

Partnership for Education and research about Responsible Living



## **Enabling Responsible Living**

2nd PERL International Conference

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### Paper Presentation Monday 14.15 - 15.45

#### 1.1. Symposium

### From Knowledge to Action – Conceptual, Normative and Empirical Findings with Regard to the Relation of Consumption and Sustainability.

Birgit Blättel-Mink, Rico Defila, Antonietta Di Giulio, Daniel Fischer, Ruth Kaufmann-Hayoz, Martina Schäfer — Germany

The German Ministry of Education and Research (BMBF) funded ten inter- and transdisciplinary research projects (with approximately thirty individual projects) investigating different aspects of sustainability and consumption within the "Social-ecological Research Programme" (SÖF) from 2008 until 2012. The research in the ten project groups focussed on different consumption areas (e.g. energy, housing, food) and was based on collaboration with various stakeholders in the field (e.g. consumer advisory centres, schools, enterprises). The aim was to provide practical knowledge that will be useful to several stakeholders, as well as to contribute to an increase in consumer competence. 2009, a synthesis process has been started, coordinated by an accompanying research project, aiming to integrate results of the project groups and identify overall findings. The proposed symposium provides a brief introduction to the research questions that were investigated in the focal topic. Then it focuses on central messages resulting from the synthesis work. These messages are presented via an interdisciplinary dialogue and illustrated using examples and findings from some of the project groups. The following statements are starting points for the messages presented:

- Individual consumption is a complex bundle of behavioural routines encompassing far more than the purchase of products and services.
- In order to conceptually relate sustainability and consumption it makes sense to examine the concepts of good life and of objective needs.
- Sustainable consumption isn't just a question of choosing the right product.
- Changing consumer behaviour towards sustainability is possible, but it doesn't work simply by introducing economic incentives or delivering information.

#### 1.2 Workshop

### Skills for future sustainable societies: sustainable lifestyles roadmap & scenarios 2050

Cheryl Hicks — Germany

Since January 2011 the SPREAD Sustainable Lifestyles 2050 project has been developing scenarios of alternative future societies that support more sustainable ways of living in 2050. The scenarios are accompanied by a roadmap of action strategies 2012-2050 and opportunity spaces for different societal actors to enable more sustainable lifestyles and set a course for people across cultures and socio-economic realities to live well within the resource constraints of one planet. The sustainable lifestyles roadmap and action strategies will be completed in December 2012 and will be presented to the European Commission along with policy recommendations. This work will feed directly into EU action plans. As such the work has focused geographically on Europe, however global systems boundaries and the impacts or influence of European lifestyles on the rest of the world, and vice versa, have been considered. From April-June 2012 we will hold a series of expert workshops like this with different societal actors in order to test the scenarios, to ensure plausibility, and to build more detailed considerations into the roadmap of action strategies.

#### Objective of Wokrshop:

- To present and test SPREAD sustainable lifestyles scenarios and roadmap with education experts
- To explore the skills that will be required (perhaps not currently existing) to enable future sustainable societies and lifestyles
- To seek the input of Education experts regarding the "must haves" and milestones related to the role of education, learning and skills in enabling more sustainable lifestyles by 2050

#### 1.3 Governmental Approaches and Alternatives to Consumer Society

#### (Re)Designing governance for social change

François Jégou, Sabine François, Sandrine Fournis, Catherine Rousseau — Belgium, France

How can we rethink governance to facilitate sustainable transformations? How can we enable cocreation of the society beyond participation? How can we re-establish collaborative citizenship beyond collaborative consumption? This paper is based on two parallel researches on the future of Agenda 21:

- a foresight group called "Rio+20 and after: the future of Agendas 21" promoted by the Bureau des Territoires of the French Ministry of Ecology, Sustainable Development, Transport and Lodging:
- a projective assessment aiming at outlining the development of Agendas Iris 21 of the Brussels Capital Region promoted by Belgium Regional Ministry of Environment, Energy and Urban Renovation;

The first part of the paper will present and compare the methodological processes designed for collaborative scenarios building, starting from actors experiences on the field; collection of 'best practices', 'failed practices' and 'next practices'; creative participative visioning on local sustainability tools and approaches for the next two decades; construction of scenarios and backcasting process leveraging on the Rio+20 conference to foster strategic conversation at local, regional, national and European governance levels. The second part of the paper will review the content of the different alternative scenarios generated by both research studies. In particular it will present the different systems and instruments emerged from practices and projections of Agenda 21 ranging from 'middle-down sustainable governance'; 'regional synergizing and deliberative platforms'; 'hybrid partnerships within local ecosystems of stakeholders'; 'transformation of public action by an acupuncture of micro-experimentations'; 'diffused green skills raising processes mitigating formal education', etc... In conclusion the paper will discuss how these systems may enable responsible living, empowerment of citizens, active co-creation of the conditions for social change and transition towards sustainability.

#### The EU LIFE program: 20 years contribution to sustainable consumption

#### Eveline Durieux — Belgium

Since 1992, the LIFE program is the EU financial tool supporting actions for a more sustainable development, be it from an environment and governance point of view (innovative technologies and methodologies), or from a nature one, aiming at species/habitats conservation and at halting the loss of biodiversity. Since 2007, the specific strand "Information and Communication" supports targeted awareness raising campaigns aiming at accelerating changes towards more environmentally-friendly behaviors and more sustainable consumption. In 20 years the program has gathered a huge experience and its communication tools (http://ec.europa.eu/environment/life/index.htm ) aims at sharing results and facilitate the transfer of experience. Around 340 projects developed public awareness campaigns, 120 deal with environmental education and another 130 embedded environmental training within their activities. Our speech would be illustrated by projects examples such as:

- 'Sustainable Mobility Initiative for Local Environment': a major public awareness campaign which initiated the EU campaign for soft mobility, "Mobility week" and the "Car-free day";
- 'AlterIAS': aims at increasing awareness (from producers to consumers) to curb horticultural introductions of invasive plants in Belgium;
- 'Eco-Animation': a cartoon to raise awareness on climate change and sustainable use of natural resources among European children;
- 'European Capital of Nature and Biodiversity Award': involves 450 municipalities from 5 countries. It aims to increase local authorities capacity to protect nature and biodiversity in urban areas by promoting "Capital of Nature and Biodiversity" competitions;
- 'FISH SCALE': seeks to change consumers attitudes by increasing their awareness of the importance of by-catch species and aims at stimulating greater demand for neglected fish species in order to improve the preservation of marine biodiversity;
- 'European Week of Waste Reduction': an ongoing public awareness campaign.

#### Alternatives to the consumer society

#### Arthur Dahl — The Netherlands

Consumerism is superficially attractive because it offers a purpose in life and social acceptance within a narrowly materialistic world view. This is cultivated through psychological manipulation and marketing, playing on physical desires and hedonism, to create passive consumers. It fills a vacuum in the absence of any deeper meaning in life. The alternative is to build a stronger sense of human purpose through education and community action, facilitating a process of maturation from egotism to altruism. Elements of that purpose should include: a vision of future society that is worth effort and struggle to build; a recognition of the importance of family, community and social relationships; an appreciation of the importance of work done in a spirit of service; an introduction to the rational tools of science and the value of knowledge and crafts; a connection with nature, beauty and the arts; and an understanding of the ethical, moral and spiritual dimensions of life that lead to the refinement of character. With these elements, cultivating a culture of change becomes possible while encouraging a diversity of local expressions of social advancement.

#### 1.4 Impact-Evaluation of (Education about) Responsible Living

## Business school students and sustainability: attitudes and behaviours of students signed up to a sustainability specialty as compared to their peers

Jessica Aschemann-Witzel, Alice Grønhøj, Arne Christensen — Denmark

Research has indicated that studying economics might increase the view on humans as being selfinterested mainly1. How does this apply to business school education and the attitudes of their students to the issue of sustainability - are business students that are interested in sustainability different from their peers? 101 Bachelor students in the specialty course 'sustainable production and consumption' were questioned in an exploratory survey with regard to their attitudes (NEP scale2), their environmentally behaviours3 and ascription of responsibility and personal norms (VBN4). The 51 students signed up to the introductory specialty-course, as expected, showed significantly more favourable attitudes with regard to the NEP expressed (M=53.4, SD=5.9) as compared to 50 students from the same semester that were not signed up (M=49.2, SD=6.8; t (93) = 3.174, p = .002). The significant differences stemmed from the subscales of ,Antianthropocentricism' and 'Possibility of ecocrisis'. Contrary to the expectation, the 'sustainability students' only differed in few behaviourial and VBN-related statements: they reported less use of planes for holiday travels (p = .030), more use of cars in short distances (p = .003), using more environmental and social credentials in purchase and were less likely to agree that their contribution to the energy problem is negligible (p = .005). The sample in the specialty-course, however, consisted of fewer females, a higher share of non-Scandinavians and more car-owners. In an extension of the study, it is planned to analyse changes in the attitudes after a full semester of education in the specialty focus on 'sustainability'.

### Efficiency indicators in education for responsible consumption: which should we choose?

Vincent Sennes, Francis Ribeyre, Sandrine Gombert-Courvoisier — France

We are currently observing the emergence of a great number of initiatives promoting more responsible lifestyles. This education for responsible consumption (ERC) throughout people's lives mobilises not only the individuals themselves but also the public, educational and entrepreneurial spheres. Although on the face of it this seems to be a very positive trend, it also needs to be combined with indicators of responsible consumption (IRC). The purpose of these indicators is not only to measure progress in terms of different ecological, health or social problems associated with people's lifestyles; they must also be able to consider the effectiveness of the multi-stakeholder ERC system and encourage exchange between the promoters and the targets of ECR. In addition, ERC consists of groups of stakeholders and regions with very varied environmental and human characteristics. This supports the idea that any given set of IRC may have more or less relevance, depending on the local situation. At present, the existing systems for evaluating responsible consumption are struggling to take into account these different dimensions when producing assessments. Here, we present a methodology that will enable areas to identify the IRC that are most relevant in relation to 1) ERC systems already in place; 2) the most significant household consumption issues. This methodology is based on a participative and multifactorial approach.

### Evaluating the outcomes of the seminars on active methods in education for sustainable development and responsible living

Gregor Torkar, Sjöfn Guðmundsdóttir, Miriam O'Donoghue — International

Sustainable development is a transdisciplinary area requiring interactive, participative and reflective educational approaches. Learners need to be able to construct their own understanding, meaning and values, as a step in the collective search for responsible living and a sustainable future. Active teaching and learning methodologies can facilitate this process. Much has been written about the use of active methodologies in Education for Sustainable Development, but less is known how to evaluate the outcomes. We see two major challenges in these evaluation processes. First is the question of how to evaluate active (transformative) approaches and secondly, what should we evaluate it? Over the past four years the Active Methodologies Work Group in Consumer Citizenship Network and Partnership for Education and Research about Responsible Living has developed several teaching resources based on active teaching and learning approaches needed to facilitate Education for Sustainable Development and responsible living. The Active Methodologies Work Group has run seminars for teachers and facilitators to help them to integrate active methodology and concepts of sustainable development into teaching practice. In this paper we would like to present how we evaluated active methods used at these seminars that took place in different European countries (Bulgaria, Iceland, Turkey, Latvia, Slovenia and Greece). We were interested in finding out what they learned, how they would use the activities in their work and suggestions for improvements in the activities. We also asked if these active methods improved their critical thinking. We hope that this contribution will stimulate further discussion on this topic.

#### 1.5 Consumer Education

#### The teacher's role and skills

Marilyn Mehlmann, Olena Pometun — Sweden

Teaching for responsible living calls for designing every lesson to ensure that learners are actively engaged in trying out new behaviour. The main task of teachers is to equip students with skills to relate to themselves and others, and the whole world, more responsibly. Students thus need to gain their own experience, discuss it with others, enrich each other with ideas. In this, the teacher acts as a coach, inviting students to set individual and group goals, experiment and learn from their experience, reflect, and support and learn from each other. The teacher faces specific challenges in order to:

- Create a safe, stimulating atmosphere: a democratic learning space which promotes creative abilities
- Use teaching methods that involve the capabilities of each student to dialogue, and to engage in cooperation based on her/his individual style of learning
- Develop an image of responsible living as it relates to student behaviour.

There is extensive evidence about the kind of teaching that consistently has a positive impact on student learning: students learn best when teachers also:

- enhance the relevance of new learning
- make connections to prior learning and experience
- provide sufficient learning opportunities
- enquire into the teaching-learning relationship

This goes far beyond interactive teaching and other modern pedagogies. It is empowering teaching, and makes quite new demands upon teacher skills.

### School learning environment and student social adaptation as preconditions for the development of a responsible society

Ilze Sumane, Liga Aboltina — Latvia

Education for sustainable development is connected with lives of young people both in the present and future. For this reason, school is a part of a student living environment, where the particular way of life is being acquired in practice. The article covers the analysis of the environment of Latvian schools, answering the following question: "Does the school environment promote student life skills and responsibility, and encourage them to act towards the sustainable development of society? The study analyses the physical, informative and social environment of schools, use of the resources and student involvement into the process. Substantial investments have already been made into the improvement of the learning environment of Latvian schools by the initiative of local governments and schools themselves by participating in various international and state projects such as Health Promoting School, Child-Friendly School, Improvement of Energy Efficiency in Education Institutions, The Eco-Schools Programme, etc. The goal of the above mentioned projects is to create an appropriate environment at school to ensure physical and social adaptation, ability to learn and live in a safe and

tidy environment. However, the question whether the involvement, initiative and commitment of students themselves is sufficient enough, is still of a high priority. For this purpose, student successful social adaption to the school environment is necessary, in other words, they acquaint themselves with school social norms, value system, goals, behaviour obligations and interpersonal communication model. If the school environment is sustainable, students as contemporary socially active agents will act basing on the values of sustainable development of society. Study basis: 317 students from 15 Latvian schools. Methods for information retrieval: questionnaires for students and teachers, pedagogical observation, interviews, analysis of documents.

### Paper Presentation Monday 16.00 - 17.00

#### 2.1 Workshop

## How to integrate "Ecosystem Services", "Strong Sustainability" and "Agency" in teacher training and teaching practice?

Wolfgang Brunner, Shepherd Urenje — Sweden

The Swedish International Centre of Education for Sustainable Development (SWEDESD) together with the SADC Regional Environmental Education Programmme (SADC REEP) and selected teacher training institutions in Swaziland, Zambia and Zimbabwe have embarked on the ESSA initiative: introducing and integrating the combined notions and approaches of Ecosystem services, Strong Sustainability and Agency into the daily practice of teacher training. The initiative aims at developing the capacity of teacher training institutions to design, produce and implement materials, syllabi and curricula in which the notion of strong sustainability permeates the traditional school subjects or disciplines, while operationalizing the dimension of "agency". It is expected that through the process for arriving at this objective teacher training institutions and new teachers alike will be empowered to exert transforming influence on both actual classroom practice and educational policies. The workshop will explore the basic notions and the process of collaborative learning underlying this initiative. It will present the initiative's first results and will explore options for bringing the initiative to scale in order to have the desired effect on teaching practice and educational policy.

### 2.2 Companies' Influence on Responsible Living

#### Business systems for responsible living: a transvection approach

Bistra Vassileva — Bulgaria

For many years, researchers and management scholars have applied Porter's value system at the macro level of analysis and as a basic strategic tool. Now, the focus is shifting to developing new or rejuvenating old methods and approaches in order to react to the recent dramatic in market environment and to the challenges of the society. Both academics and practitioners realize that business systems and processes need to be re-engineered in a responsible way. The purpose of the paper is to provide a framework for understanding and analyzing business systems for responsible living using the transvection approach provided by Wroe Alderson. The proposed framework is then used in combination with some principle empirical examples from the knowledge-intensive business services (KIBS) sector to illustrate how the framework can be used in order to develop a business system for responsible living. Theoretical background of the paper brings forward some "old" Aldersonian concepts in a "modern" setting and shows how these concepts can be used to understand business systems for responsible living. The transvection is reintroduced as a useful concept for analyzing busi-

ness structures and processes, and the author found, in particular, that the concept is highly useful for re-engineering business systems to be proactive to the notion.

#### Corporate social responsibility in the Czech Republic

Petr Briš — Czech Republic

The work is aimed at researching the issue of Corporate Social Responsibility (hereinafter "CSR") in the Czech Republic (hereinafter "CR"). Social responsibility is now an integral part of integrated business management. It has a long tradition in the Czech Republic, because one of the most prominent businessmen of the 20th century – a Czech entrepreneur, Tomas Bata - began to apply CSR in his plants around the world in the first half of the last century. Currently, the issue of CSR becomes increasingly important. There is an integration of positive attitudes, practices or programs into company's business strategy at the top management level. We follow a shift in management focus from the level of "profit only" to a wider view in the context of the three P's - people - planet - profit. This involves the functioning of the organization with regard to the so called triple - bottom - line, when the company focuses not only on economic growth, but also on environmental and social aspects of its activities. The main objective of the work is to analyze the current state of CSR in the Czech Republic on the basis of quantitative research (approx. 100 organizations were approached) and compare it with an analysis from 2004. The conclusion summarizes the approaches of managers to the issue of CSR in the CR, including some trends.

#### 2.3 How to Communicate Responsible Living?

#### **Enabling a shift in consumption cultures through CnSR communication?**

Vera Fricke — Germany

Consumers' Social Responsibility (CnSR) (Devinney et al. 2006) for a behavioural change towards sustainability has entered the communication agenda of corporations (Fricke & Schrader 2011). Within the scope of Corporate Social Responsibility (CSR) corporations have started to address CnSR besides the so far primarily communicated product and process responsibility as well as corporate engagement (e.g. Schrader et al. 2008). For instance the automobile company Volkswagen encourages responsible mobility behavior through the initiative "Think Blue" and energy companies offer energy saving hints (www.energiewelten.de). Hitherto, consumer information addressing consumers' responsibility for sustainable behaviour was given by independent governmental and nongovernmental consumer policy actors (CPAs). The introduction of private consumer information changes the CPA setting. Positive societal effects could be that sustainable consumption in the mainstream is stimulated. At the same time it could evoke counter-productive effects like consumer confusion (Walsh et al. 2007) or a possible blurring of the understanding of sustainable consumption looking at irrelevant "peanuts" (e.g. empty boot for fuel-saving) rather than "key points" (e.g. avoid car driving) of sustainable consumption (Bilharz et al. 2008). In my presentation I will analyze chances and limits of CnSR communication for a shift towards a sustainable consumption culture. At first I will present findings of a content analysis regarding the CnSR message content of German energy-, automobile- and food-companies. The CnSR message content will be evaluated towards the given suggestions of how to take up responsibility for sustainable consumption. Furthermore, empirical results of interviews with experts from consumer science, consumer policy organizations and companies that communicate CnSR will be shown. Based on the empirical outcomes I will discuss the relevance of CnSR-communication for enabling a shift in consumption cultures towards more sustainability.

## Differences between messages delivered to consumers and their understanding

Christophe Bernes — France

Pathways to responsible living mean that structures (businesses, government, NGOs) that play a role in consumer information should be aware of what consumers understand at the end. Of course main messages delivered by businesses to consumers are produced with a profit aim. Marketing and Communication services of businesses are already very good to analyze these messages. But what about messages delivered by government or NGOs? Of course main messages delivered by government or NGOs are at higher level of quality, credibility and seriously and produced in a way of general interest, in a way of responsible living for some of them. But do consumers understand these messages? Through the example of a Public channel TV Program dedicated to consumer issues, we analysed some of them that they didn't produced the effect searched. We would like to present the results of focus groups organised with consumers watching a selection of 70 films from a Public channel TV Program on consumer issues. This analysis will try to show why the message is rejected, or why is the message not understood, or why is the message contre-productive. Following this analysis, we could draw some basic rules in the art of producing efficient messages on responsible living in order to have tomorrow better informed, aware and responsible citizens.

#### 2.4 Innovative Teaching Approaches

#### "C2C/CSR" Training

Peter van der Baan — The Netherlands

The project "Working and Learning in the World of Cradle-to-Cradle (C2C)" enables teachers to empower tomorrow's consumers to consume so called Cradle-to-cradle products and services. Cradleto-Cradle (C2C) is a new, rewarding and very innovative concept used in more and more companies in Europe. C2C design is about creating continuous cycles of both biological and technical 'nutrients'. This means that products are made from pure components that are easy to disassemble, in order to create new products in both the biological and technical cycles. Manufacturing processes rely on renewable energy, conserve water and embrace social responsibility (CSR). The quality management system of ISO 26.000 on social responsibility used in enterprises will be developed towards the needs of the VET schools and the new European quality system EQAVET. Therefore C2C fits in the European policy of achieving a Carbon Low Society and for New Skills for New Jobs. In The Netherlands and the partner countries UK, Germany, Romania and Greece there is much need to have C2C/CSR on vocational level, because (future) process operators, designers and middle managers also have to know about how to work and produce within the C2C ideas and concepts. Competence based education can fulfil these needs by using new educational methods developed in Germany. In the case of the Leonardo project it is about 'serious gaming'. Serious gaming will be the anacrusis to training in the workplace and continuous learning. The end product will be a course and a train-the-trainer programme on C2C and CSR for corporate trainers and VET teachers. The trained trainers will participate in new and existing 'C2C Training and Expertise Centres', in which the link to enterprises and the demands of the labour market are highly strengthened.

### Moving beyond unlearning unsustainable consumption. Salutogenetic perspectives on education for sustainable consumption

Daniel Fischer — Germany

The notion of sustainable consumption has mainly been taken up in the educational community as a challenge to unlearn unsustainability and reverse (or at least mitigate) the hazardous consequences of consumerist lifestyles. This conceptual paper criticizes this response for its inherent negative framing of consumption that is also reflected in teaching resources and practical materials, as this bears the danger of patronizing students and causing discourage and apathy rather than opportunities to acquire competences for sustainable consumption practices. In this paper it is suggested that the consumer education community could benefit greatly from experiences made in the tradition of health promotion where a paradigmatic shift had taken place with the Ottawa Charta that had moved educational thinking away from focussing on what causes disease (pathogenesis) towards exploring what contributes to health and well-being (salutogenesis). The argument of this paper is that the concept of salutogenesis bears fruitful perspectives for the further advancement of a positive approach to education for sustainable consumption. In particular, it reflects the contributions of a salutogenetic approach to the conference's theme and its agenda to think beyond consumption with respect to how people satisfy their needs through consumption. The paper concludes these

conceptual thoughts with an illustration of possible implications of the suggested shift from pathogenetic to salutogenetic perspectives in education for sustainable consumption using practical examples from the context of a major research and development project.

#### 2.5 User Integration

#### Co-design of products enhancing energy-responsible practices among users

François Jégou, Grégoire Wallenborn — Belgium

How to design products that may influence users towards new and more sustainable behaviours? Beyond the eco-efficiency of domestic equipments, is it possible to think them so that they suggest to their users they should be used in a frugal way? Design generally pushes consumption and tends to be part of the problem: how to use the same design skills to make enable households behave in a more responsible way? How could new interfaces empower user rather than making them impotent? This paper will focus on these questions starting from the ISEU research project funded by the Belgian Science Policy. ISEU stands for "Integration of Standardisation, Ecodesign and Users in energy using products" and is a 4 years socio-technical integrated study on production and usage of energy consuming domestic appliances. The paper will focus on a 6 months co-design session with families, associating them to participative design sessions to define together with design teams, innovative design strategies and related sets of domestic appliances likely to induce energy-responsible behaviours of households. The development of the paper will focus on two main aspects of the research project: a first part will present the collaborative work with the users, the tools and interactions used to ensure their involvement in the design process. A second part will describe the results obtained at a methodological level proposing four design guidelines to favour energy-responsible behaviours and at a practical level to describe eight new concepts of products in the sectors of lighting, heating regulation, clothing care and energy smart meters.

#### **User-integrated Innovation: Sustainable LivingLabs**

Carolin Baedeker, Christa Liedtke, Holger Rohn, Jola Welfens — Germany

The presentation discusses the results of the LIVING LAB project conducted at the Wuppertal Institute within a European Consortium (Lead TU Delft) by means of the 7th Framework Programme of the EU. It shows how processes of open innovation can lead to sustainable domestic innovations, by means of an experimental infrastructure. The project refers to practice theory to research on sustainable product design. According to practice theory, focusing on technical solutions and individual behaviour while assuming people's needs as fixed entities, disregards the dynamics of everyday life in which technologies themselves create needs. The project aimed at strengthening the position of the consumer by focusing on user-driven innovation. LIVING LABs are combined lab-/household systems, which put the user, i.e. the home occupant, on centre stage in the innovation process. In order to find user-integrated sustainability solutions three stages of research are conducted:

- 1. Insight-research: the behaviour of users and the human-technology interaction will be analysed and evaluated in real settings (e.g. households)
- 2. Co-creation and alpha-testing: departing from the obtained insights prototypes will be developed. The prototypes will be tested by users in the LIVING LABs
- 3. Field-testing: the innovative product will be integrated in real households where human-technology interaction will be evaluated again.

At the end of this user-integrated innovation process the final product will be developed. The presentation will focus the design and functioning of LIVING LABs and will show how the LIVING LAB research infrastructure and research agenda can promote the development of user-centred sustainable consumption strategies.

### Paper Presentation Tuesday 11.15 – 12.45

#### 3.1 Symposium

Integrating education for sustainable consumption into existing institutional frameworks and governance structures: a methodology for strengthening the up-take and effectiveness of ESC implementation

Fanny Demassieux, Fabienne Pierre, Khairoon Abbas, Robert Didham, Paul Ofei-Manu — International

UNEP-DTIE is currently implementing a pilot project on the "Institutional Strengthening of ESC: Advancing ESC policy and implementation strategies" in Chile, Tanzania, and Indonesia. IGES has been working with a project on assessing and improving governmental capacity and policy strategies for ESC implementation. Both research projects are aiming at addressing the meta-level structures for generally producing effective ESC initiatives and ensuring positive impacts rather than focusing on the micro-level activities and specific initiatives that can be part of strengthening the topical and subject basis of ESC implementation. Both these projects will develop recommendations and guidelines for strengthening ESC within national governments' policy structure in a manner that will lead to more effective practice of ESC. Furthermore, this approach looks to create strong synergies with existing frameworks and mandates for sustainable development, SCP and ESD with the belief that ESC can actually provide an important hub of cohesion for simultaneously addressing these three topics from. This is linked to the fact that ESC is oriented as an action-based learning process and concerns itself with engaging people in practical ways to achieve more sustainable and responsible lifestyles. This learning process counters the traditional educational approach that proposes clear causation between information provision/awareness raising and behaviour change (even in the lack of practice) that has often failed to achieve meaningful impacts in patterns of behaviour. As these two projects are still ongoing, it is difficult to fully clarify the specifics of what will be presented at this symposium. The intention though will be to present some of the specific cases or examples that have been part of these projects and then to share some of the main findings and guidelines that have been elucidated from this work.

#### 3.2 Conceptual Approaches on Responsible Living

#### **Coherence for responsible living**

Konstantin von Normann — Germany

A high sense of coherence (SOC) defined as "a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that one's internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected" (Antonovsky, 1979) leads to a better response to stress and keeps healthy. For a study conducted, it was postulated that a high SOC leads to a more sustainable consuming behaviour as well. The Theory of Planned Behaviour and the SOC-scale were used as the basis for a study with 174 teenagers in the German town Leverkusen in 2010. The findings suggest that the SOC, and in particular the SOC-component meaningfulness: "a belief that things in life are interesting and a source of satisfaction, that things are really worth it and that there is good reason or purpose to care about what happens" has an impact on consumerism. The main finding of this study is that teenagers with a higher SOC have a more reflected consuming behaviour. They more often know what they want; buy only the things they need and they buy the most needed things first. The height of the SOC seems to be a strong predictor for human behaviour. This relation between SOC and consumerism leads to the conclusion that education should not only foster knowledge and competencies but also the individual SOC to implement responsible living.

## Understanding of the term "responsibility" as an indispensable condition for responsible life

Barbara Mazur, Joanna Kostecka — Poland

Summarizing human activities at a global scale (economically leading to wealth and poverty; environmentally leading to nature biodiversity degradation and socially to disparity between men and social exclusion), it is easy to conclude that withdrawal from the previously chosen way is necessary. The necessity for phrasing the conception of responsible life is now required. The aim of the study was to determine the understanding of the term "responsibility" by the chosen group of Polish students representing individualistic culture and students from Turkey (studying in Poland as exchange students in the frame of ERAZMUS program) and India representing collectivistic cultures (studying in Poland as a full time paying fees students), and recognizing their priorities in terms of innovations in behavior leading to more responsible life. The survey was chosen as a tool used in the study; questionnaire was completed by 100 students. The discussion of the findings of the research will be followed by recommendations for the groups of students representing different cultures how to bend their steps towards social and environmental responsibility.

#### Describing consumer competence: A transdisciplinary approach

Matthias Barth, Daniel Fischer — Australia, Germany

Sustainable consumption calls for alternative ways to satisfy the objective needs of today and future generations whilst respecting planetary boundaries. In the pursuit of sustainable consumption, education is widely ascribed a pivotal role as an instrument for disseminating more sustainable consumer behaviors. However, below this seemingly consensual surface the questions of what sustainability objectives are appropriate in consumer education and how they can be pursued is the subject of controversial debate. This controversy is addressed in this paper. The position developed in this paper is based on two assumptions. Firstly, scientifically derived measures of intervention targeted at modifying consumer behaviour are criticized from a pedagogical stance as ethically questionable for baring the risk of overpowering young people. From such educational perspective, it is suggested to focus on the promotion of consumer competence as a key objective. Secondly, sustainable consumption represents a normative idea that needs further interpretation and specification. This process requires the broad involvement of different disciplinary views and (groups of) non-academic actors. This paper uses a transdisciplinary approach to develop a construct of consumer competence. This comprises (a) of a literature analysis of existing concepts of competence and (b) of an analysis of educational practitioners' concepts of competence. As a result, a framework of seven key competencies is presented, including also the ability to think beyond consumption in one's own need satisfaction. Finally, potentials and limitations of the approach are discussed to contribute to a great transition from contemporary consumer culture to a culture of sustainable consumption.

#### 3.3 Consuming Differently or Less

## Big points of sustainable consumption and lifestyle orientation: How does it fit together?

Michael Bilharz, Lisa Cerny — Germany

There is a high scientific consensus that big efforts are needed in order to reach sustainable consumption. E.g., in industrial countries we talk about 5-9 tons CO2eq reduction per capita and year. But there is also a consensus in communication sciences that for the motivation of people for sustainable consumption low cost measures and step-by-step actions are needed. The presentation will show that those two findings don't fit together. There is empirical evidence that there is no automatism from step-by-step action to the realization of big points. Therefore we formulate assumptions on how to bring together big points and lifestyle orientation. We will talk about a differentiated understanding of consumer responsibility, give a closer look at the big points of sustainable consumption and suggest a more effective usage of lifestyle approaches. In order to show what this might mean in practice we will deliver insight into the brochure of the German Environmental Agency "A climate-neutral lifestyle: Consumers lead the way in climate protection".

#### Planning for less consumption – the case of Brøset

Stig Larssæther — Norway

A general challenge when trying to introduce new ways of living within planetary borders is that the current, unsustainable practices in many cases are intertwined in material surroundings that stabilise established conceptions about normality. This makes it very difficult to approach consumption of resources on an individual scale only, and with psychological/cognitive tools that ignore the role of material structures in sustaining norms and creating resistance to individual change efforts. In Trondheim, researchers and planners are now cooperating in developing a new housing area at Brøset, where the ambition is to create surroundings that nurture low-carbon and low-consumption practices, without being labelled as too extreme or alternative. As the planning of the area enters a more concrete phase, initial ambitions will now be tested against established conceptions about how to plan, develop and attract interest from potential inhabitants of the area. The focus of the current paper will be to discuss some of the challenges, resistance and paradoxes that emerge in the current stage of the process, where an area plan is to be developed and sent out to public scrutiny. I will here draw upon perspectives and concepts from actor-network theory where the role of material artefacts in configuring human practices has been a central topic. I will also utilise my rather unique "broker" position, being an active part of the project team in the municipality while simultaneously representing the research group and their interests and ambitions.

#### Challenges in sustainable clothing consumption

Kirsi Niinimäki — Finland

As the total volume of textile consumption at the global level is estimated to be more than 30 million tons annually, the environmental impacts of this industry are remarkable. Textile and clothing consumption is ever increasing and the more recent shortening of the life spans of especially fast fashion increases the environmental burden of the industry. Mass manufacturing in cheap Asian countries has ended up in situation where cheap product prices lead consumers to impulse purchases and unsustainable consumption behavior: overconsumption, very short use time of products and premature disposal of the product. Consumer products that relate to our self construction and identity are constantly evaluated on both aesthetic and social grounds. Products' symbolic meanings are connected to psychological satisfaction through an emotional response. When the product no longer offers a positive emotional response, the consumer feels a sense of psychological obsolescence and can easily replace the product with a new one. Through the new purchase event the consumer can again experience excitement, joy and pleasure, at least for a moment. This paper investigates the challenges in sustainable clothing consumption. It uses empirical data to study the use time of the clothing and while doing so it identifies determinants for short and long life-span of garments. It also shows that current industrial design and manufacturing systems are based on product's planned obsolescence and they do not contribute to the sustainable consumption. The paper also proposes alternatives ways to fulfill consumers vanity needs in appearance in more sustainable and less materialistic ways.

#### 3.4 Teaching Methods for Sustainable Consumption

#### Can students learn energy saving from energy efficient school buildings?

Annette Roser, Edelgard Gruber — Germany

The German Federal Ministry of Economics and Technology supports lighthouse projects of energy efficient school buildings. They include innovative technologies for glazing, ventilation, and lighting in retrofitted or new buildings. These concepts aim at saving energy or even producing more energy than the building needs. The planners also intend to achieve better learning conditions by offering a more convenient indoor climate and more comfort for the users. A further idea is that the teachers can use the projects in lessons in order to raise energy awareness of the students. The projects are monitored by an interdisciplinary research team of engineers, economists, and social scientists. Technical measurements and surveys of users complement one another. The sociological component focuses on how the installed technologies affect the school's daily life, their acceptance by the users, the impact on the perceived air and light quality, and the satisfaction of user's needs.

First results, from 2011, show that the buildings offer convenient room temperatures in summer due to sound construction details. However, some problems occur with respect to automatically controlled ventilation and lighting systems. First, users are more satisfied with the indoor room climate when they can influence it themselves. Second, when high-tech solutions do not function correctly this can cause frustration and aversion against the technology and even generally against energy saving measures. Finally, automation of procedures does not help teachers to raise awareness of the students. These findings demonstrate the need for a close cooperation between planners and social scientists representing the view of users.

#### Study circles as tools for learning active citizenship and critical consumerism

Sturla Bjerkaker — Norway

My paper will be about why study circles could be pedagogical tools in adult learning and education (ALE), especially when learning – as it very often is - are linked to empowerment, democracy and critical thinking. The Paper aims to implement the "Nordic Study Circle Method" especially in nonformal and informal adult learning and education: The study circle as a learning method for promoting studies and learning sites concerning local development, active citizenship, fostering and maintaining democracy, fostering further learning opportunities, self directed learning and learning for participation in society – and, as such, the study circle as a tool for democracy. For more than 100 years the three – school, workplace and community based learning – have been responsible for each their special curriculum in the large project which is to produce active and skilled citizens. The main issue in this shared responsibility of educational work has not been the sharing of content, nor the difference between them in the way they have performed – their pedagogy – but the broadness they are representing together, the manifold appealing to the joy of learning, which has to do with the variation in the social and physical learning environments. So far, the study circle has been linked to the community based learning. It might not only be necessarily so. In my Paper, I will connect the

study circle method to some examples where the method with success has been used for project on responsible living, social entrepreneurship etc.

### The use of visual stimuli, as a teaching / learning methodology, to engage students in critical reflection on responsible living issues

Amanda Mc Cloat, Helen Maguire, Miriam O'Donoghue, Mella Cusack — Ireland

The Home Economics Department at St Angela's College, Sligo and the Curriculum Development Unit of the City of Dublin Vocational Education Committee (CDVEC CDU) are both Irish members of the Partnership for Education and Research about Responsible Living (PERL) Consultants Network. In the spirit of partnership both organisations are working collaboratively on a research project which underpins the adaption of the original CCN produced Education for Sustainable Development (ESD) 'Images and Objects' toolkit so that it can be used as a support for the teaching of ESD and responsible living in the Irish Post-Primary Home Economics Curriculum. This paper explores one aspect of the research project, specifically the use of visual stimuli as an active methodology in encouraging undergraduate students to engage in critical reflection on responsible living. Year 1 students on the Bachelor of Education (Home Economics) Degree engaged in workshops using visual stimuli to generate discussion on issues pertaining to responsible living. Subsequently, students participated in a photo competition entitled 'Lights, Camera, Action'. Submitted images had to represent one or more of the seven sustainability related R's (Reduce, Reuse, Recycle, Respect, Reflect, Repair and Responsibility) and link to the Irish Home Economics curriculum. Although the competition was optional the level of engagement by the students was very high with 93% (n=54) submitting at least one image. The images presented were also accompanied by a short description demonstrating students' understanding of the concept of responsible living. This paper presents a selection of the images and reports on the effectiveness of using visual stimuli, as a teaching/learning methodology, to engage students in critical reflection on responsible living issues.

#### 3.5 National Perspectives on a Global Issue

### Consuming behaviour towards the "green" products during the economic crisis

Helen Theodoropoulou, Maria Zavali — Greece

Nowadays, energy consumption is very important, both from an economical and an environmental point of view. A large part of the total energy consumption of each society is due to domestic energy consumption, and particularly residential heating and cooling. This paper, aiming to study the acceptance and use of geothermal heat pumps (GHP) for residential heating and cooling in Greece, initially examines the degree of consumers' satisfaction regarding the heating/ cooling system they use, as well as the expectations—mainly economic- that they have from the prospective use of their system. The factors that may influence the consumers' choice of residential heating systems are examined, as well as whether these factors differ between user and non-users of GHP. The factors that influence their choice are grouped in economic and technical characteristics, comfort, aesthetics and

safety of system, as well as socio-economic, environmental awareness, and information factors. Apart from the above factors that can influence the consumers' choice, the demographic characteristics are also examined not only in relation to how they affect the choice of a particular heating/ cooling system, but also in relation to knowledge and information levels of the consumers on environmental and renewable energy sources issues generally, and GHP issues in particular. Special emphasis is placed on the level on which consumers are informed about GHP and the sources through which they (users and non-users) have been informed. The results of the study can be used to identify and rectify the lack of information to consumers, since it is very likely that this lack of information is the biggest obstacle for the diffusion of such innovative technologies.

#### Natural disasters, meaning of life and consumer behaviours

Yoshiaki Takahashi, Shigemi Kakino — Japan

The Great East Japan Earthquake on March 2011 has affected citizens not only in the most afflicted area but also all over Japan. Psychological aspect such as meaning of life is one of them. In addition, consumer behaviors were also affected. BBC News described that "[e]ven after the most violent earthquake anyone could remember the crowds were orderly and calm". In this regards, we conducted an online survey for the young (n= 17,158). Although only 5% of the young had contributed money for charity before the Earthquake, 65% did at this time. 3% had worked as volunteers before, but 7% did at this time. In addition, many younger tries energy-saving like life without air conditioning. On the other hand, citizens try to avoid risks of radioactive substances. For instance, 22% bought more bottles of water and other daily necessities than before. As a result, bottles of water were run short of at many supermarket stores. These behaviors may be result of people changing sense of values and meaning of life by the Earthquake. Other factors may be residence areas (e.g. near Fukushima), family structure (e.g. a family with a small child), consumer knowledge, trust in government and/or risk tolerance. Among them, feeling empathy with others seems one of important factors. At the conference, we'll show our results from analysis about how those factors made effects on consumer behaviors for discussion. The findings from "the most violent event" give an insight for structure and process towards responsible living.

#### Building inter-community development projects from school based initiatives

Ruairi Doyle, Declan Doyle — Ireland

The Global Education Experience (GEE) is an international development project of the Presentation Schools in Ireland in cooperation with other units of the congregation based in the South; in this case in Kaoma in Western Province Zambia. The aims of GEE include to enable students:

- To interact with others of a different race, culture, and religious belief
- To develop an understanding that poverty, disease, and environmental degradation are often related to political, social, and economic policies and decisions

The Presentation College Askea Carlow has been involved in this project since 2004 and is now expanding the project to include further community development. Kaoma Partnership is a recent initiative started by the members of the Askea-Bennekerry parish in Carlow, Ireland as a follow on to the GEE. This was done to form a link between Askea-Bennekerry and the parish of Kaoma, Zambia. From the outset this was designed to be an equal partner relationship, free of the problems caused by a

mere donor-beneficiary situation. This research examined the literature concerning strategy development and formulation and through a qualitative research methodology sought to understand the possibility of using strategic development models developed for the corporate sector in the non-profit sector. The model presented by Bailey, Johnson and Daniels (2000) will be used to inform the primary research. The dimensions of their model; command, planning, incrementalism, politics, culture, and enforced choice; were used to develop the interview plans and to guide some the focus group work conducted. The field study is based on interviews, both in person and by telephone, with individuals linked closely to the GEE and the Kaoma Partnership, in Ireland and in Zambia. An interview with personnel who have carried out work for the Irish governmental organisation, Worldwise, helped formulate the issues involved in linking with partners in the South and the interview with Susan Gallwey, the Development Education Officer of Oneworld examined capabilities and evaluation of strategic alternatives.

### Paper Presentation Tuesday 14.15 – 15.15

#### 4.1 Workshop

## Student companies - A teaching arrangement with much potential for learning processes for responsible living

Isabelle Penning, Christiane Wegener — Germany

Economical education should enable students to become responsible, conscious and active citizens who consider sustainability aspects by all their decisions. Student companies give learners the opportunity to experience the formation of an enterprise and in business management. Thereby this learning arrangement offers the potential to make students sensible of economical problems and ways for a more sustainable living. First positive experiences at schools helped student companies become a more common innovative teaching method in the last years. By examining these companies, one can see significant differences within the organizations and aims of the enterprises. Frequently, the potential to choose responsible living as a central theme is untended. Because of this notice and the high importance of education for sustainable consumption, we developed a coaching program for student companies. This coaching is divided in three parts and helps students gain knowledge, values and skills for a more sustainable way of living. The main goal is to effectively teach critical awareness, ecological and social responsibility, and global solidarity in combination with their own company. As end results, the students will successfully work out aims of sustained yield for their company and will also be enabled to survey their own development regularly.

#### 4.2 Food Security and Food Education

### Challenges on food security and on sustainability: Entomophagy as a source of natural proteins

L. M. Cunha, A. Pinto de Moura — Portugal

Besides having to find new ways to generate energy, the predominant problem for man's future will be how to feed the people. In 2009, the amount of people suffering from starvation surpassed one billion, with Asia and Sub-Saharan Africa being the most affected areas. Most people affected are small farmers that strongly depend on their own harvest. Providing immediate food help is the humanitarian action expected, while indicating individual solutions to improve agriculture is the sustainable approach to reduce the problem on the long run. With these aspects the world faces a major problem in providing adequate animal based proteins. Many traditional societies have used or still use insects as a protein source, while westernized societies are reluctant to use insects, despite being the major consumers of animal proteins. Following FAO's recent guidelines, we need to consider insects as a source of food for humans in a manner that acknowledges both the role of entomophagy in indigenous societies and the need for westernized societies to reduce the size of their environ-

mental footprint with regard to food production. The situation on continents such as Africa, Asia, and Central and South America has some parallels to Australia in that there are two forces in operation: the sustainable traditional use of edible insects and the "westernization" of these societies leading to a movement away from entomophagy. This work highlights different aspects of traditional enthomophagy and its impact on local and global sustainability, and presents possible solutions to help on introducing enthomophagy on Western countries, overcoming fear and aversion, through the use of technological derivatives.

#### Food education in Italy-guide lines and programs: a proposal for Europe

M. Melissano, G. Donegani — Italy

Food Education can be considered a subset of Education for Sustainable Development. Food education as lifestyle. In Italy, the rate of obesity among children and adolescents has dramatically increased over the past twenty years and it's considered an epidemic and food education seems to be needed as a crucial part of every student's knowledge. In 2009 Italian Ministry of Education launched (at first as a master plan) the curriculum "Scuola e Cibo", a cross-disciplinary formative course which involved students from primary school to university. On October 2011 the Ministry published the relative guide-lines, that made official food education's introduction in school programs and they established a reference point of its development. In 2011 in Italy it was born "Food Education Italy", a joint venture foundation which it gathers guidelines' input with the purpose of giving concrete actuation of it, promoting the relationship among schools, families and all the stakeholders. In their contribution, the Authors describe Food Education curriculum, also as a new european project and they present the guide lines approved in Italy, considering contents, instruments and methodologies that are effective in order to realize these goals:

- Increasing the awareness of the importance of food and health's relationship.
- Favoring the adoption of healthy-eating behaviors, thanks more proper teaching strategies and to a particular attention for the knowledge of foods quality and sustainability.
- Promoting food farming system's knowledge through the understanding of the relationship among food resources, environments and society.
- Promoting the cross-linking between food education and those historical, scientific, geographical, cultural, anthropologic, social and psychological aspects.
- Promoting an idea of overall food quality which includes emerging evaluation criteria related to: sustainability, ethics, periodicity, cross-culture, territoriality, safety, consumers satisfaction.

#### 4.3 Habits and Culture

### Empowering teenager consumers through active research for a more responsible way of consumption

Anja Christanell, Michaela Leitner — Austria, Belgium, Germany

Along two recent research projects with teenagers at the age of 15-22 at three Viennese schools we will demonstrate values and attitudes of teenagers towards consumption and their way of looking beyond consumption by doing research on teenagers' ways of consuming in general (e.g. food, clothes) and on the way their families consume energy at home in particular. In both projects - financed within the Programme "Sparkling Science" of the Austrian Federal Ministry of Science and Research - social scientists of the Austrian Institute for Sustainable Development introduced and actively involved the pupils in the development of questionnaires, the conducting of interviews and data analysis. This paper reflects at first how teenagers within the project MY LIFE - MY STYLE - MY FUTURE became aware of differences in consumption behaviours and what skills and methods were applied to move with the pupils towards a critical examination of their own daily consumption routines. Secondly we throw the light on the impact of our own work in the project ABLE YOUTH by presenting what the teenagers learned about self-initiated changes and their real impact on daily energy practices. Furthermore we will discuss the barriers and restraints of impact evaluation from our own perspective and the perspectives of involved pupils and teachers (based on qualitative interviews). By pointing out applied methods and needed skills as well as our own successes and failures, we will contribute to a better understanding of how educators and scientists can empower young consumers towards a more sustainable and responsible living.

#### The effect of culture on sustainable behaviour

Jak Spencer, Debra Lilley — UK

Over the last few decades the consumption patterns of the world's wealthiest countries has led to the degradation of the environment and exploitation of the world's finite resources. The developed world currently consumes at a level that requires up to five planets' resources. The world average consumption, however, is a much lower 1,5 planets, which is brought down by the lower consumption rates and more sustainable behaviours of developing countries (Global Footprint Network, 2010). Culture is of particular importance, as the change in consumer culture in rapidly developing nations will have major consequences on global household resource use. Countries like Brazil, India, Russia, and China are some of a number of rapidly developing countries that currently have relatively low GDP p.p., but a high Happy Planet Index (measuring environmental footprint and life satisfaction) (World Bank, 2010). Culture is a key factor in the formation of habits or routines that shape behaviours and lifestyles; however it has not yet been holistically explored in a design context. This paper will introduce a cross-cultural comparison of everyday household behaviours using real world practical examples from extensive surveys and intensive ethnographic studies between developed and developing countries including the UK, Brazil, India, Nicaragua and Uganda. The findings will contribute to a greater understanding of the influence that culture has on user's behaviours when interact-

ing with products. The paper will conclude by outlining the effect of culture on environmental impacts in a design context and important issues regarding the future of responsible design.

#### 4.4 Regional Perspectives on Sustainable Consumption

#### Challenging consumerism: major outcomes of the 2012 SCORAI workshop

Philip J Vergragt — USA

The recent and ongoing environmental, economic, and financial crises have exposed the flaws in contemporary material and energy-intensive lifestyles prevalent in the global North and growing in the global South. On many places, alternatives are being debated and tried out to move beyond consumerism and toward more sustainable human, ecological, and economic well-being. These so-called Bounded Socio-Technical Experiments (Brown and Vergragt) or Grassroots Innovations (Seyfang) do not easily diffuse beyond their original constituents. In the second SCORAI workshop, these developments and their socio-political contexts are assessed through three different objectives: "to deepen the knowledge base of how systemic change toward a more sustainable society can take place; to assemble empirical findings from local practices in sustainable well-being being demonstrated in localities across North America and internationally; and to examine the above findings through the lenses of critical theory, policy making, business strategy, technology assessment, sustainability education, and others, with an eye toward identifying those with potential for mainstreaming and promoting systemic change". Aspects to be addressed are "What has been accomplished so far in terms of consumption, lifestyles changes, and institutional and political shifts? If not much, why not? If a lot, why are they not scaling up? What are the barriers and opportunities to build on these initiatives, create synergies, and diffuse to mainstream practices, policies, and institutions? What new conceptual understandings are emerging from the accumulating experience? How can these emerging understandings inform theory development and policy debate, and foster systemic change?" In the SCORAI workshop about 15 papers from leading scholars and practitioners will be discussed in-depth. In addition a dialogue between practitioners and researchers will be conducted. The paper will present the main outcomes of these papers and discussions; and will discuss the implications for education in developed and developing countries. This paper will also be a major input for the Global Research Forum on SCP that will be organized in June in Rio just before the Rio+20 Conference.

### A comparative assessment of cases on ESD learning processes in Japan, the Republic of Korea and the People's Republic of China

Paul Ofei-Manu, Robert J. Didham, Akira Ogihara — Japan

As the UN Decade for Education for Sustainable Development (DESD) nears its end in 2014, the impact of education in attaining a more sustainable future and the scale of ESD's implementation is a key issue. Though examples of how education can contribute to the progress of sustainable development have been identified, the challenge now is to measure the extent to which ESD has been implemented and to identify methods to further mainstream these important learning processes in a systemic manner. The United Nations University Institute of Advanced Studies (UNU-IAS) and the Institute for Global Environmental Strategies (IGES) initiated a collaborative research project in close cooperation with UNESCO's Bangkok Office in early 2011. This project focuses on monitoring and evaluation of ESD and aims to establish regionally-relevant indicators of ESD to assess the implementation that has occurred under DESD in individual countries across Asia. The current research takes a two-fold approach by quantifying aspects of countries' current status and context of ESD implementation through work with national ESD focal points and also by assessing the qualitative aspects of good practice cases in cooperation with Regional Centres of Expertise on ESD (RCE). This paper will use eight good practice cases collected from RCEs in Japan, the Republic of Korea and the People's Republic of China. A comparative assessment of these cases will be made to identify success factors, strengths and weaknesses in regards to effective ESD learning processes across these countries.

#### 4.5 Responsible Living at the Workplace

#### **Empowering consumer citizen at work**

Christoph Harrach — Germany

On the one hand the overall environmental consciousness of consumers is rising (UBA 2010) and the lifestyles of health and sustainability (LOHAS) have reached the middle class of the german society (Sinus Sociovision 2009). On the other hand more and more companies are looking for new approaches to act environmentally and socially friendly. Corporate social responsibility has reached the mainstream market (Fricke/Schrader 2009). Currently the link between these two aspects of mainstreaming is limited to external consumers only (Muster 2011) ignoring that sustainability orientated consumers are employed in corporations. It could be assumed that private sustainable values, attitudes and behaviors are spilling over into the work environment. This assumption is affirmed by scientific work life research that shows clear interactions between different life spheres (Edwards/Rothbard, 2000). Accepting the impact of work life balance activities on employees commitment (Rhoades, Eisenberger and Armeli 2001), satisfaction and loyalty (Forsyth, Polzer--- Debruyne 2007) as well as the impact of internal corporate change makers in the field of sustainability (Gerlach 2003, SustainAbility 2008, NetImpact 2009) it can be assumed that the empowerment of employees with a private sustainable lifestyle could have a positive impact to the CSR strategy and environmental management of any corporation. In this context the presentation will show a model to measure the spill over between private sustainable values, attitudes and behavior and the working environment. This model will also demonstrate in which extent the degree of empowerment of employed

consumer citizens effects their job satisfaction and commitment to work. The presentation will also show case studies how sustainability orientated employees could have more impact at work based on their private lifestyle. The presentation contributes a new dimension to the discussion on consumer citizenship and CSR in the context of human resource management.

## The impact of work on private life – Challenges and opportunities for responsible living

Viola Muster — Germany

Positive and negative influences of working life on private life are everyday experiences of employees. Friends who have found a great job might give a big party at the weekend. Mothers who feel exhausted from work might cancel sport activities with their children. Positive and negative influences either enrich or restrain the individual performance in private life. Since (sustainable) consumption is also part of private life, positive and negative influences of working life on sustainable consumption are possible. In sustainable consumption research negative as well as positive influences of working life on sustainable consumption have been discussed. Positive influences have been pointed out in regard of learning and individual transfer effects (e.g. Berger and Kanetkar, 1995). Negative influences have mostly been illustrated in regard of working time, working conditions and the separation of work and home (e.g. Heimerl, 2002; Lorek and Spangenberg, 2001; Reisch, 2001; Schor, 2005). However, with regard to work-life-research and its gained insights into the work-liferelationship (e.g. Edwards, Rothbard, 2000), I claim that the range of influences affecting sustainable consumption is incomplete. In order to facilitate the shift in consumption cultures and to foster responsible living, the full impact of work on sustainable consumption needs to be analyzed. Therefore in my presentation I will firstly illustrate insights from research on sustainable consumption regarding the work impact. Following this, I will introduce work-life-research and its compiled models that explain the work-life-relationship. Then I will integrate both perspectives and point out additional influences which need to be considered, too. Finally practical implications how to foster responsible living will be given.

### Paper Presentation Tuesday 15.30 – 16.30

#### 5.1 Symposium

#### Initiative "Consumer education – strengthening consumer skills"

Peter Gnielcyzk, Kirsten Schlegel-Matthies, Tatjana Bilke — Germany

Consumer education is an important aspect of the German Federal Government's consumer policy. It lays the foundation for wise consumer consumption and market participation on an equal footing. With the initiative "Consumer education – strengthening consumer skills", the Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) is making an effort to ensure that matters of consumer education are conveyed more often at German schools. Children and adolescents should be taught methodological and judgment skills for their everyday lives from an early age.

#### 5.2 Workshop

#### Water, responsible living and education

Nieves Alvarez Martin — Spain

Droughts, floods, lack of potable water, waste, disease. Water is abundant and scarce good, necessary and devastating at the same time. How to act responsibly to this resource of nature? Practical workshop objectives:

- Presentation of the teaching case "Water, responsible life and education"
- Develop a practice of research activity (easily transportable to the classroom) in which one learns to know the water, love, uncover creative and destructive power, understand the need to respect it and use it rationally.
- Use multimedia resources to developing and teaching evident properties.
- To consider, discuss and draw conclusions.

#### Resources to use:

- Experiments
- Multimedia resources
- Interactive games
- Worksheets

#### Additional activity:

• Exhibition "Treasures of the water", which includes photographs and curious experiments on water.

#### 5.3 Social Innovation and Social Media

#### Sustainable consumption without traditional ownership via internet?

*Ulf Schrader* — *Germany* 

Traditional consumption in affluent societies relies on product ownership: Consumers buy new products, use and finally dispose them. More than ten years ago, different (especially European) researchers started to think about more sustainable alternatives which focus less on individual ownership. Under terms like "sustainable service-systems" or "eco-efficient services" alternative rental, sharing, and service schemes (like tool rental, car-sharing, or washing services) have been discussed (e.g. Halme et al. 2005; Hirschl et al. 2003; Manzini/Vezzoli 2003; Mont 2002; Schrader 1999; 2001;). Despite its widespread academic attention, their diffusion is still limited in comparison with newly bought and owned goods. Recently, the discussion gained a new momentum due to internet websites which allow consumers to share products (e.g. www.drivemycarrentals.com.au), offer private services (e.g. www.couchsurfing.org) or swap or buy-and-sell used goods (e.g. via ebay or bookmooch.com). Since the new offers often allow consumer-to-consumer transactions, the phenomenon has been labelled "collaborative consumption" (Botsman/Rogers 2010). Despite growing public interest, academic research on these activities is still scarce. In this presentation, I will show how concepts, developed to explain consumer acceptance of consumption without ownership in the offline-world (esp. Schrader 2001), can be used to understand the diffusion of collaborative consumption via internet. General attraction of consumption without ownership can be explained with the – often neglected – duties of ownership which are systematically combined with property rights. Obstacles for the acceptance of alternatives to ownership have been especially transaction costs, labour costs and cultural factors. Their relevance has decreased in an internet-world where onlinetransactions are easy, labour is done by private consumers and a culture of opening up the private sphere is developing. Finally, I will discuss the conditions which make collaborative consumption a contribution to sustainability - or not. Important here are the classification into substitutional and additional consumption and possible rebound effects.

## The role of IT and social media in the process of transition to responsible and sustainable living

Irina Liokumoviča — Latvia

Currently new digital IT and social media have a tremendous impact on our own life and the world around us. It is a powerful tool of persuasion, provoking action and influencing public opinion. The main challenges are to explore how IT and social media affect the responsibilities of consumers and citizens as individuals and community members and how we can become responsible consumer citizens and benefit the society. The study addresses globalized social media as a platform and a tool for the engagement of people. It focuses on modern digital social media applications and platforms such as Facebook, Twitter, MySpace and mobile phones that can empower the public to choose responsible and sustainable lifestyles. The paper examines two kinds of civic participation: 1. participation inspired by individuals; 2. participation instigated by institutions (e.g., governments, corporations, NGO, etc.). It raises the critical issue whether the participation in the "virtual world" via blogging, online petitions and texting micropayment charity can lead to greater consumers and citizens partici-

pation in the actual world and make people more socially responsible. The public engagement in policy debates is illustrated on the activities of self-government in the context of Latvia, in particular Riga City Council. A successful collaboration between municipality and neighborhood inhabitants in the city environment protection within Riga neighborhood development project is highlighted. The activities of Riga City Council on the way to sustainable living are examined through the prism of social media from economical, environmental and social perspectives (e.g., the improvement of energy consumption efficiency in Riga residential buildings, waste water management, environment protection, etc.). In this context, a comparative analysis of the situation in other Baltic States (i.e., Estonia and Lithuania) is carried out. The world has entered a period of transition and there will be many opportunities to encourage and channel a positive change.

#### 5.4 Systemic-Approaches to Responsible Living

### A Systemic Approach to Responsible Living: Education and Action for Transformation

Vanessa Timmer, Emmanuel Prinet, Dagmar Timmer, William E. Rees — USA

Advancing responsible living is a complex and dynamic challenge. In this paper, we argue that a systems approach is central to creating a more accurate picture of the issue and identifying the high impact solutions necessary to transform our current unsustainable consumption patterns. This paper aims at addressing the problem of consumer issues being explored in isolation or only at the household level without analyzing the institutional and structural conditions which facilitate sustainable choices. By placing responsible living within the broader context of the sustainable consumption and production (SCP) system, it is possible to consider the whole system, including the centrality of our needs, values and culture, the lifecycle of materials, driving forces such as enabling policies and economic levers, and the diversity of actors who need to collaborate to transform the system. Drawing on systems theory, we analyze the components and interactions within this system and outline specific conceptual frameworks, skills and tools which educators and change leaders can adopt. We outline the benefits of adopting a systems approach to advancing responsible living including moving beyond a single-issue incremental focus, finding enduring solutions to complex problems, avoiding unintended consequences, and determining priorities for action. Finally, this paper compares three specific initiatives aimed at transforming consumption patterns through a systemic approach -SMART CSOs (Europe), SWITCH ASIA (Asia), and the Sustainable Consumption and Production Systems Mapping Project (North America).

### How to enable major Asian consumer groups to switch to pathways of responsible living? Lessons from SWITCH-Asia Programme

Burcu Tuncer, Frans Verspeek — Germany

By 2030, Asia is projected to account for two-thirds of the 4.9 billion global middle-class, which will equate to a larger disposable income to drive consumption. Consumers in Asia are also expected to represent the biggest group of consumers in the world in 2030 with consumer spending predicted to reach USD32 trillion. This will have major implications on global consumption and production if Asian

consumers consume like their counterparts in developed countries. This paper will present lessons learned within the collaborate projects of SWITCH-Asia Programme regarding the mechanisms that could enable these major consumer groups to switch to pathways of responsible living. SWITCH-Asia funded by the EU has been running since 2008, in 15 countries funding 30 projects (by 2011) with a total budget of € 150 millions. It is focused on promoting and replicating good production and consumption practices among Small and Medium sized Enterprises (SMEs) and consumer groups in Asia. The paper will firstly provide a brief explanation on the core sustainable consumption challenges faced by consumers groups based on the findings of the third SWITCH-Asia booklet. Secondly, it will focus on three project cases from India, Vietnam and China that all use a different package of instruments to address target group consumers. Thirdly, it will conclude with common lessons-learned and few critical issues identified.

#### 5.5 Teaching Methods for Sustainable Consumption

#### Augmenting responsible-living curricula with transdisciplinarity

Sue McGregor — Canada

Recently, I was invited to participate at a conference in Nigeria on transdisciplinary approaches to curriculum development for climate change. This line of thinking really intrigued me because I know about transdisciplinarity, I know about curriculum development and I know a bit about climate change. But, I had never thought to merge them all together. This paper will explore what curriculum development would look like through a transdisciplinary lens. It fits into Track 3: Education and Learning for Responsible Living, especially "What skills do teachers need to empower tomorrow's consumers to look beyond consumption?" I will draw upon Basarab Nicolescu's approach to transdisciplinarity (as a three-pillared approach to solving complex, emergent, wicked world problems) as well as that tendered by such luminaries as Michael Gibbons and Helga Notwotny (at the 2000 Zurich Congress). They see transdisciplinarity as the joint problem-solving of problems pertaining to the science-technology-society triad. The paper will tease out how those developing or adapting responsible-living curricula can augment their curriculum development process with insights from the vanguard field of transdisciplinarity.

#### Animal welfare education contributes to responsible living

Roy Kareem — UK

Humane Education (HE) helps audiences learn about the world around them and the need to live in harmony with other humans, animals and plants. As an aspect of this, animal welfare education (AWE) focuses on how caring about the well-being of animals can not only give animals better lives, but also benefit the humans that rely on them for their livelihoods. Intensive factory farming is one example of where animal welfare and consumptive demands clash, highlighting the need for education regarding responsible living and reduced consumption. Livestock production is responsible for seven billion tonnes of greenhouse gas emissions globally each year, making intensive farming one of the largest contributors to global climate change. Factory farming does not consider the welfare of animals either; animals are often forced to live in cramped spaces so small that they cannot stand, turn around or express natural behaviours. Ignorance about the reality of these farming methods is

rife, and education about sustainable farming can lead to consumer behaviour change and demand for better farming methods, leading to better lives for billions of animals and the relief of environmental pressures resulting from how these farms are run. Effective animal welfare education utilises interactive teaching methods that help students develop critical life skills. Through learning about animal welfare issues, they learn to question how animals are treated and how this affects their communities. Animal welfare education, such as that carried out by WSP, is key to promoting sustainable living and should be integrated into the Education for Sustainable Development agenda.

### **Poster Presentations**

## Sustainable packaging as part of sustainable consumption: a consumer's perspective

Elina Dace, Diana Rumpite — Latvia

During the recent years consumers in Latvia have become more aware of sustainability in products. At the same time when shopping, more attention is being paid to packaging – usually its visual attractiveness. The choice is influenced also by the material the packaging is made of. However, packaging is not the dominant factor when the choice is made among similar products, whereas the price of the product often is. The aim of the paper is to analyze the habits of consumers in order to understand the role of packaging as part of sustainable consumption in the daily purchases. It is well-known that the efforts made by producers to develop a sustainable product may lose all their meaning, if the right decisions are not made by consumers. It refers not only to the quality of the product, but also its packaging. Packaging is considered sustainable if it is not only made of materials healthy throughout the life cycle with optimal material and energy use, but also effectively recovered and utilized in biological and/or industrial closed loop cycles, and, what matters – if it is preferred by the customers instead of other kinds of packaging. The analysis is based on the questionnaires compiled by the authors and distributed in the supermarkets in Riga. The paper seeks for an answer how to find a balance among different factors influencing the consumers' choice in order to make most of the sustainable packaging as part of sustainable consumption (among others - raising the awareness of various kinds of sustainable packaging, their winning qualities for everyone and the environment).

### Mixed-methods approach for evaluating learning outcomes regarding responsible living

Eliza Uzunova — Bulgaria

At the moment there is no course dedicated exclusively to education in responsible living in the marketing education at the University of Economics in Varna, still the topic is considered important for marketing specialists-to-be as they can influence consumer culture to a great extent through their decisions. The topic of responsible living was integrated as a secondary assignment in the course "Interactive marketing". The primary assignment of the course is to enable students get a hands-on experience of a technology which can be used for interaction with consumers in the means of web 2.0 (e. g. creating a wiki, blog, website and others). The course uses methods of active learning, in this case project work conducted by different teams of students. The students are bound solely with the choice of a technology and main topic, afterwards they decide freely how to approach the topic and use the selected technology to best fulfil their self-stated goals. The current case study presents insights on the work of students who chose to use weblogs to promote the idea of responsible living. The evaluation of the course' success involves ongoing observation of the learning process, as well as a post-hoc analysis of the accomplished results. The analysis makes use of a mixed-methods approach, comparing the findings of a qualitative content analysis with quantitative survey data. The

acquired results are being used for improvement of future courses as well as for identification of possible transfer options in other courses.

#### Student's skills and ripeness of responsible living

Iveta Lice — Latvia

Education should be in step with the time, political and economical changes. A young person becomes a member of the society. Every new generation inherits and develops its own forms of the existence characteristic for the whole community. They include the attitude to the world, responsibility, emotions, the ways of the world cognition and understanding. Many skills are being obtained at school especially the social skills which are necessary to live in the society. Pupils should obtain the ripeness for the living necessary for the 21. century human being. The components for the ripeness are: self dependence, responsibility and activity experience. The basic values should be pointed out in the context. Nowadays the pupils' self evaluation has been emphasized alongside with the teachers' evaluation. The theory of pedagogy points out the necessity to acknowledge the need for the self evaluation. It is necessary to understand that the self evaluation is a self managing process. The self evaluation makes a pupil connect the present knowledge with the previously taught one. The aim of this article is to clarify the students' social skills and ripeness in learning for responsible living. The research was carried out in Jelgava (Latvia) 280 students aged 8-12 were invited to participate in the research. The main conclusions: the students perceive the social skills very seriously, they feel safer in the social situations together with their friends, they often feel uneasy in the society and have their own basic values, their own opinion about the responsible living, learning for responsible living makes them think about the usefulness of consumption and economical management.

### Development of consumer's responsibility during study process: Latvian experience

Liga Danilane, Velta Lubkina — Latvia

The authors of the article perform a research "Essence of consumer education at primary school". The article offers findings of the research, being carried out within several years, regarding the sphere "Consumer responsibility", which creates consumer culture. The article performs analysis of primary school students' knowledge, comprehension, moral norms and creative experience, as well as evaluation of achievable study success, accordingly three indexes: knowledge and comprehension, skills and attitudes. For data analysis there were used processing indexes of quantitative research:  $\chi 2$  criteria, correlation, examination of hypothesis and other criteria, allowing to make conclusions regarding students' knowledge, comprehension, skills, complying with moral norms and experience of practical activity, so – students' consumer culture.

### Professional self-determination of senior secondary school students – a route to responsible living

Zoja Chehlova, I. Kevisha, M. Chehlov — Latvia

The development of Latvia within united Europe poses a new task for education, namely, preparing young people for living in the global system of European cooperation, intensive exchange of information and the products of human creativity, as well as communication within various joint projects, unions, and associations. In these new conditions, the human factor becomes increasingly important for social, cultural, and economic development of the society. Educational values are changing. Democratic tendencies are consolidating and developing, the evidence of which is the individualization of education as well as emerging of new kinds and forms of education. In Latvia, specialized education starts playing a more significant role. In this respect, the issue concerning the creation of optimum conditions for the professional self-determination of senior secondary school students is very important. Specialized education implies harmonious interconnection between the chosen professional specialization and the culture of general education, which corresponds to the key trends in the development of senior secondary school students and determines the developing possibilities of specialized education. The development of autonomous personality takes place in the process of specialized education. The choice of a future profession in accordance with their abilities, interests, and the needs of the labour market determines students' readiness for responsible living. The analysis of academic literature enabled us to draw a conclusion that professional self-determination refers to the readiness of school-leavers for choosing their profession. In the present study the following structure of professional self-determination has been singled out: the choice of a profession, knowledge on the chosen profession and the required personality features, knowledge of one's individual personality features, the system of life values, and practical skills in the chosen specialization. The research subject is the development of professional self-determination for senior secondary school students and their readiness for responsible living. The purpose of the research is to provide theoretical basis and experimental proof for the model of the educational process aimed at the development of professional self-determination for senior secondary school students and to analyse their professional self-determination as readiness for responsible living. Research methodology: observation, testing, a survey, modelling, an experiment, and mathematical statistics. The experiment was carried out in a lyceum providing specialized education; educational programmes for various departments were developed. The criteria and levels for the development of the professional selfdetermination of senior form students were determined.

## Responsibility and role of the family in the process of development of teenagers' life strategies in modern conditions

Marina, Marchenoka— Latvia

Teenagers' life strategies are a significant factor in their social activity and an indicator of fundamental changes happening in any society. Reforms in Latvia have changed the socially economic, political and spiritual situation in the country. Peculiarities of development of the modern Latvian society provoke confusion in many families who are anxious about search for a place for their child in the new socially economic system. The socialisation of teenagers is going on in different conditions than the socialisation of their parents. Parents' life experience cannot always help their children, because

parents do not clearly realise what goals will be put forward for their children in their life and what personal qualities and skills are to be developed in their children that would be adequate to the new social reality. The absence of the basic concept for perspective development of the country creates the ambiguity of the situation in development of life strategies for children. The Aim of the research is to define family's responsibility and role in the process of development of life strategies for teenagers in nowadays conditions. The theoretical base of the research includes: the theory of the personality, where main phases of parents' responsibility for their child are expounded (C.Rogers), the concept of responsibility and family functions, the theory of social activity (T. Parsons), the concept of family's problems and personality's socialisation (P. Berger & T. Luckmann; H. Rheingold), the concept of development of life strategies of teenagers (K. Abulkhanova-Slavskaya). The empirical research includes: D.Yartsev's questionnaire is intended for investigation of the family's role in the teenager's socialization; Projective method "Metamorphosis" (Y.Semyonov); "Subjective Control Level" (the modified version of J. Rotter's questionnaire). The Results of the research are the following:

- the theoretical analysis of psychological pedagogical literature on the given problem;
- the role of the family as an agent of the primary personality socialisation in nowadays socially economic situation has been defined;
- the author has defined the interconnection between the changing socially economic, spiritual
  and moral processes in the society and the family's responsibility in the process of development of life strategies of teenagers.

#### Pathways for better health and a greener lifestyle

Tove Brita Eriksen — Norway

My paper presentation is based on health concern and teaching of the next generation. My core question is: How is it possible to impact a small society through education to reduce consumption for a more greener and a healthy lifestyle? In my presentation I argue on basis of different theories (Antonovsky 2009, The Toronto Charter 2010,UngHUNT 1995-2008,Eriksen 2006/2007). I will also argue for the general impact of Michel Foucault's (1997) analysis of power/knowledge perspectives according to health and the emergence of a greener lifestyle. The intention with my paper presentation is to stimulate theoretical discourse within the following Conference theme for Berlin: "Beyond Consumption, Pathways to responsible living". We still have a lack of both empirical and theoretical research on this thematic field, and we need ideological discussions and new perspectives for understanding

# Communicating social and religious values for responsible living in the aftermath of a revolution: content analysis of artistic visuals on the streets of cairo

Sara Hamed, Noha El-Bassiouny — Egypt

When citizens of a country start and are flamed by a revolution or when they are hit by major changes in their countries, they tend to express their feelings and share their values through different media. A common method that was found throughout the world is the expression and sharing of values through visual arts. After the current Egyptian Revolution of the 25th January 2011, streets and

sidewalks were filled with visuals expressing social and religious messages that youth in the country are trying to communicate with each other in relation to how people should behave after this major political change. Social messages within these visuals were emphasizing ethical behavior in daily life and work. Religious values communicated highlight the unity and solidarity needed between the Egyptian Muslims and Christians for the sake of protecting their joint home country. All these kinds of visuals can be considered a type of informal education towards improving responsible living of the general public. They can also be considered as a type of social marketing or awareness campaigns created by and for the public, rather than through firms and organizations. The aim of this paper would thus be to identify the different values that were communicated through the visuals of the Egyptian revolution and relate them to the modern discourse on responsible living in the context of Egypt 2.0. This is needed in turn to identify how these visuals can aid in informally educating citizens of a country about responsible living, and how these can last for decades to educate the future citizens of a country.

#### Understanding sustainable lifestyles: today's facts & tomorrow's trends

Cheryl Hicks — Germany