Sustainable Society
Towards a Research Agenda for the University of Groningen[1]

[1] Positioning paper repared for (and partly by) the members of the "Think Tank Sustainable Society", May 22, 2012. The think tank was nstalled by the rector of the University of Groningen, Elmer Sterken, in December 2011. The think tank consists of representatives of seven faculties (Pauline Kleingeld, Boudewijn de Bruin, Goffe Jensma, Oscar Couwenberg, Kocku von Stuckrad, Ton Schoot Uiterkamp, Inge Hutter, Philip McCann, Marcel Timmer), and is chaired by Rafael Wittek.

Introduction and Overview

For too long now, sustainability issues have been framed as problems of the natural environment, which can best be solved through technological innovation, while their social and cultural bases have been neglected. More and more, however, the idea has gained ground that sustainability incorporates more than the natural environment and that it will take the joint effort of *all* sciences to tackle these issues. The opportunities for getting this kind of cooperation going is one of the unique assets of a broad, classical university such as the University of Groningen.

This positioning paper sketches a university-wide research agenda for the focal area of Sustainable Society. First it presents the historical and analytical background of former research on sustainability. Next, three sub-themes of sustainability research are proposed: *Transitions*, *Governance* and *Media.* Central to the theme *Transitions* would be the study of the historical contexts and the socio-economic conditions on transitions to sustainable societies, the related socio-economic and ecological processes, and their positive and negative consequences. Within the theme *Governance*, the association between governance and social sustainability plays an important role. The legitimacy of national and supranational political institutions and management structures with regard to socio-economic and physical factors is important within this theme. Finally, the focus of the theme *Media* is on the interaction between (new) communication and information structures and the sustainability of societies.

The status of this paper is expressly provisional. Its main purpose is to provide a first framework of reference for the kick-off symposium on June 4, 2012, which will lay the basis for developing a scientifically strong and societally successful university-wide research focal area. It wants to stimulate the research community of the University of Groningen to contribute to the development of this vital research domain, improve it, and ultimately help to deal with some of the pressing sustainability challenges that our societies currently face.

This paper does not fill in a complete research agenda in which Sustainable Society has its place alongside the other two focal areas of the University of Groningen. Evidently, Healthy Ageing and Energy are in many respects closely related to the concept of Sustainable Society and the interrelations between these three focal areas potentially could be part of a cogent research agenda as well (see Figure 1).

As the Sustainable Society Think Tank we would like you to read this paper primarily as an open but urgent invitation to create interfaculty and interdisciplinary research projects on all imaginable aspects of sustainable society. The paper is structured into two major parts. Part I introduces what could be some general theoretical building blocks of a research program on sustainable society at the University of Groningen. Part II presents some examples for possible research questions.

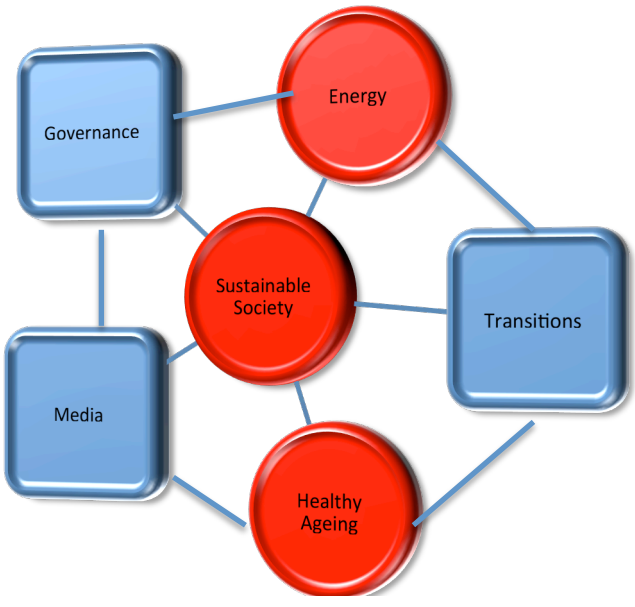

FIGURE 1: SUSTAINABLE SOCIETY, HEALTHY AGEING & ENERGY: THREE 2012 FOCAL AREAS OF THE UNIVERSITY OF GRONINGEN

PART I
SOME GENERAL BUILDING BLOCKS

This part first sketches the background of sustainability research at the University ("From Ecological to Social Sustainability"). It then introduces the rationale behind the proposed research program, and the interrelation between the three proposed sub-themes ("Three Challenges for Sustainable Societies").

From Ecological to Social Sustainability

Throughout history people have been concerned about the ability of societies to match present and future demand and supply of finite biophysical resources like food, water, land, energy, biomass and other raw materials. Many wars and political conflicts are rooted in resource disputes. Environmental sciences teach us that unsustainable resource use may lead to environmental impacts like climate change, ecosystem deterioration and adverse health effects.

The University of Groningen has a long tradition of research and education in the field of what is now generally known as sustainability science. Forty years ago the University of Groningen was one of the first universities in the Netherlands to establish an Environmental Sciences Study Centre. Among its many accomplishments are groundbreaking studies on air pollution and noise effects resulting in still existing policies and regulations in environmental health.

Around the same time the University of Groningen started a natural sciences based research and education in the field of energy with an emphasis on exploring transition routes to clean and renewable energy systems. In the last decade this was broadened into the university wide Energy theme. The recently established Energy Academy Europe fits perfectly in our university's long-time involvement in the Energy field.

Over the past 20 years, a tradition has been developed among the departments of environmental science, psychology, economics, and sociology at the University of Groningen to set up collaborative teams and design joint sustainability research projects, acquire funding for them, and then bring them to fruition. Examples of successful sustainability research collaboration between the social and natural sciences are studies in the field of risk assessment and risk perception, energy use in households, perceived quality of the urban environment and the acceptability of climate change policies. Where we meanwhile dispose over an elaborate set of models and descriptive tools, far less is known about how we should conceive a sustainable society, how it can be achieved, and which scientific frameworks we should use to study its interrelation with the sustainability of natural ecosystems.

These developments at the University of Groningen reflect a broader, world-wide change of perspective on the theme of sustainability. The attention for sustainability of societies first was sparked by the publication of "The Limits to Growth" (1972), written at the request of the Club of Rome. This study used scenario forecasts to assess the effects of five major global trends: accelerating global industrialization, rapid world population growth, widespread malnutrition caused by poverty, dependence on nonrenewable resources and their accelerated depletion, deteriorating environment. The report concluded that if these global trends remain unchanged, a decline of economic growth would inevitably follow within the next 100 years. It argued that in order to mitigate these trends, a value shift would be necessary: the objective to realize economic growth – in the sense of unrestricted accumulation – should be replaced by: "a concept of progress as an improvement of our aptitude to ensure the well-being of the human communities while being respectful of the life-sustaining ecological equilibriums".

Almost two decades later, the report *Our Common Future* (1987), better known as the *Brundlandt-report*, defined the sustainable development concept as we know it today: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Definitions like these, however, do not include other relevant aspects of sustainability such as ways to achieve it and the need to preserve, restore and protect biodiversity and

ecosystem integrity. They rightly emphasize intra- and intergenerational equity as well as the distinction between fulfilling needs and wants, but they lack ecological and socio-economical dimensions, and say little about how to achieve sustainability. This inspired John Elkington in his book "Cannibals with Forks" from 1998 to redefine sustainability as "the principle of ensuring that our actions do not limit the range of economic, social and environmental/ecological options open to future generations", a definition which subsequently was popularized as "People, Planet, Profit". Elkington's work marked the entrance of mainstream economists and other social scientists, the legal profession and the business community into the field of sustainability that used to be dominated by natural scientists and technologists.

Both Brundtland's and Elkington's definition of sustainability are a step forward, but they are still lacking an historical and geographical dimension. Since resource use, production technologies and consumption patterns are often historically, politically and geographically determined they often cannot be changed easily due to so-called lock-in situations. Examples are poverty, systematic violations of human rights, lack of access to clean water and CO_2 emissions from industrial activities in developed countries in the past.

Achieving and preserving all relevant aspects of sustainability calls for a society that is equitable, politically feasible and acceptable to its members and that can deal with socio-economic and biophysical constraints and challenges now and in the future. This also includes an open discussion of how a society should deal with social, cultural and religious forms of diversity and pluralism. Only such a society will be genuinely sustainable.

These and related ideas are the core of the capabilities approach to welfare economics (Sen, 1985; Anand and Sen, 2000). It is one of the major theoretical points of reference in current scientific discourse, as well as in policy documents explicitly referring to the notion of "*social sustainability*". The concept as it is currently used is conceived very broadly, and has an explicitly normative character: "Social sustainability occurs when the formal and informal processes, systems, structures, and relationships actively support the capacity of current and future generations to create healthy and livable communities. Socially sustainable communities are equitable, diverse, connected and democratic and provide a good quality of life." (Patridge, 2005; Western Australian Council of Social Service, 2002).

Three Challenges for Sustainable Societies

Many attempts have been made to sketch "overarching" sustainability agendas for researchers, policy makers, and societal stakeholders (see for recent examples Cavagnaro & Curiel, 2012; Elkington, 2012). The purpose of this positioning paper is more modest. It proposes three general themes that we consider particularly relevant for any current effort to seriously engage with sustainability issues in research and policy making. We followed a two-pronged strategy when delineating these themes.

First, *societal challenges* formed the point of departure. Many other observers have pointed to these challenges, and some of them are even explicitly put on the European research agenda ("The Grand Challenges"). Examples are aging populations, climate change, rising inequalities between rich and poor, transformations of national institutional regimes (e.g. privatization of government functions, changes in pension systems), the information revolution (Web 3.0), legitimacy crises in politics, religious and ethnic conflicts, transformation of the world of work, the increasing influence of the global financial sector on the production economy, changing norms and values ("individualization", "post-industrial" values), pressures on societal cohesion (the development of a "network society")...and the list could be expanded. Second, we inquired to what degree research groups at the University of Groningen have the relevant high-quality *expertise* to address these challenges.

We propose three inter-related general challenges as a result of this two-pronged strategy. We refer to them, respectively, as *Transitions: The Global Challenge, Governance: The Steering Challenge,* and *Media: The Communication Challenge.* Before sketching each theme in more detail and presenting possible research questions, it is useful to briefly discuss the rationale behind this selection.

The Global Challenge

The question how a society can make the *transition* to a higher level of sustainability has always been at the very core of the sustainability discourse. A transition is the process of changing from one state to another. A focus on transitions points to descriptive and explanatory questions about the nature and process of panned and unplanned change, its historical trajectories, path dependencies and (un-)intended consequences; it also points to normative and ethical questions about the degree to which passages from one condition to the other can be influenced, and the kind of "desired" states ("transitions towards *what*?"). More specifically, the transition debate revolves around two major issues, or, in Anand and Sen's (2000:2031) terms, ultimate objectives and (the effectiveness of distinct) instruments to realize them.

Transition Towards What?

The first issue relates to the question what constitutes a "sustainable" practice, technology, social or political structure, or economy in a given context. This evokes not only intricate measurement problems, but also conceptual, normative, ethical and analytical concerns. The concept "Sustainable Society" points towards qualities of a society and therefore is a value in itself. It may be asked, for instance, whether, and if so to what extent, sustainable society as a social, moral and/or ethical concept can only be understood as a value rooted in western history. The relation to other values (justice, stability, autonomy, democracy, freedom) is of utmost importance. It also points towards fundamental ethical questions concerning the justification of our moral concepts. Is there a moral foundation, which could provide a normative framework for sustainable societies, and if yes, which one? If not, what would be the implications for "sustainability" as a value? Consequently, a research agenda on sustainability needs to address the question what constitutes a sustainable society, and which kinds of transitions are necessary, feasible, or desirable to realize it.

Two Ways to Deal with the Global Challenge: Governance and Media

The second issue relates to the question how sustainable societies can be achieved. The key problem here is the need to resolve "Tragedies of the Commons" (Hardin). The tragedy consists in a social dilemma inherent to all societies: courses of action that may be beneficial for one individual or a group may be detrimental for others or society as a whole. Overexploitation of finite resources is just one example – also modern societies abound with collective good problems. Human groups have devised two major strategies to solve such dilemmas: institutions and technology.

Institutions – the "rules of the game" (North) – are the major instrument to govern societies. Institutions can be deliberately designed – as in the case of laws or organizational structures. They can also emerge in an unplanned, organic process – as in the case of conventions, culturally defined shared meanings, or group specific informal norms and expectations. Formally designed and spontaneously emerging governance structures interact, and can take many forms, working e.g. through material incentives, physical coercion, emotional appeal, informal sanctions. Well-designed governance structures – e.g. in the form of defining and enforcing limited access rights to the commons – not only have the power to prevent "Tragedies of the Commons", but can also elicit strong voluntary contributions to the production of collective goods. Consequently, governance is key in any attempt to solve social dilemmas and to steer transition processes. The "Governance" theme in this focal area is supposed to cover these and related issues. It refers to the "institutional" solution to transition problems as they result, among others, from social dilemmas like the tragedy-of-the-commons.

Technology, broadly defined, refers to the creation and use of tools or techniques for solving (societal) problems. To stick with the "Tragedies of the Commons": building a fence is a simple technical solution that can mitigate it. The past century saw a number of major technological breakthroughs, with advances in the field of information and communication technology probably having the most far-reaching social implications. The World Wide Web enables instantaneous communication between large groups of individuals, all-over the world. The related information technology allows to collect, store, process and distribute data on behaviors, processes and events on an unprecedented scale and level of detail. These

technologies fundamentally affect not only the opportunities and ways for human societies to communicate, they also become an instrument of governance, influence and control. In the wake of these developments, also traditional "media" and the related professions undergo a major transformation. The theme "Media" relates to the challenges and opportunities that information and communication technologies pose for the sustainability of societies in the past, today and in the future.

Three Levels of Sustainability

It is evident that the three challenges are strongly interrelated. For example, global transitions, e.g. in the form of transnational migration, create governance issues in both the countries of origin and the countries of destination; new information technologies create a whole range of legal governance problems etc. In order to get grip on these interrelationships, sustainability researchers have emphasized that sustainable societies cannot be achieved without sustainable organizations and individuals (Cavagnaro & Curiel, 2012:2), pointing towards the need to distinguish at least three different levels at which "sustainability" can be assessed: the macro-level of societies, the meso-level of organizations, and the micro-level of individuals. Transitions, governance and media indeed affect or take place at all three levels. The choices of individual citizens, the business strategies of companies, inequalities and political decisions at country level etc. – they are all relevant elements in the study of sustainable society.

PART II
ILLUSTRATIVE RESEARCH QUESTIONS

Part II presents some examples of feasible and more specific research questions related to the three themes. These examples are drawn freely and (due to prohibitive time and logistic constraints during the preparation of this document) unevenly from the input generated by the members of the think tank, by staff members and research groups from the different participating faculties or even from occasional corridor chats. They were also collected in different phases of the process of writing an earlier as well as this version of the positioning paper. It therefore should be emphasized that this section neither presents an exhaustive or representative overview of sustainability related research at the University of Groningen, nor does it provide a map of what kind of research should or should not be done. The main purpose of these examples is to stimulate further discussion about the exact contours of the focal area and its sub-themes. All of the presented examples are likely to benefit from inter-faculty and inter-disciplinary collaboration.

Transitions: The Global Challenge

The need to redefine and foster sustainable societies in the modern context requires us to respond to the challenges and opportunities afforded by modern globalization, the effects of which are both very local and global at the same time. Increasing inequality across all aspects of life (incomes, health, opportunities, political influence) – both locally and nationally - is a result of what is happening globally, and this affects all dimensions of life - governance, knowledge, participation, organizations etc.

The focus of this sub-theme is to investigate the form, antecedents, processes, and consequences of these global transitions, and to examine the *social* conditions necessary for a transition towards sustainable societies. The global character of these changes is key: developments in one part of the world often have direct consequences for populations in other parts of the world. Well-documented examples for transition problems on a global scale are demographic transitions (aging populations), societal adaptations to climate change, transformations of national institutional regimes (e.g. privatization of government functions, changes in pension systems), the link between globalization and (income) inequalities, informatization (Web 3.0), legitimacy crises in politics, as well as changes in the domain of norms and values (individualization, "post-industrial" values), and societal

cohesion (the development of a "network society"). These global shifts have consequences for all three levels of sustainability. For example, societies face the challenge resulting from migration; companies and public administrations face the pressure to restructure; and individual citizens and households have to deal with critical life events caused by these global shifts, like precarious work or unemployment.

The Societal Level

The global shifts mentioned above had a profound impact on national, regional and local economies and cultures. The scope and effects of this impact on economic practices on the one hand, and cultural beliefs and values on the other hand, is still little understood. For example, to what degree do global transition processes and the emergence of transnational consumption cultures threaten or foster the continuity of national, regional, and local cultures and identities? How do they affect values and beliefs related to sustainability? How do these transitions affect the societal position and role of cultural intermediaries, like artists, journalists, and writers?

The transition towards a sustainable economy not only requires a fundamental shift in how growth is measured, but also a concerted effort of all involved stakeholders. How can measures of natural, human and social capital, including inequality and the quality of life be included in such measures? Which kinds of indicators are best suited to measure sustainable economic growth? How do economies have to re-arrange their local, regional and global production, distribution, and consumption patterns in order to improve the sustainability of their economic growth?

Though "globalization" is often portrayed to be a recent and "historically unique" phenomenon, processes of long-distance trade, inter-cultural encounters, and international politics are as old as human history. The study of the "globalized" world of ancient empires and the interaction and cultural encounters of different religious, ethnic and cultural groups can be of great comparative value to assess such cultural encounters in the modern, globalized world. Ancient history provides a treasure trove of the rise and fall of empires and how different groups interacted with each other in such imperial, "globalized" contexts. How can such "results from the past" shed light on modern developments and processes of cultural encounters?

Finally, much may also be learned from formal models of cultural evolution. Such models allow specifying assumptions about the preferences and constraints of individual agents. Based on insights gathered from observations of social dynamics in human or animal populations, simulation algorithms can help us understand how such micro-motives ultimately translate into macro-level societal dynamics and social structures (e.g. segregation).

The Organization Level

Corporations and public organizations are strongly affected by global transitions, but also actively shape them. For example, increasing global competition puts strong pressures on the way how organizations are controlled, how they manage their human resources, and on their location choices. How do these location choices affect the sustainability of regional economies? For firms, good location choices are fundamental to survive, since they affect a wide array of relevant parameters, ranging from access to human capital to the costs of transport. Increased mobility requirements are often cited as one of the implications of increasing global competition. Employees' decisions about the distance of their home to the workplace not only have immediate impacts on their time- and financial budgets, affect the opportunities for a healthy lifestyle.

Global economic shifts also induce large-scale organizational restructuring, delayering, downsizing, trigger workplace transformation, and may lead to processes of "deskilling" of the workforce. Such restructurings do not only affect a firm and its employees, but have a strong impact also on other societal stakeholders. Within business ethics considerable progress has been made developing practically useful theories about stakeholder management related to these issues.

Private firms and public organizations are also the major players when it comes to the sustainable management of natural ecosystems. Much technical knowledge has been gained about the design of sustainable ecosystems, the decentralized production of energy, bio-based economies, food production,

the use of renewable fuels or the reduction of CO_2 emissions. The same holds for insights about the use of microbial cells and enzyme-based catalytic systems in a vast array of applications, ranging from waste control, the use of (renewable) resources, the production of chemicals and polymers from renewable resources, and the regeneration of essential compounds (i.e. minerals, clean water). Implementing these techniques requires a concern for the whole chain of resource use, and needs to consider social and cultural context conditions that may impede or promote their use. How can knowledge exchange between corporations and other societal stakeholders (government, NGOs, Universities) improve the development and implementation of these sustainable techniques?

The Individual Level

Individuals and households are affected by the global shifts in a variety of ways. One example are changing consumption patterns: some observers have diagnosed a shift towards the development of a transnational consumption culture. How can a transition to more sustainable consumption patterns of individuals and households be stimulated? What might be the contribution of cultural, ethnic, or religious identities to support the related normative and behavioral changes?

Another example are increasing requirements with regard to the acquisition of "advanced skills", which are essential for individuals to participate and grow in modern societies, like the ability to learn, analytical thinking, problem solving, creativity, and communication. Transmitting theses skills and competencies was traditionally a task for parents, and is now increasingly considered to be also the responsibility of schools and other educational institutions. How and under which conditions can the educational system meet these requirements and improve the motivation as well as cognitive and practical skills?

A final example is the proliferation of "non-standard" life courses, characterized by an increasing incidence of critical life events caused by changes of workplace, mobility, or divorce. Such transitions can be accompanied by strong uncertainties and severe stress. How can an individual's social embeddedness, or cultures of consolation and coping with loss and bereavement contribute to successfully manage these transitions? Which cultural, religious and social resources do we still have at our disposal in consoling for the loss of family, friends and acquaintances, or to cope with other major transitions in life?

Governance: The Steering Challenge

The core question of this sub-theme is: what is the relation between governance, social processes, and sustainability? Where societal governance mechanisms fail to prevent community failure, or solve social problems, social sustainability comes under pressure. Inadequate governance mechanisms then become part of the problem, rather than of the solution. Creating and maintaining sustainable governance – governance in the service of sustainability – depends on a large number of conditions: the legitimacy of political systems and cultures, the functioning of the legal system, societal norms and values, the degree of social cohesion, but also historical path-dependencies, as well as geographical and economic conditions.

Governance arrangements have the purpose to prevent and mitigate different types of social problems, with "Tragedy-of-the-Commons-like" social dilemma's being but one example. Other examples include the management of motivation problems (e.g. where individuals let their short-term goals prevail over the achievement of long-term goals, or where "perverse" incentives reward short-term gains), or cooperation problems (e.g. when diversity in characteristics, identities, beliefs or group memberships impede the realization of social and economic relations and result in selective exclusion of specific groups or cause violent conflict).

The Societal Level

It has often been argued that current political systems face a serious crisis of legitimacy, and that citizens loose trust in government and the law. But the legitimacy of national and supranational political institutions as well as of more small-scale governance arrangements is of crucial importance for social sustainability. Much may be learned from inquiring into the nature of this legitimacy crisis, and its

antecedents, processes and consequences. Trust in formal institutions has often been mentioned as one of the key conditions for sustainable socio-economic development. One of the key questions in this context therefore is how variations in trust in government and its bodies can be explained, and how legitimate trust can be fostered. Several perspectives may inform our understanding of these processes.

From a legal perspective, the key question is how public law may promote public trust in government, trust among different bodies of government, and trust among different levels of government? Which (legal) conditions contribute to the (perceived) legitimacy and acceptance of public law?

From a cultural and historical perspective, it can be asked what are the impacts of the shift from a secular to a post-secular society on national and global governance structures, particularly regarding the place of cultural identities, and religion in politics and public life? The move to the post-secular suggests that both religious belief and the presence of religion in public affairs are becoming more accepted. Which challenges do such changes raise for the realization of rights and freedoms, particularly freedom of religion and speech, as well as the possibilities and potential contributions such developments can bring?

Related changes in the religious domain reveal secular democratic environments being increasingly characterized by competing value structures of ethnic or religious minorities, as well as conflicting claims of knowledge in science, religion, media, law, and politics. New governance challenges arise from migration induced cultural and religious diversity. How to manage the differences between laws and governance structures of the state with the laws and rituals required by distinct religious groups? What are the implications of these developments for the separation of religion and politics and for the maintenance of a secular public sphere? How does cultural and religious diversity shape sustainable intergroup relations?

Finally, there are also some fundamental ethical issues related to political legitimacy: what role should governments play in attempts to realize sustainable societies? On which grounds would governments be legitimated to intervene beyond guaranteeing fundamental infrastructures? Which kinds of government interventions and policies would be considered legitimate to realize these objectives, and how does their use affect individual autonomy and freedom? To what degree do citizens have the duty to obey the state, and on which grounds may such a duty rest? To what degree do processes of globalization require new forms of citizenship? Are the classical solutions for the legitimacy of national governance arrangements equally valid for supranational institutions? How much international socio-economic inequality is still acceptable for social sustainability?

The Organization Level

For corporations and public organizations, at least three kinds of governance processes may be important for the creation of socially sustainable working environments and the adoption of sustainable methods of production, business strategies, and human resource management practices.

First, (inter-)national regulation, market pressure, and inter-organizational collaboration and knowledge exchange between producers and suppliers can stimulate or hamper the design and use of sustainable products and production methods. A major impediment so far is the lack of specific measurement indicators that would allow assessing the sustainability of products and production methods at a very early stage of the process, i.e. during the product development ("sustainability benchmarking").

Second, firms may make deliberate attempts to improve the sustainability of their practices through committing themselves to the values and constraints of corporate social responsibility initiatives. How can firms' investments into such corporate social responsibility efforts be explained? What does corporate responsibility mean, if one considers that it is not "the organization", but many different actors who decide and act? As a result of the diminishing role of the state in many Western countries, we witness corporations gradually taking over certain functions that were traditionally viewed as the province of the state. Often these corporate activities are marketed as part of the Corporate Social Responsibility of the company. But the fact that they are ultimately not the result of democrat-

ic decision-making and that democratic forms of accountability are not in place suggests that there is an urgent need to investigate the legitimacy of corporate activities of this sort. Useful insights into the feasibility of different modes of collective decision-making and coordination in organizations can also be gained from formal modeling and agent based simulations.

Finally, informal social networks – the pattern of interconnection between employees - and the related processes of social control, influence, and learning are known to strongly affect decision making and cooperation in organizations. Social networks can compensate for ill-designed governance arrangements, but can also counteract formal institutional structures. Under which formal governance conditions do social networks enhance or hamper sustainable cooperation within and between organizations, markets and social communities? The structure of social networks can strongly affect the sustainability of cooperation between and within groups. To understand the working of these networks, a better understanding of the emergence and consequences of power differences in such networks is crucial.

The Individual Level

We need a better understanding of how formal and informal governance structures affect and are affected by characteristics of individuals and small-scale groups. Many formal governance structures neglect the power of group identities, with governance failures and escalation of inter-group conflicts being the result. A pressing question therefore is how group identities affect intra- and inter-group cooperation and conflict? Which group is important for our identity, and why? We can categorize in many ways that include or exclude others, so the power (and construction) of the social context becomes central and a topic in itself. Group identities also invoke content (e.g., norms) that prescribe and proscribe behavior ranging from pro-social to discriminatory. At the societal level the problems of cooperation and conflict between groups become more complex, infused with emotion, cultural difference, political ideology and identity agendas.

Societal governance arrangements often are insufficiently prepared to safeguard the psychological well-being of citizens, or to deal with the needs of particularly vulnerable groups, like citizens with impairments and disabilities. However, during the past decades, there is a significant increase in the incidence of individuals diagnosed with psychiatric disorders, like ADHD, ODD, depression or autism in children, adolescents and adults. How can this increase be explained, and how can intervention programs like addiction care contribute to the prevention of psychological illness? To what degree are the effects of interventions moderated by the social and cultural context?

The more complex societies become, the more important are abilities like self-regulation and (affective) bonding. How can these abilities be enhanced, and how can professional help for less resilient individuals be improved? What are the consequences of disabilities and impairments (as they result e.g. from brain dysfunction) for daily life, and what are the implications with regard to independence, autonomy as well as social and occupational integration? The consequences of impairments, disabilities and handicaps do not only directly affect the individual, but also their families, households and local communities. Sustainable governance arrangements in the medical sector are needed, which facilitate the cost-effective improvement of the assessment, treatment, care and support for individuals with neurological or psychiatric conditions.

Media: The Communication Challenge

The theme “Media” focuses on the interrelationship between (new) means, technologies, and structures of communication and information, and the sustainability of societies. In a sustainable society citizens are connected to each other and to society through communication media. These media differ between societies and historical periods. Fueled by innovations in the field of information technologies, which drastically reduce the costs of collecting and disseminating information, media and mass-communication are playing an increasingly important role in current and future societies.

Media and communication are relevant on different societal levels. The use of interactive media, for example, can influence the well-being, time allocation and learning abilities of children and adults. New communication technologies have resulted in fundamental changes of work- and organizational processes, and have fostered the emergence of virtual communities. Interactive websites allow governments and political parties to stay in direct contact with citizens. New media-, communication-, and information technologies are likely to play an increasingly important role in society. But the bulk of the media is owned by large multinational corporations. It is therefore of crucial importance to understand how they influence behavior, choices, and decision making procedures that affect the sustainability of societies.

The dominant role of media is evident in almost all domains of society: media influence not only decision making procedures in politics, firms or communities, but strongly affect also the legitimacy and reputation of (political) leaders and market players; they change perceptions of norms and identities; they facilitate coordination and the maintenance of social contacts. This development of course brings both opportunities and risks. On the one hand, new means of communication facilitate participation, cohesion, and collective action and may increase freedom of information; they are also the foundation of a whole new generation of creative industries, and provide access for a larger audience. On the other hand, new information technologies also facilitate large scale manipulation, deception, and disinformation; they can stimulate the emergence of hypes, can cause information overload, en may lead to an erosion of information-professionals like journalists. In these cases, we may speak of a failing system of information and communication.

The Societal Level

Historical and cross-cultural comparisons evidently may contribute greatly to a better understanding of the relation between media and sustainability. Media have always played a crucial role in the creation of collective perceptions. How, for instance, did the introduction of (new) media in modern as well as early times affect transition processes, perceptions of uncertainty, and the sustainability of societies? To what degree do the opportunities of interactive media of the World Wide Web nowadays improve or hamper the development of collective perceptions that affect the sustainability of societies? To what degree do these effects differ from the effects of the introduction of "new" media in earlier historical periods? All kinds of research questions concerning the digital era can also prove to be fruitful for a better understanding of sustainability.

The recent rise of social media has dramatically altered the ways in which society communicates and in which collective identities develop and are maintained. How is social media affecting the nature of social interaction and the formation of community based on ethnic, religious or cultural identities?

Interrelations between governance and media can be studied in the role of journalism as a watchdog in decision and policy-making processes as well as a facilitator of transparent, democratic discussions on future directions within society.

A further relevant aspect of media (in relation to sustainable society) might be the popularization of knowledge. Imparting scientific knowledge is one of the basic pillars of a democratic society. In a sustainable society all citizens should have the opportunity to base their decisions on criteria beyond obedience or belief. Media of popularization have a responsibility and an ethos, since trust in reliable reports plays an important role when people have to make decisions in everyday life. A research question here could therefore be how the aesthetic design of popularized scientific knowledge responds to the metaphysical and religious needs of modern societies.

The Organization Level

As to the organizational level of information and media, a key question is how individual judgments and preferences should be aggregated to a collective choice. Or in other words: which kind of collective decision making procedures need to be developed in order to foster socially sustainable collective choices? How does the availability of new information and communication technologies facilitate or impede such collective decision-making processes? Such procedures can be used in a large variety of situations where distributional jus-

tice is a major requirement, ranging from settlement of divorce cases to the auction of broadband frequencies.

The digitization of information and knowledge influences the way in which labor is organized. Information has become a commodity and the key driver in many industries and occupations. Knowledge workers nowadays make up a majority of the working force in rich and leading societies. Characteristics of the resulting "New World of Work" (NWW) are location and time independent working, the use of ICT, a focus on results and outcomes, and a high degree of responsibility and freedom. Because of the potential favorable and unfavorable consequences of the NWW on sustainability, it is important to know when and why it works.

The Individual Level

A fine example of a research question on media and sustainability on an individual level concerns the acquisition of skills. Since information technology increasingly becomes part of everyday contexts, knowledge about these technologies and the consequences of their use becomes an increasingly important asset for citizens to participate in society and achieve their goals. At the same time, it is unavoidable that a large part of society will never reach the level of technical knowledge needed to understand even the most basic sorts of products and services. Does this decrease autonomous decision-making? And if so, does it entail that the government should adopt paternalist policies?

Conclusion: Some Remarks on the Further Trajectory

Setting up and maintaining a sustainable collaborative structure is a major governance challenge in itself. The present discussion paper – the result of a successful interfaculty collaboration by the members of the think tank, and of input from their faculties – cannot be more than a first step towards building a sustainable society research agenda for the University of Groningen. Such an agenda could be organized around a well-chosen set of relevant and concrete research questions, which form the focal point for interdisciplinary research teams with the expertise and to solve them, and the potential to develop them into viable research programs.

The kick-off symposium on June 4, 2012, provides an opportunity to further elaborate the elements of such a research agenda. The input generated during the symposium will be collected and documented. It will be invaluable for the purpose of identifying and delineating of substantive core problems of the focal area. The discussions during the symposium will also be helpful for the reflection about how to implement, organize, and fund an interfaculty focal area. This will be one of the topics at the University wide management meeting ("bestuursdag") on June 11, 2012. But the success of this University wide focal area will ultimately depend on the quality and relevance of the questions that are asked, and the expertise, dedication and collaborative effort of its researchers.

References

Anand, S. & A. Sen. (2000). "Human Development and Economic Sustainability." *World Development* 28 (12), 2029-2049.

Cavagnaro, E. & G. Curiel. 2012. *The Three Levels of Sustainability.* Greenleaf Publishing.

Elkington, J. 2012. *The Zeronauts.* London: Earthscan.

Hardin, G. 1968. "The Tragedy of the Commons". *Science* 162 (3859): 1243–1248.

Meadows, D.H., J. Randers, D. L. Meadows , W.W. Behrens. 1972. *The Limits to Growth.* New York: Universe Books, 1972.

Partridge, E. (2005). "'Social sustainability': a useful theoretical framework?" Paper presented at the Australasian Political Science Association Annual Conference 2005, Dunedin, New Zealand, 28-30 September 2005.

Sen, A. (1985). *Commodities and Capabilities.* Amsterdam: North-Holland.

World Commission on Environment and Development (1987). *Our Common Future.* Oxford Paperbacks.