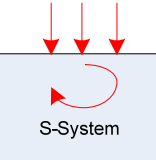
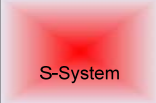
Transitions governance introduce governance for a societal system change that respects and responds to system's state and characteristics while orienting towards a shift. However, a fundamental change in the societal system steered and influenced by new modes of intervention, has to comply with governing values and transition images that depict societal needs and values. A governing intervention for a transition that neglects societal values and needs is immoral and unquestionably non democratic. What is therefore required is -as Kooiman (2003) also notes- a third order governance of transitions or a meta-governance of transitions that aligns -if possible- societal transitions to societal morals and values.

A merge of governance and transition research, offers a conceptual framework for dealing with dynamics of complex systems in a more prescriptive sense. Though a number of societal 'transition experiments' have been implemented in the Netherlands and Belgium that apply the transitions' thinking ideas in specific policy domains, it is far too soon to speak of an operational or prescriptive framework. However, as times are changing and especially developed societies are increasingly facing new types of wicked problems and the need to find alternative ways to organize, self-organize and coordinate society towards different futures, the frameworks offered here offers at least an interesting basis for further debate and experiment.

#### **Acknowledgements**

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**Table 2: Transition governance principles; its detection and orientation framework.**

System's view of a systems' change (CA societal system)	Systemic feature of societal system under transition	Transition Governance Platform			
 <p>Change-from-within</p>	DIVERSITY	<p><b>Co-producing innovative capital of societal system and its context</b></p> <table border="1"> <tr> <td data-bbox="898 418 1381 686"> <p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Presence of a niche</li> <li>- Presence of new functioning/practice</li> <li>- Presence of new demand</li> </ul> </td> <td data-bbox="1381 418 1860 686"> <p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Focus on frontrunners</li> <li>- Create space for niches in participatory platforms (transition arenas) and through experimenting (transition experiments).</li> <li>- Promote guided variation and selection</li> </ul> </td> </tr> </table>		<p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Presence of a niche</li> <li>- Presence of new functioning/practice</li> <li>- Presence of new demand</li> </ul>	<p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Focus on frontrunners</li> <li>- Create space for niches in participatory platforms (transition arenas) and through experimenting (transition experiments).</li> <li>- Promote guided variation and selection</li> </ul>
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 <p>Internal &amp; external-induced change</p>	DYNAMICS	<p><b>Co-mobilizing and co-orienting resources</b></p> <table border="1"> <tr> <td data-bbox="898 724 1381 927"> <p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Provision of resources</li> <li>- Standardization of practices</li> <li>- Exercise of power</li> </ul> </td> <td data-bbox="1381 724 1860 927"> <p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Promote radical change in incremental steps</li> <li>- Seize social learning</li> <li>- Allow &amp; formulate objectives to be flexible and adjustable at system level</li> </ul> </td> </tr> </table>		<p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Provision of resources</li> <li>- Standardization of practices</li> <li>- Exercise of power</li> </ul>	<p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Promote radical change in incremental steps</li> <li>- Seize social learning</li> <li>- Allow &amp; formulate objectives to be flexible and adjustable at system level</li> </ul>
<p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Provision of resources</li> <li>- Standardization of practices</li> <li>- Exercise of power</li> </ul>	<p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Promote radical change in incremental steps</li> <li>- Seize social learning</li> <li>- Allow &amp; formulate objectives to be flexible and adjustable at system level</li> </ul>				
 <p>Emerging change</p>	COMPLEXITY	<p><b>Co-evolving and co-adapting of the societal system to system and context changes</b></p> <table border="1"> <tr> <td data-bbox="898 997 1381 1162"> <p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Systemic failures</li> <li>- Crises</li> <li>- Exogenous events</li> </ul> </td> <td data-bbox="1381 997 1860 1162"> <p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Design regarding the dynamics</li> <li>- Adhere long-term thinking for shaping short-term policy</li> <li>- Anticipate and adapt</li> </ul> </td> </tr> </table>		<p><b>Detection framework</b></p> <ul style="list-style-type: none"> <li>- Systemic failures</li> <li>- Crises</li> <li>- Exogenous events</li> </ul>	<p><b>Orientation framework</b></p> <ul style="list-style-type: none"> <li>- Design regarding the dynamics</li> <li>- Adhere long-term thinking for shaping short-term policy</li> <li>- Anticipate and adapt</li> </ul>
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Notes:

- Principles of transition governance
- CA: Complex Adaptive

- ->Forces of change
- Transition process tenets

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