

# **Sustainable Community Development in the Baltic Sea Region**

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## **Abstract**

This study examines Sustainable Community Development (SCD) in the context of the Baltic Sea Region. The research focuses on understanding a model for SCD piloted in Robertsfors, Sweden. The model is said to be transferable to any community around the world. This study seeks to understand the concepts and tools used in the Robertsfors Model. It also examines whether the model is strategic with regards to sustainability and whether it is successful in engaging the local community around these issues. Considerations for transferability are also addressed, focusing specifically on the Eastern Baltic Sea Region. Opportunities for improving the model are also studied. A combination of secondary research, in the form of literature review and primary research (structured interviews and questionnaires) was used to explore these questions. Propositions about SCD and questions for further research emerged from this study.

## **Keywords:**

Sustainable Community Development, Community Engagement Process, Strategic Sustainable Development.

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Karlskrona, June 2005

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# Executive Summary

*Introduction.* This research examines the issues of Sustainable Community Development (SCD) in the context of the Baltic Sea Region (BSR).

This research defines “community”, as a complex social subsystem operating within the broader system of society within the biosphere. For it to be a “sustainable community”, conditions for societal success within the boundaries of basic socio-ecological principles for sustainability have to be met. In terms of this definition, a “sustainable community” is one that provides its residents with the conditions for meeting their needs without contributing to systematic degradation of their society or the natural systems.

In order to assess the sustainability of a community, this research relies on the Strategic Sustainable Development Framework (SSD) as defined by the Swedish NGO The Natural Step. This SSD encompasses science-based principles of sustainability, a strategic framework known as the ‘Five-Level Model’ and a process of strategic planning known as ‘ABCD’.

The Sustainability Principles are described as follows: “in a sustainable society, nature is not a subject to systematically increasing:

- (1)...concentrations of substances extracted from the Earth’s crust;
- (2)... concentrations of substances produced by society;
- (3)...degradation by physical means;

and, in that society

- (4)...people are not subject to conditions that systematically undermine their capacity to meet their needs” [1].

These principles articulate the basic conditions that the global socio-ecological system must meet to be sustainable.

The SSD framework allows for planning within the complex system of individuals within community, within society, within the ecosphere. Application of the SSD framework involves ‘back-casting’ (looking back) from a principled definition of success based on the above-mentioned Sustainability Principles. If applied this way, the SSD results in strategies and measures to arrive at real sustainability.

Therefore, Sustainable Community Development as established in this study is the process of constantly applying backcasting from a vision of a Sustainable Community (based on a principled definition of success informed by the Sustainability Principles) and then selecting and implementing measures that help move society in the right direction towards the vision, using the most appropriate tools to monitor and measure progress. Given the complexity and dynamic nature of the system, this is an iterative process, involving continuous learning and adaptation and measures selected should be flexible platforms for future steps.

The BSR was the first multi-country region in the world to develop a shared commitment towards sustainability. However, to date, there has not been a shared approach to sustainable development and just a few communities in the BSR have a strategic approach towards sustainability as defined in this study. There is also a great deal of diversity in the region in terms of culture and social and economic conditions. This diversity is perhaps the greatest between the Western Baltic Sea Region (WBSR) countries and the Eastern Baltic Sea Region (EBSR) countries. The countries in the east lag behind the countries in the west on many indicators. The EBSR countries that have recently joined the European Union (EU) are now focused on rapid development in an attempt to narrow these differences. A focus on economic growth may result in less attention to sustainability issues.

Among the BSR countries, Sweden has a long tradition of SCD. Swedish pioneers in this area are currently piloting an SCD process in Robertsfors, Sweden that is said to be transferable anywhere in the world. A specific aim is to transfer this model to communities in the EBSR.

The purpose of this research is to study the characteristics of the Robertsfors Model, how strategic and engaging it is, how transferable it is to the Eastern Baltic Sea Region (EBSR) and how it could be improved.

To be strategic in working towards sustainability requires backcasting from a principled definition of success based on scientifically peer-reviewed principles of sustainability. These principles must be general enough, non-overlapping, necessary to achieve sustainability and concrete enough to guide decision-making. To be engaging, according to the definition used in this study, means to ensure broad-based citizen participation in the process.

The Robertsfors Model is said to be strategic and engaging. Verifying this was, therefore, one of the main objectives of this study.

This study also looked at the considerations for transferring the model to communities in the EBSR. To do so required an understanding of the BSR context and considerations for knowledge transferability. In order to assess the possibilities for improvement of the Robertsfors Model, related theories, concepts and best practices were examined. This included researching SCD best practices in communities in Canada, India and the BSR.

*Research questions.* In order to guide this study, the following research questions were posed:

What are the key concepts and tools used in the Robertsfors Sustainable Community Development Model?

What elements in the Robertsfors Sustainable Community Development Model indicate that it is (1) strategic, and (2) engaging?

What might influence the success of transferability of the Robertsfors Sustainable Community Development Model to communities in the Eastern Baltic Sea Region?

What additional concepts and tools can help to improve the Robertsfors Sustainable Community Development Model?

*Methods.* The methods used to answer these questions included both secondary and primary research. The secondary research encompassed a literature review about sustainable development (SD) theories and related concepts that were used by some communities or that might be helpful in addressing sustainability issues if applied. This helped to set the context for the primary research. The primary research consisted of focused interviews with representatives of the Robertsfors community to establish the base case. Interviews were also conducted with community members within the BSR to understand considerations for transferability and improvement. The community of Whistler, Canada, and an SCD process used in southern India was also studied to learn from these best practices.

The primary research was carried out in person whenever possible. Otherwise, an online questionnaire was sent to selected community members.

*Results.* The results are presented in two main streams: from the secondary research and from the primary research. Findings from the secondary research are meant to establish the context within which the research is carried out and to bring a better understanding of the theories involved in SD.

The following concepts were studied more in-depth: Triple Bottom Line; Strategic Sustainable Development Framework; Robertsfors Sustainable Community Development Model; Human Scale Development; Appreciative Inquiry; Knowledge Transferability; Leverage Points of a Complex System; and Community Based Social Marketing.

Findings from the primary research were meant to bring understanding of the practices of SD from the base case – Robertsfors – and from different communities. The findings for the primary research were structured using the Five-Level Model of the Strategic Sustainable Development Framework, explained in section 3.1.3 of the literature review.

*Discussion.* The discussion was a means to analyse and relate the primary and secondary research data to answer the research questions. This discussion provided an understanding of the Robertsfors Model. While the project document emphasized a Triple-Bottom Line approach to SD, in practice, there was an attempt to use the SSD framework. The model also included many techniques to engage community members in the process.

Within the discussion, considerations for transferability were reviewed. It was understood that a SCD model includes both codified (more easily transferable through a communication mechanism) and tacit (not as tangible and more difficult to transfer) knowledge. Transferring the model, therefore, requires different approaches for each part. Also, how the model is applied and the results achieved may vary greatly depending on the local context.

In discussing how the Robertsfors Model can be improved, concepts from Human Scale Development, Appreciative Inquiry, The Leverage Points of a Complex System and Community Based Social Marketing were recommended for further research. Ideas were also garnered from best practices in the communities studied in the BSR, Whistler, Canada and Southern India.

*Conclusions, Propositions and Questions for Further Research.* In order to move towards sustainability, a community is dependent on a shared vision for sustainability bound by valid sustainability principles. The vision is supported by appropriate strategies, actions, tools and indicators and the ability to engage the population in working towards this vision. The range of knowledge required in a SCD project, goes from the most explicit to the most tacit kind. It is important to understand this not only when planning to address sustainability in different cultures and settings, e.g., between the western democracies of the Baltic Sea region and the newly accepted EU

members with extensive communist pasts, but also when dealing with the huge complexity of a single community.

What has been observed during this research is that community sustainable development is not at all a simple issue. Even when competently using a solid strategic sustainability framework such as the SSD framework, led by experienced experts, communities still change very slowly. Among the most difficult issues is achieving broad-based participation, which rarely happens fully. People's availability for the commons does not usually arrive as a result of engagement processes.

In general, this study indicates that some elements of the 'Robertsfors Model can be considered as strategic and engaging. However, the broader research indicates that it does not seem that the model for SCD can be directly transferred to another community. The large percentage of tacit knowledge embedded in the process of applying the model and the differences in local context will impact the success of the model elsewhere. What is more transferable is the objective, codified elements of the model, specifically, the SSD framework. With respect to applying the model and community engagement, it would be best to create a tool-box of codified guidelines, processes, check-lists, engagement tools, suggested measures etc., that a community could draw from based on an understanding of the local context. It is also helpful to participate in an SDC practitioners' network to share ideas and to exchange support.

In reflecting on the results and conclusions of this study, many propositions emerged, such as:

- Proposition 1: In the process of engaging a community towards sustainability, it is important to acknowledge the current situation and start with the issues and opportunities that are most relevant to the local community ;
- Proposition 2: Barriers to change should be identified at an early stage;
- Proposition 3: Create a team (network) of early adopters (fire souls). Work with this network to create a "network of networks";
- Proposition 4: Ensure early and ongoing support from the authorities;
- Proposition 5: It is important to ensure that local leadership emerges;

- Proposition 6. Broad-based community education in SSD concepts is a very important part of the process;
- Proposition 7. A community sustainability plan based on the SSD concept, with shared ownership across all municipal departments, is key for a science-based, systematic approach to SCD;
- Proposition 8. Rather than having one SCD model, use of the SSD framework might be best supported by a toolbox of principles, guidelines, codified processes and potential measures that can be used and adapted to the local context and needs.
- Proposition 9. When inviting citizens to create a shared community vision, it is important to find the balance between inviting too early, when awareness about sustainability is still not strong and too late, when the momentum may have been lost.
- Proposition 10. When defining strategies and conceiving and selecting measures, try to consider the best balance of leverage points.
- Proposition 11. It would be useful to have indicators for ‘Completeness, Consistency and Decidability’ to assess, respectively, a community’s ability to: self-organize; avoid self-destruction; and learn from experience at all levels.
- Proposition 12. Efforts towards sustainability should be informed by the real understanding that results from deeper involvement in the community.

This study also led to questions for further research:

- Question 1. What are the enablers and barriers to community engagement?
- Question 2. In attempting to engage a community in sustainable development, what types of knowledge are needed and what are the best means of transferring this know-how and understanding?
- Question 3. How can an understanding of system-level leverage points help to inform better development and evaluation of measures towards sustainability?

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## List of Abbreviations

**A21:** Agenda 21

**AI:** Appreciative Inquiry

**BSR:** Baltic Sea Region

**CBSM:** Community Based Social Marketing

**EBSR:** Eastern Baltic Sea Region

**EP:** European Parliament

**EU:** European Union

**HSD:** Human Scale Development

**IISD:** International Institute for Sustainable Development

**KSF:** Key Success Factor(s)

**LA21:** Local Agenda 21

**NGO:** Non-Governmental Organisation

**RMOW:** Resort Municipality of Whistler

**SCD:** Sustainable Community Development

**SEI:** Stockholm Environment Institute

**SR:** Sustainable Robertsfors

**SSD:** Strategic Sustainable Development

**TBL:** Triple Bottom Line

**WBSR:** Western Baltic Sea Region

# 1 Introduction

This study is aimed at addressing the topic of sustainable community development in the context of the Baltic Sea Region (BSR). The BSR was the first multi-country region in the world to adopt common goals and actions for sustainable development[2]. The heads of government within the BSR are committed to realizing a vision of the Baltic as an Eco Region. Initiatives have been taken at the macro-regional level, the national level, the regional level and the community level to move towards sustainability.

Although there is one coherent region in the Baltic, there is a great deal of diversity within the region in terms of political and socio-economic development and progress towards sustainability. The differences are particularly marked between the Western Baltic Sea Region (WBSR) countries in the European Union, which include Denmark, Finland, Norway and Sweden, and the Eastern Baltic Sea Region (EBSR) countries, which include the countries that have recently joined the European Union (EU), Estonia, Latvia, Lithuania and Poland, as well as the border regions of Belarus and Russia.

Within the BSR, Estonia, Latvia, Lithuania and Poland lag behind their western neighbours in terms of progress towards sustainability based on social, environmental and economic indicators [3], (see also appendices A, B and D). These countries are also behind in terms of economic growth and standards of living [4], (see also appendices A and B). Most of the EBSR countries are currently moving from a status of ‘transition countries’ to a status of ‘developed’ nations and market economies. Given the impetus for the EBSR countries to progress rapidly to the status of ‘developed nations’, social and environmental issues may be less of a priority. These challenges are recognized in the United Nations Sustainable Development document, Agenda 21, as follows: “In the implementation of the relevant programme areas identified in Agenda 21, special attention should be given to the particular circumstances facing the economies in transition. It must also be recognized that these countries are facing unprecedented challenges in transforming their economies, in some cases in the midst of considerable social and political tension” [5].

The other risk is that EBSR countries may look to the west for best practice examples for development. However, in doing so, the EBSR countries may perpetuate similar or new problems with regards to sustainable development.

With the expansion of the EU, the policies and practices of the border countries of Belarus and Russia have become increasingly important. The sustainability of these regions in terms of environmental impacts and social stability is of strategic importance to the BSR, to the EU as a whole and to the larger global system. Accordingly, Belarus and Russia are also important actors to consider within the context of the EBSR.

This study examines the role of communities as a potential vehicle for change towards sustainability within the context of the Baltic Sea Region (BSR) in Europe. It comes at a crucial juncture in human history when the topic of sustainability reflects the possibilities of survival of civilization as a whole. Modern society continues to show unsustainable trends producing not only a series of negative impacts but also generating systemic errors of societal design that - in the long run - could result in human extinction.

To be strategic in working towards sustainability at any level of society, it is important to take a whole systems perspective, back-casting from a vision of success, based on scientifically proven principles of sustainability [6]. Nevertheless, many approaches to sustainable development forecast from current trends, often perpetuating conditions that are not sustainable and that do not meet fundamental human needs.

At the same time, this research indicates that it is not enough for a few decision makers to develop and implement a vision for sustainability unilaterally. For true change to occur, a broad representation of community stakeholders need to be invited to participate in developing a vision in which they find shared meaning and purpose. It would be unfeasible for one segment of society on its own to transform the whole community to achieve sustainability. Systemic change appears to require broad-based participation and cooperation. Equally, it could be difficult to achieve sustainability if it was dependent on a specific political party or political agenda, as initiatives might stop and start over time as political parties change. In this way, a vision of success for sustainability and supporting programs need to be rooted at the community level and ensure multi-stakeholder community engagement.

Communities are the focus of this study as they are small enough to reach the individual and broad enough to be representative of all stakeholder groups within society (government, business, non-profit organizations, universities, civil society etc.).

This research defines “community”, as a complex social subsystem operating within the broader system of society within the biosphere. For it

to be a “sustainable community”, conditions for societal success within the boundaries of basic socio-ecological principles for sustainability have to be met. In terms of this definition, a “sustainable community” is one that provides its residents with the conditions for meeting their needs without contributing to systematic degradation of their society or the natural systems.

In order to assess the sustainability of a community, this research relies on the Strategic Sustainable Development Framework (SSD) as defined by the Swedish NGO The Natural Step. This SSD encompasses science-based principles of sustainability, a strategic framework known as the ‘Five-Level Model’ and a process of strategic planning known as ‘ABCD’.

The Sustainability Principles are described as follows: “in a sustainable society, nature is not a subject to systematically increasing:

- (1)...concentrations of substances extracted from the Earth’s crust;
- (2)...concentrations of substances produced by society;
- (3)...degradation by physical means;

and, in that society

- (4)...people are not subject to conditions that systematically undermine their capacity to meet their needs” [7].

These principles articulate the basic conditions that the global socio-ecological system must meet to be sustainable.

The SSD framework allows for planning within the complex system of individuals within community, within society, within the ecosphere. Application of the SSD framework involves ‘back-casting’ (looking back) from a principled definition of success based on the above-mentioned Sustainability Principles. If applied this way, the SSD results in strategies and measures to arrive at real sustainability.

Therefore, Sustainable Community Development as established in this study is the process of constantly applying backcasting from a vision of a Sustainable Community (based on a principled definition of success informed by the Sustainability Principles) and then selecting and implementing measures that help move society in the right direction towards the vision, using the most appropriate tools to monitor and measure progress. Given the complexity and dynamic nature of the system, this is an

iterative process, involving continuous learning and adaptation and measures selected should be flexible platforms for future steps.

Sustainability pioneers in Sweden have spent over 20 years developing a model of Sustainable Community Development (SCD) [8]. This model is based on the Strategic Sustainable Development (SSD) framework described above, that takes a whole systems perspective to sustainability, also known as ‘The Natural Step’ (TNS) framework [9] and a multi-stakeholder community engagement process.

These concepts are being tested in the community of Robertsfors, Sweden in order to develop a model that can be transferred to communities in the Eastern Baltic Sea Region and worldwide. James and Lahti feel that the process and guidelines being developed transcend, “differences of geography, situation, and country context. Using this guidance, communities that are rich or poor, urban or rural, located in North America, Sweden, or elsewhere, also can change to sustainable practices” [10].

This research focuses specifically on the model for sustainable community development used in Robertsfors, Sweden. This model is studied in theory and in practice to understand its core concepts, the potential for transferability to communities in the EBSR and the opportunities for improvement.

## **1.1 Purpose**

This study explores: 1) the key concepts and tools used in the Robertsfors model; 2) if the model is strategic and engaging, 3) what should be considered when transferring the model to communities within the EBSR and 4) opportunities to further improve the model.

## **1.2 Research Scope**

This research focuses on sustainable community development within the context of the Baltic Sea Region, focusing primarily on the Robertsfors model of SCD. The model was studied in theory and in practice to understand its core concepts and the results of its application. To understand the possibilities for transferring the model to the EBSR, primary and secondary research was undertaken in Estonia, Latvia and Belarus. To

understand how the model might be improved a literature review of key concepts in SCD was conducted. To this end, primary research was also used to learn about recognized SCD best practices in Canada, Denmark and India.

This research was limited to a three-month time period within a nine-month Master's program. Within this timeframe, research was carried out in person in Sweden, Denmark, Estonia and Latvia, over the span of five weeks. Exposure to the daily realities of the communities researched provided the chance to experience and observe the local context first-hand. The opportunity to present and test research findings at a sustainability conference in Latvia also helped to further this research study. To strengthen the research on learning and change processes, the authors attended a 2-day meeting with Peter Senge,<sup>1</sup> hosted by the Society for Organizational Learning's European Sustainability Group, in Bari, Italy. The project also included a European Union funding application for transferring the Robertsfors Model to other communities in the EBSR. Targeted feedback from the EU funding organization informed the research question on transferability.

### 1.3 Research Questions

In order to understand the Robertsfors model, the potential for transferability to the EBSR and opportunities for improvement, the following research questions guided this study:

- What are the key concepts and tools used in the Robertsfors Sustainable Community Development Model?
- What elements in the Robertsfors Sustainable Community Development Model indicate that it is (1) strategic, and (2) engaging?

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<sup>1</sup> Peter Senge is a Senior Lecturer at the Massachusetts Institute of Technology. He is also Chairperson of the Society for Organizational Learning (SoL), a global community of corporations, researchers, and consultants dedicated to the "interdependent development of people and their institutions." He is the author of the widely acclaimed book, *The Fifth Discipline: The Art and Practice of The Learning Organization* (1990) and, with colleagues Charlotte Roberts, Rick Ross, Bryan Smith and Art Kleiner, co-author of *The Fifth Discipline Fieldbook: Strategies and Tools for Building a Learning Organization* (1994) and a new fieldbook *The Dance of Change: The Challenges to Sustaining Momentum in Learning Organizations* (March, 1999), also co-authored by George Roth.

- What might influence the success of transferability of the Robertsfors Sustainable Community Development Model to communities in the Eastern Baltic Sea Region?
- What additional concepts and tools can help to improve the Robertsfors Sustainable Community Development Model?

## **2 Methods**

The research methods used in this study include logic and inference, literature review, document review, focused interviews and questionnaires. A combination of appropriate methods was used to answer each research question and to discuss the findings.

### **2.1 Logic and Inference**

Logic and inference were used to analyse research findings, to develop propositions and to explore questions for further research. The use of this method was guided by a whole systems perspective and science-based sustainability principles as well as by the collective experience of the authors.

### **2.2 Literature Review**

An extensive literature review of key concepts in sustainable community development was undertaken to set the broader context for this study. A deeper study was then undertaken to answer the research questions. The Robertsfors Sustainable Community Development Model was reviewed in theory to understand its key concepts and tools. Additional research was undertaken to understand theories and frameworks that influenced the model. Sustainability policy documents, strategies and action plans were reviewed to understand the context for transferability in the Baltic Sea Region. To this end, theory on knowledge transferability was also reviewed. Lastly, to inform possible improvements of the model, theories and concepts of sustainable community development, community engagement, learning and change and systems thinking were studied.

### **2.3 Document Review**

Macro-regional, national and local policy documents, strategies and action plans were reviewed for each community. While the literature review covered general theories and concepts related to this research study, the

document review focused on the specificities of the local situation, setting the context for the primary research undertaken in each community. Examples of documents studied include: Local Agenda 21 documents, municipal plans, the Sustainable Robertsfors project plan, Baltic 21 reports, and national sustainability strategies etc.

## **2.4 Focused Interviews and Questionnaires**

### **2.4.1 Definition**

The focused interview is used to lessen the gap between an interviewee's perception of a situation and his or her report of what was perceived [11]. In a focused interview, interviewees are known to have been involved in a particular situation. The interviews are conducted based on an interview guide, setting the major areas of inquiry [12]. Interviews focus on the subjective experiences of the individual exposed to the pre-analysed situation in an effort to understand how they define it. The array of responses to the same situation results in greater understanding and suggests propositions and questions for further research [13].

### **2.4.2 Design**

In this study, research questions were structured using the Five-Level Model of the SSD framework discussed in section 3.1.3. At the *systems level*, questions were structured to understand interviewees' general awareness of the system. This includes awareness of: sustainability and the requirements for a sustainable society. At the *success level*, respondents were asked about their understanding of the community's vision of success, the use of sustainability principles and the results that were achieved. At the *strategy level*, questions addressed the topic of leadership, strategies used and strategic enablers and barriers. At the *actions level*, questions focused on supporting measures, community engagement tactics and enablers and barriers. At the *tools level*, respondents were asked about strategic, system and capacity tools. Table 2.1 illustrates the structure of the interview guide.

*Table 2.1. Key Features for the Interview Guide.*

	<b>SYSTEM LEVEL</b>	<b>TOPICS ADDRESSED</b>
1	System	Awareness of Sustainability
2	Success	Vision
		Principles of Sustainability
		Results Achieved
3	Strategy	Requirements of a Sustainable Society
		Leadership
		Strategies
4	Actions	Strategy-Level Enablers and Barriers
		Supporting Actions
		Community Engagement
5	Tools	Action-level Enablers and Barriers
		Strategic Tools
		System Tools
		Capacity Tools

In the case of this research, the interviews were semi-structured, in that some of the questions were asked of all interviewees and some of the questions were added according to the individual's role in the process. The interview questionnaires used are available in appendices F, G, H and I.

### **2.4.3 Application**

Interviews and questionnaires were conducted to answer the research questions as well as to set the context for sustainable development for the respective communities. Three main categories of data were collected: information about the base case, Robertsfors; information about the context for transferability; and information about possible improvements to the Robertsfors Community Development Model.

Interviews were the predominant research method used in all communities. In cases where respondents were not available for a personal interview the same questions were asked in written format. The same interview guide was used to shape all the interviews and questionnaires in order to keep consistency even when contextual constraints demanded adjustments to the questionnaires.

In order to structure and classify the interview data in a consistent manner, the Five-Level Model was also used. In most cases, the results were aggregated by country, except for the base case of Robertsfors, Sweden and Whistler, Canada, where only one community was studied in each country.

### **2.4.4 Possible biases**

While questionnaires used in this study were shaped by the same interview guide length and content had to be adjusted according to the role of the respondents, their time availability and the local context.

Most of the interviews and questionnaires were conducted in English, except those sent to Belarus that were in Russian and then translated into English. The level of understanding of the English language, however, varied greatly amongst respondents and interviews sometimes required an interpreter. In some cases, the interpreter had personal involvement in the subject of the research.

Most of the respondents interviewed in Robertsfors were recommended by the Sustainable Robertsfors (SR) project consultants. In every community studied in this research, all interviewees were recommended by people and institutions involved in sustainable development work. These recommendations may contain hidden and immeasurable biases.

Due to considerations of length, the interviews shown in this document are summarized in tables in the following sections. This results in a format that:

(a) required the authors to determine what content within each interview was most salient and to summarize the key points and (b) allows the reader to grasp the essence of the interviews, but not to verify if they were accurately interpreted.

#### **2.4.5 Robertsfors Model**

Given the goal to understand this model in detail, the most extensive number of interviews was undertaken in the community of Robertsfors (see Appendices F and G). In all cases, interviews were conducted in person in Robertsfors. Interviewees were selected to ensure a broad-based representation of community stakeholders. The following list shows the diversity of respondents in Robertsfors:

- Sustainable Robertsfors project employees;
- Chairman of the Robertsfors municipality board;
- Chief of the Robertsfors municipality administration;
- Municipal employees representing key departments: culture, economic affairs, business and local development, social care, building and planning, tourism and leisure, forestry, and food and agriculture;
- Schools teachers and students;
- Business owners;
- A Farmer.

#### **2.4.6 Estonia, Latvia and Belarus**

To answer the third and fourth research questions, focused interviews were undertaken in communities in Estonia and Latvia (see Appendix H). A shortened questionnaire was used in Belarus (see Appendix I) given travel and telecommunication limitations. Due to time and resource constraints a limited number of interviews were conducted in each community.

*Estonia.* In Estonia, the communities of Parnu, Tartu and Viljandi were studied. These communities were recommended for study by the Stockholm Environmental Institute, in Tallinn (SEI–Tallinn), the Estonian Association of Cities and the Estonian Fund for Nature.

In Parnu interviews were conducted with four representatives from the municipality and one representative from the regional government. In Tartu, two individuals from the municipality and one professor from Tartu University were interviewed. In Viljandi a representative from the municipality was interviewed. To understand the larger context for sustainability in Estonia, two representatives from the Estonian Ministry of Environment, one individual from the Estonian Association of Cities and one representative from SEI–Tallinn were interviewed. The representative from the Estonian Association of Cities was also the same person who had launched the Local Agenda 21 initiatives in Tartu. As a result, she was able to provide a perspective of the macro-context and specific insights into the process in Tartu.

*Latvia.* In Latvia, the communities of Jurmala, Livani and Riga were studied through interviews and one questionnaire. These communities were selected because of their experience with sustainable community development. In Jurmala, representatives from the environmental and social departments of the municipality were interviewed. In Livani, one representative from the municipality was interviewed. In Riga, the representative of a neighbourhood SCD process answered the questionnaire. The interviewee from Riga also consults to the city of Riga on the city's larger LA21 process.

*Belarus.* Given that a research trip to Belarus was not possible, questionnaires were sent via e-mail. The questionnaire was developed taking into account that the selected respondents already had some engagement in sustainable community development. Questionnaires were sent to community representatives throughout the country in order to get a general understanding of sustainability concepts currently used in Belarus. In total, eight responses were received from the following municipalities: the city of Minsk; Kamenyki village, Kamenets district, Brest region; Disna town, Miory district, Vitebsk region; City of Grodno (regional center); City of Mogilev (regional center); Town of Novopolotsk; Pervomayski District Municipality of the City of Minsk; Town of Baran, Orsha District, Vitebsk region.

Most of the respondents from Belarus currently participate in a nation-wide network aimed at fostering sustainable development that is supported by the United Nations Development Programme Office in Belarus.

#### **2.4.7 Canada, Denmark and India**

To learn about best practices in sustainable community development internationally, interviews were conducted by phone and in person with respondents from Canada, Denmark and India (see Appendix H). Questionnaires were sent via email when the possibility for an interview was not available.

*Whistler, Canada.* The community of Whistler, Canada, was chosen because of its use of the SSD framework and its reputation as a model for SCD. The municipality recently won two awards for Whistler 2020, its comprehensive sustainability plan [14].

Three individuals who have been closely involved in the Whistler sustainability initiatives were interviewed: the former executive of the local environmental NGO, AWARE; a former municipal planner; and an individual involved in writing and implementing Whistler's comprehensive sustainability plan.

*Storstrom County, Denmark.* Storstrom County, Denmark, was studied given its reputation as the 'Greenest County in Denmark' [15]. Storstrom's Green Region Project was recognized at the UN Conference in Rio 1992, with the UN environmental award [16]. Storstrom County has also developed a LA21 program. The coordinator leading these initiatives since 1991 was interviewed.

*Andhra Pradesh, Tamil Nadu and Karnataka, India.* The community engagement process introduced in rural villages in southern India was studied given its innovative and seemingly effective approach. The project was collaboration between the International Institute for Sustainable Development (IISD) in Canada and the local non-governmental organization (NGO) in India, MYRADA. Interviews were conducted with the project leader from MYRADA in India and the project leader from IISD in Canada.

#### **2.4.8 Interview Distribution**

Table 2.2 provides a summary of the interviews and questionnaires implemented in each community. A total of fifty-three respondents participated in this study. This number does not include the individuals consulted regarding which communities to study and individuals to interview.

*Table 2.2 Summary of Interviews and Questionnaires Implemented in Communities*

<b>COUNTRY</b>	<b>COMMUNITY</b>	<b>POPULATION (Approximates)</b>	<b>NUMBER OF RESPONDENTS</b>
<b>Sweden</b>	Robertfors	7,000	21
<b>Estonia</b>	Parnu	50,000	5
	Tallinn	500,000	4
	Tartu	100,000	3
	Viljandi	20,000	1
<b>Latvia</b>	Jurmala	750,000	2
	Livani	13,000	1
	Riga	500,000	1
<b>Belarus</b>	Cities and towns	Small-Large	9
<b>Denmark</b>	Storstrom County	24 municipalities 260,000 total	1
<b>Canada</b>	Whistler	10,000	3
<b>India</b>	Districts of Karnataka, Tamil Nadu and Andra Pradesh	Small village groups	2
<b>Total Respondents</b>			<b>53</b>

## **3 Results**

### **3.1 Literature Review**

#### **3.1.1 Introduction**

An extensive literature review of key concepts related to SCD was undertaken to set the broader context for this study. Among the concepts reviewed were: Healthy Communities; Appropriate Technology; Community Economic Development; Social Ecology; Green Movement; Bio-regionalism; Native World View [17]; Natural Capitalism [18]; Triple Bottom Line [19]; Strategic Sustainable Development Framework [20]; Human Scale Development [21]; Robertsfors Sustainable Community Development Model [22]; Appreciative Inquiry [23]; Community Process [24], Knowledge Transferability [25], Leverage Points of a Complex System [26] (see also appendix C) and Community Based Social Marketing [27].

As the following concepts were used to some extent in the Robertsfors SCD process, they were studied more in-depth: Triple Bottom Line [28]; Strategic Sustainable Development Framework [29]; Robertsfors Sustainable Community Development Model [30]; Human Scale Development [31]. Additional concepts that were perceived to support or potentially improve the model, were also reviewed in more detail: Appreciative Inquiry [32], Knowledge Transferability [33], Leverage Points of a Complex System [34] (see also appendix C) and Community Based Social Marketing [35].

#### **3.1.2 The Robertsfors SCD Model From the Literature**

The Robertsfors Sustainable Community Development Model is described in two main documents: the book *Natural Step for Communities* [36] and the original project document, entitled *Sustainable Robertsfors* [37]. The original project document, described further in the document review section, is largely based on a Triple Bottom Line approach to sustainability, setting the goals for the Sustainable Robertsfors project based on social, economic and environmental aspects. Later, the project adopted elements from the Strategic Sustainable Development Framework, as described in

The Natural Step for Communities. In addition, the literature also contains a description of the community engagement process that was used.

The following guidelines for a Successful Community Change Process towards Sustainability are recommended by James and Lahti [38]:

1. *A vision-led process* – A shared vision generates enthusiasm and energy and gives meaning and purpose. “The importance of the vision as a driving force in change processes is well known. This creates energy and motivation bringing the strength to make tough decisions and changes later in the process” [39];
2. *Back-casting* from a principled definition of success based on science-based sustainability principles. For a description of the concept of back-casting, please see Section 3.1.3., ‘Related Theories - SSD framework’;
3. *Systems Approach* – A comprehensive approach to change, taking into account the whole system;
4. *ABCD Approach*<sup>2</sup> – A strategic planning process for sustainable community development. For a description of the ABCD process, please see Section 3.1.3., ‘Related Theories - SSD framework’;
5. *Broad-based Participation* – A commitment to bottom-up participatory change process that facilitates broad-based stakeholder engagement;
6. *Targeting existing community groups* – Work with existing community groups that are already self-organized and well developed. Give priority to schools, daycares and the development of a Community Youth Forum;
7. *Leading from the Side* – A coaching leadership style that allows for planning and action agendas to emerge from the local community, rather than imposing predetermined strategies or projects. “Listen and be flexible” [40];
8. *Top-level Endorsement and Consensus* - Achieving project endorsement from politicians and community opinion leaders and consensus on broad sustainability goals early- on;

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<sup>2</sup> The ABCD approach encompasses the first 3 items: it is led by a vision, involves back-casting and is a strategic planning tool for complex systems.

9. *Good Examples* – Finding and sharing good examples early on. Choosing actions that can be easily and quickly achieved to create and sustain momentum and to stimulate the emergence of more fire souls (change agents). “The credibility of the change process is based heavily upon visibility – people’s ability to see that something is happening. Visions and plans are important, but if we only talk, people will lose patience early on” [41];
10. *Education* – Offer popular and accessible education about sustainability, in order to bring awareness of current unsustainable patterns and understanding of concepts and tools for working strategically towards sustainability;
11. *A Global Perspective* – The importance of creating national and international networks for idea sharing and support and for considering the global impact of local actions.
12. *Keeping it Going* – Planning in cycles, testing of early actions, on-going education, monitoring effectiveness with sustainability indicators, all led by guiding sustainability principles, help institutionalise the change over time.

### **3.1.3 Related Theories**

In order to better understand the concepts related to sustainable community development and community engagement processes, a more in-depth literature analysis was performed.

*Triple Bottom Line.* John Elkington developed the concept of the Triple Bottom Line (TBL) [42]. Rather than just focusing on the financial bottom line, TBL also takes into account social and environmental considerations. Elkington argues that environmental policy and social performance are not optional extras. They are the essential indicators of long-term viability, in short, sustainability. The concept of ‘triple bottom line’ or ‘sustainability reporting’ has become a common practice of large companies. In the case of TBL, goals are set for social, environmental and economic aspects. A key characteristic of this approach is that economy is considered a goal in itself rather than a means to achieve social and environmental objectives.

*Strategic Sustainable Development Framework.* Human activity is currently exceeding nature’s capacity to regenerate itself. However, given the complexity of the current global socio-ecological system, feedback about

these impacts and threats is often delayed. Planning, therefore, can no longer rely on the traditional use of the five senses or mitigating currently known impacts. Equally, forecasting from current trends tends to only perpetuate existing problems in the system. As an answer to that, the Strategic Sustainable Development Framework (SSD) was developed as a collaboration of ten scientists and pioneered by the Natural Step Organization, an NGO in Sweden. This approach encompasses science-based principles of sustainability, a strategic framework known as the 'Five-Level Model' and a process of strategic planning known as 'ABCD' [43].

The SSD framework allows for planning within the complex system of individuals within community, within society, within the ecosphere. Application of the SSD framework involves 'back-casting' (looking back) from a principled definition of success based on sustainability principles to determine strategies and measures, rather than forecasting from current unsustainable trends.

The first three sustainability principles are based on natural laws of science that cannot be violated. Six basic characteristics make these conditions scientifically rigorous and relevant for guiding communities working towards sustainability. The principles are:

- Based on a scientifically agreed upon view of the world;
- Necessary to achieve sustainability;
- General enough to structure all societal activities relevant to sustainability;
- Sufficient to achieve sustainability;
- Concrete enough to guide action and serve as directional aids in problem analysis and solutions; and
- Non-overlapping, or mutually exclusive in order to enable comprehension and structured analysis of the issues [44].

The Sustainability Principles are described as follows: "in a sustainable society, nature is not a subject to systematically increasing:

- (1)...concentrations of substances extracted from the Earth's crust;
- (2)... concentrations of substances produced by society;

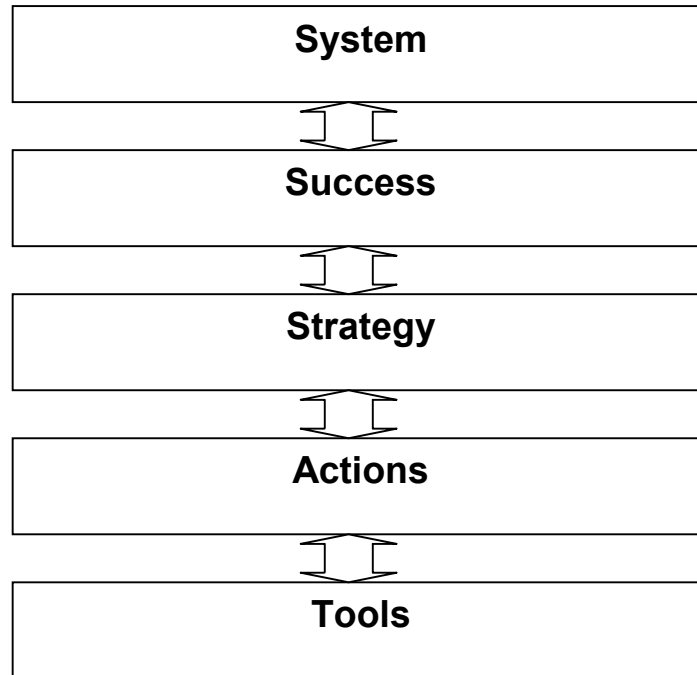
(3)...degradation by physical means;

and, in that society

(4)...people are not subject to conditions that systematically undermine their capacity to meet their needs” [45].

These principles articulate the basic conditions that the global socio-ecological system must meet to be sustainable.

Moving on to the SSD strategic planning framework, the Five-Level Models composed of the following levels: (1) system; (2) success; (3) strategy; (4) actions; (5) tools (figure 3.1).



*Figure 3.1. Levels of the SSD Framework.*

At the *systems* level, the primary goal is to understand the basic principles of the system within which planning is undertaken. In the case of sustainable development, the system to be understood is the biosphere with all its parts, processes, interrelationships, values, beliefs and functions. At the *success* level, a desired future is defined according to a principled definition of success. For sustainable development, the four sustainability principles should bind this definition of a desired future to avoid planning

against the laws of nature. At the *strategy* level, a plan to arrive at the desired future is defined. This is done by back-casting from the principle definition of success, rather than by forecasting from current trends. This results in a plan where every measure moves towards success and avoids dead ends. At the *actions* level the real movement towards the desired future begins. This is where the strategic plan comes to life by defining and prioritizing measures. At this level, it is recommended to choose actions that will lead to quick, visible and measurable wins. As well, it is important to define longer-term actions that will lead to sustained results overtime. Lastly, the *tools* level is where all-levels find the necessary support. There are three broad categories of tools. Strategic tools are used to ensure that actions are moving in the right direction. Systems tools are used to measure the direct impact on the system at a point in time. Capacity tools are used to build capacity for working towards sustainability, such as sustainability training and education etc.

Since community sustainable development is the primary focus of this study, it is also important to examine “social sustainability” in more detail in the context of the SSD Five-Level Model:

*At the Systems level 1*, the human social system is included within the larger ecosphere. The purpose of the system is to enable individuals to meet their fundamental needs. There are three core components of social sustainability: interdependence; self-organization; and societal diversity.

*At the Success level 2*, success is achieved when, “people are not subject to conditions that systematically undermine their capacity to meet their needs.” This requires that individuals do not abuse political, economic or environmental power, in ways that obstruct interdependence, self-organization and diversity.

*At the Strategy level 3*, it is important to back-cast from a definition of success of social sustainability as above, ensuring that steps are leading in the right direction and make economic sense. To guide decision-making, the Golden Rule Test (do not do unto others what you do not wish them to do to you) may be applied. The Golden Rule Test seeks to ensure: (1) participation; (2) transparency; (3) responsibility and accountability; (4) and honesty.

*The Action level 4*, is designed to respond to the following question: What actions should be taken following the guidelines (according to level 3) to achieve success (according to level 2) in the system (according to level 1)?

These actions should move in the right direction towards social sustainability, build capacity for continuous improvement and allow for the evaluation of change and learning [46].

*The Tools level 5* includes tools to measure and monitor progress towards social sustainability and capacity building tools.

To apply the Five-Level Model, the SSD framework recommends using the ABCD strategic planning process. The process consists of (A) developing an awareness of why the current socio-economic system is unsustainable and what is needed for sustainability (the four principles for socio-ecological sustainability); (B) understanding the sustainable relationship between the global socio-economic and ecological system and assessing the current reality of each organization or community with respect to the principles for socio-ecological sustainability; (C) envisioning a future that is in compliance with the sustainability principles; and (D) defining a plan of how to move from B to C by identifying and prioritizing the most effective actions and tools to meet sustainability and organizational or community objectives [47].

In the view of the above, the SSD framework provides us with the necessary background for defining sustainable communities on the basis of systems approach and five level model. Therefore, for the purpose of this study, sustainable community is defined as a complex social subsystem operating within the broader system of the society within the biosphere, and providing some basic conditions for societal success within the boundaries of basic socio-ecological principles for sustainability (four system conditions). In terms of this definition, sustainable community is a community that is able to provide for its residents the conditions for meeting their needs without contributing to systematic degradation of natural systems.

Sustainable community development is therefore perceived in the study as the process of constantly applying backcasting from the vision of sustainable community (described above) as a source of creative tension between this vision and current reality.

*Leverage Points: Places to Intervene in a System.* The importance of a whole systems approach to sustainability gained international attention in 1972, through the publication of a report to the Club of Rome entitled "Limits to Growth" [48]. Limits to Growth was an attempt to show how serious global problems were interrelated and might be solved. Since then,

research on systems thinking and sustainability has grown in importance and breadth. Systems thinking is a way to assess, understand and deal with complex systems in general.

A system is a network of relationships linking stocks and flows. An example of a system is the economy, with bank accounts linked to taxation, to salaries, to buying habits and so on. Stocks may be material such as the amount of water in a lake, or immaterial, such as the resilience of a community or trust in the country's economy etc. A stock may increase or decrease depending on inflows or outflows, just like a bank account does with deposits and withdrawals. When a series of stocks are put together, linked by many different flows with different driving forces, the result is impossible to predict. Some trends reinforce the behaviour of the system and some balance its growth. Every system can be stimulated or changed if the right leverage points are tackled.

Meadows' article called "*Leverage Points – Places to Intervene in a System*" [49], is particularly relevant in trying to understand potential barriers and enablers in a complex social system, such as a community. For the purposes of this research, systems thinking and the key leverage points in the system were reviewed (see Appendix C). Understanding a large, complex web of relationships is very difficult. When trying to identify systemic barriers and enablers to change, it is important to understand the potential leverage points in the system. The leverage points identified by Meadows listed in order of least to greatest impact include:

- 12- Constants, parameters and numbers (such as subsidies, taxes, standards);
- 11- The sizes of buffers and other stabilizing stocks, relative to their flows;
- 10- The structure of material stocks and flows (such as transport networks, population age structures);
- 9- The length of delays, relative to the rate of system change;
- 8- The strength of negative (balancing) feedback loops, relative to the impacts they are trying to correct against;
- 7- The gain around driving positive feedback loops;
- 6- The structure of information flows (who does and does not have access to what kinds of information);
- 5- The rules of the system (such as incentives, punishments, constraints);

- 4- The power to add, change, evolve or self-organize system structure;
- 3- The goals of the system;
- 2- The mindset or paradigm out of which the system – its goals, structure, rules, delays, parameters – arises;
- 1- The power to transcend paradigms.

The more leverage points are used to intervene in a system, the more an effective change tends to occur. Dealing only with the highest points without addressing also the middle and lower ones may not necessarily be the best strategy to intervene in a system.

*Human Scale Development.* Human Scale Development [50] is an approach to sustainable development that focuses on satisfying fundamental human needs, increasing self-reliance and enabling organic relationships between people, nature and technology. The name Human Scale Development emphasizes that systems, organizations, communities etc., should be manageable by a human being. In this way, development needs to happen at a human scale.

Max-Neef argues that knowing about community problems is not enough to bring solutions, they must be understood. Real understanding can only arise from being a part of what is to be understood, i.e. the community under study. Knowledge leads to the equation “problem posing + problem solving” which has proven inefficient. It seems society knows many of the problems currently faced and yet real solutions are rare. On the other hand, understanding leads to the equation “problem feeling + self-transformation”[51]. Self-transformation delivers better results in intervening in a system for it involves a change in the mindset. If a problem is only studied, known but not really understood, proposed solutions may attempt to transform parts of the system that are external to the agents of transformation. If a problem is understood through experience, participants of the system are more likely to self-transform, therefore touching a higher leverage point: the mindset that creates the system [52].

This implies that sustainable community development requires the emergence of local motivation and organization. Whatever comes from the outside may be viewed as non-representative of the local needs, as it has not emerged from the inherent social fabric.

Manfred Max-Neef suggests that solutions need to emerge from the local situation or they will not be congruent with the culture and values. In this

way, he states that a congruent social system should have the following three attributes: completeness, consistency and decidability [53].

- *Completeness*: the system should be capable of self-organizing and of becoming increasingly self-reliant. The fundamental human needs of all members of the system should be met with satisfiers generated within the system. Interactions with other systems should never take place at the expense of the local system and its members;
- *Consistency*: the system's growth and development does not lead to self-destructive contradictions, such as environmental, cultural or political destruction;
- *Decidability*: the system learns from experience – from its own experience and from others. Its members make informed choices and information is free to flow vertically and/or horizontally.

Max-Neef argues that indicators to measure completeness, consistency and decidability would help to foster greater social sustainability and counter-act the reductionism of traditional financial indicators. Max-Neef proposes that the other key measure in a social system is the degree to which human needs are met. According to Human Scale Development theory, nine fundamental needs are common among all cultures: subsistence, protection, affection, understanding, participation, creation, idleness, identity and freedom. Once the current situation has been assessed in relation to meeting the nine needs, the next step is to envision how to eliminate the barriers that are preventing people's ability to meet their needs. While the needs are said to be universal, how each culture meets these needs, should be defined locally.

*Action Research and Appreciative Inquiry.* Action Research can be described as learning-by-doing. A problem is identified, actions are taken to resolve the problem, results are measured and tactics are adjusted as necessary based on what was learned [54]. This methodology is used in academic research, organizational learning and social change.

While Action Research offers a pragmatic approach to research, learning and change, it has been criticized for its problem-oriented view of the world[55]. A critical approach may establish a mental model of 'right vs. wrong' or 'good vs. bad,' marginalize voices, erode community cohesiveness and foster social hierarchy [56]. A right vs. wrong binary approach can discourage other opinions and values and limit innovation and collaboration. In this situation participants whose opinions do not fall on

either side of the argument can feel unheard and invalidated. Defensiveness and arguments can often ensue.

A problem-oriented approach can also undermine community cohesiveness. “When critique is inserted into a community, a category is created, and all those who fit within that category are placed under attack. Those under attack, close ranks, reaffirm their relationships, reiterate the value of their position and search for ways to mount effective counter-attacks. In turn, the critics increase the intensity of their attacks, reaffirm solidarity within their ranks and proselytise for further strength” [57]. A problem-oriented approach can also create a sense of social hierarchy. “Vocabularies of deficit are simply careful and exacting ways to describe those who somehow do not measure up to the ideal” [58]. In turn, negative labelling can hinder individual ability to change in a positive way as people are locked into negative perceptions of themselves and the situation. And, while a deficit-based approach might foster better problem-solving skills, it does not strengthen capacity to envision and create a better future [59].

In contrast, appreciative inquiry, a form of action research, offers a positive approach to learning and change. The approach is based on asking positive questions to spark transformative dialogue and actions. Ludema, Cooperrider and Barrett [60] suggest that human systems grow and construct their future realities in the direction of what they most persistently, actively and collectively ask questions about. The authors’ research shows that when a group focuses on its problems these problems often grow in severity and number. In contrast, when people focus on positive experiences these tend to multiply as well. In this way, the authors emphasize that, “the seeds of change are implicit in the very first question we ask” [61].

The appreciative approach is often described as a 4-D model: (1) discovery, (2) dream, (3) design, and (4) destiny. In the discovery phase, the goal is to focus on peak moments and to discuss what made them possible. In the dream phase, participants envision what could be. In the design phase, participants design a positive future through participatory dialogue. In this phase it is essential to ensure that an inclusive and supportive context is fostered. In the destiny phase, participants define how they will create their future.

In the context of sustainability, change efforts often focus on the need for changing external systems and take a rational, fact-based approach [62]. Appreciative inquiry is thought to complement traditional approaches by

bringing in a more personal, emotional dimension. Researchers argue that it is, “essential to also focus on positive emotional elements in people’s engagement and build on people’s desire to be a partner in something that has meaning” [63]. Appreciative inquiry may also help to promote democracy and self-organization. Whereas a critical approach seeks to undermine other opinions, an appreciative approach supports open, respectful dialogue, encouraging a diversity of viewpoints [64]. As well, when people appreciate and envision together, it can help to lessen hierarchy, lower power differentials and improve decision-making [65]. “By unlocking existing deficit constructions, creating spaces for new voices and languages to emerge and expanding circles of dialogue to build a supportive relational context, appreciative inquiry allows for the positive construction of social reality” [66]. Moreover, by discovering strengths and shared values a community can develop its positive core. This positive core can act as a stabilizing force and source of resilience as communities question the status quo, learn and change in more sustainable ways [67].

*Community Based Social Marketing.* Community Based Social Marketing (CBSM) is a tool used to engage community members in more sustainable behavior change. CBSM defines social marketing as the process of reducing the barriers and increasing the enablers that promote sustainable behavior. The author, Dr. Doug McKenzie-Mohr, an environmental psychologist, proposes three main questions as vital to the development of a community-based social marketing strategy. These questions are as follows: (1) What behavior should we promote? (2) Who should the program address? (3) What conditions will an individual face in deciding to adopt a new behavior [68]?

The concept identifies four non-mutually exclusive ways behavioral change can be promoted:

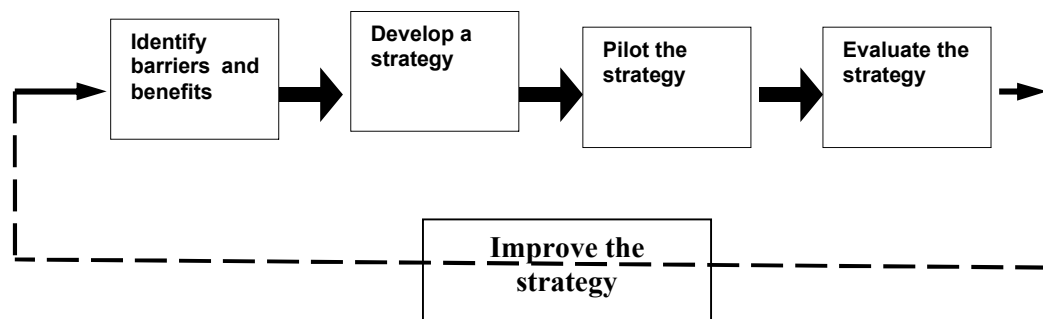
- Increase the benefits of the target behavior;
- Decrease the barriers of the target behavior;
- Decrease the benefits of competing behavior(s);
- Increase the barriers of competing behavior(s).

McKenzie-Mohr proposes that a variety of barriers can deter individuals from engaging in sustainable behaviors. Lack of knowledge and un-supportive attitudes are two examples of barriers. The failure of mass media campaigns to foster sustainable behavior is explained in part by the poor

design of the messages, but more importantly by an underestimation of the difficulty of changing behavior. Advertising can be effective in altering our preferences for one brand vs. another. However, altering consumer preferences is not the same as changing behavior. Encouraging people to engage in a new activity, such as walking or biking to work, is much more complex.

CBSM suggests the following process to foster sustainable behavior (figure 3.3):

- Identify the barriers and benefits of an activity;
- Develop a strategy that utilizes “tools” that have proved to be effective in changing behavior;
- Pilot the strategy;
- Evaluate the strategy once it has been implemented in a community.



*Figure 3.2. Community-Based Social Marketing – Process for Sustainable Behaviour Change [69].*

The first step, ‘Identifying Barriers and Benefits’ recognizes that there may be multiple internal and external barriers to sustainable behavior change and that these barriers will vary by individual. According to CBSM, uncovering barriers involves three steps: (1) reviewing documents and literature to identify issues to explore further with community residents; (2) obtaining qualitative information through focus groups and observation to explore in-depth attitudes and behavior; (3) conducting a survey with a random sample of residents.

In the second step, *Behavior Change Tools*, CBSM has identified a variety

of effective tools for promoting behavior change drawing from social sciences such as psychology. These tools include such approaches as (1) gaining commitments from individuals that they will try a sustainable activity; (2) using prompts as visual or auditory aids to remind people to carry out a sustainable activity that otherwise might be forgotten; (3) developing community norms that encourage people to move towards sustainability; (4) using direct personal appeals and social support from others; (5) building incentives (monetary and non-monetary) that are particularly useful when motivation to engage in sustainable action is low, or people are not doing the activity as effectively as they could; (6) removing external barriers for implementing sustainable strategies and actions.

While defining the third step, i.e. *Piloting*, CBSM pays attention to the potentially high cost of implementing sustainability programs in communities. In this regard, it is essential to know that a strategy will work before it is implemented on a large scale. Conducting a pilot allows a program to be refined until it is effective.

In the final step, *Evaluation*, CBSM emphasizes the importance of measuring behavior change rather than less direct measures such as increases in awareness. The information gleaned from the evaluation can be used to refine the marketing strategy.

In summary, the primary advantage of the CBSM process of engaging people in sustainable behavior change is that it focuses on finding the right tactic to influence a specific behavior.

*Knowledge transferability.* In order to assess the possibility of applying the Robertsfors Sustainable Community Development Model in other places and contexts, some understanding of the way knowledge can be transferred is necessary. The first consideration to be made is that the Robertsfors Project used both a pool of objective concepts (i.e. framework, sustainability principles etc.) as well as the inherent characteristics of the Robertsfors community (culture, socio-economic context etc.). Within these two main streams of knowledge it is important to understand both what can be transferred and how it can be transferred.

Knowledge exists explicitly (can be codified – translated into symbols, explained in texts, lectures etc.) or implicitly (tacit, difficult to codify). There are three major areas through which this two-fold classification can be understood: (1) possibilities of codification and mechanisms for transfer; (2) methods of acquisition and accumulation of knowledge and (3) potential

for aggregation and modes of appropriation [70]. These three major areas are briefly explained below:

- Explicit knowledge can be codified and therefore communicated verbally or through symbols such as texts, blueprints, computer programs etc. Tacit knowledge contrasts with the former by being intuitive, unarticulated and difficult to codify and transfer;
- Explicit knowledge can be created by logical deduction and acquired by formal study. Tacit knowledge, on the other hand, requires a different kind of learning experience to be acquired. The variety of the experience and the individual commitment and involvement in the context are critical factors in determining the generation and accumulation of tacit knowledge [71]. “Since tacit knowledge cannot be specified in detail and is revealed through practice, it cannot be transmitted by prescription. It can be transferred only by example or observation, such as from master to apprentice” [72]. This restricts the range of diffusion and requires broad and deep involvement for knowledge to be efficiently transferred;
- Explicit knowledge can be aggregated in a single location and stored in ways that its contents can be easily accessed. Tacit knowledge, due to its personal and contextual nature, tends to be stored in ways that access is not as direct.

Although conceptually this classification (explicit and tacit) helps in understanding the nature of knowledge in relation to the ways in which it is communicated, acquired and stored, in practice the two streams mix. Knowledge is generated through the dynamic interaction and combination of these two streams [73]. A framework is a codified form of knowledge, but the success of its application is dependent also on the tacit knowledge involved in the process. A large part of human knowledge is tacit in nature [74]. The importance of acknowledging these two aspects of knowledge is clear when dealing with applying a framework used in a very specific situation to new and diverse contexts.

Nelson and Winter [75], explaining how knowledge (explicit and tacit) is dealt with in companies, say that usually a specific context allows a dynamic net of relationships to stimulate the creation and communication of knowledge and its accumulation in a series of routines. This series of routines, while codified, emerge from both codified and tacit knowledge. Therefore they cannot be transferred in the same way as pure codified

knowledge could. If this is attempted, the results of these routines may suffer from lack of meaning in the new context.

Given that the performance of a framework is the result of a blend of codified and tacit knowledge, it requires a mixture of approaches to be transferred. It is essential that participants are deeply involved in the processes, that necessary adjustments are made according to the local context and that learning involves both codified communication (i.e. lectures, check-lists etc.) and practical experience.

### **3.2 Document Review and Interviews**

*The International Context - Agenda 21.* The United Nations has played an influential role in setting the global context for sustainable development. In June 1992, 178 governments gathered in Rio de Janeiro for the United Nations Conference on Environment and Development, more commonly called Rio's Earth Summit. A major outcome of this meeting was Agenda 21, a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, governments, and major groups and in every area in which human activities impact the environment [76].

There are 27 high-level sustainability principles for Agenda 21 (A21) outlined in the Rio Declaration. Interpretation and adherence to these principles are at the discretion of each nation. "Agenda 21 is a dynamic programme. It will be carried out by the various actors according to the different situations, capacities and priorities of countries and regions in full respect of all the principles contained in the Rio Declaration on Environment and Development" [77].

Although each nation decides what to do in relation to A21, its principles support national, regional and local level political involvement. Chapter 28 of Agenda 21 highlights the particular importance of local level involvement: "Because so many of the problems and solutions being addressed by Agenda 21 have their roots in local activities, the participation and co-operation of local authorities will be a determining factor in fulfilling its objectives" [78]. As an outcome, Local Agenda 21 programs were initiated. Essentially, LA21 is a strategy for sustainable development that local governments and communities should prepare according to the engagement their national government took in Rio.

It is up to each local government to decide whether to work with LA21 and how to do so. The principles defined in Agenda 21 are meant to guide local sustainability plans. Guidelines for community engagement are even looser. “Each local authority should enter into dialogue with its citizens, local organisations and private enterprises and adopt ‘a local Agenda 21’. Through consultation and consensus building, local authorities would learn from citizens and from local, civic, community, business and industrial organisations and acquire the information needed for formulating the best strategies. The process of consultation would increase household awareness of sustainable development issues” [79].

Many communities in the Baltic Region have developed Local Agenda 21 documents. While the creation of LA21 plans is a positive step, there have been difficulties with implementation. One of the biggest challenges is that it only addresses a very vague notion of sustainable development, providing little direction for planning and decision-making. Another is that it remains a non-statutory process that local authorities can ignore if they choose [80]. Moreover, in many countries around the world, local authorities were not given any resources for implementation. International surveys also suggest that national policies were and are often directly contradictory to the aims of the Local Agenda 21 process. For example, if national tax and investment policies favor use of cars, it will be challenging to implement local sustainable transport policies [81]. Another key problem has been the move from the “drawing up nice plans” phase of a Local Agenda 21 to practical implementation. Local Agenda 21 action plans have often ended up gathering dust on local authority’s shelves [82]. Some of these plans have also been poorly written, with very vague high-level goals. In many cases, they failed to “engage the public intellectually, emotionally or practically” and thus did not achieve “significant changes in individual, agency or institutional behavior” [83]. Thus, in many cases the Local Agenda 21 process has not fulfilled its main objective, i.e., to establish a linkage to mainstream politics of the local authority.

### **3.2.1 The Baltic Region Context - Baltic 21**

Within the context of Agenda 21, in 1996 eleven Prime Ministers of the Baltic Region established ‘An Agenda 21 for the Baltic Sea Region’, now known as ‘Baltic 21’. The Baltic Sea Region was the first multi-country region in the world to adopt common goals and actions for sustainable development [84]. Baltic 21 is a regional expression of the global

commitment to a sustainable future first articulated at the 1992 United Nations “Earth Summit,” and reconfirmed in 2002 at the World Summit on Sustainable Development. The Baltic 21 Action Program sets goals for eight “Sectors” – agriculture, energy, fisheries, forest, industry, tourism, transport and education, and spatial planning - and seven “Joint Action” (transnational and cross-sector) themes. Baltic 21 is defined as a multi-stakeholder process linking government, industry, finance and civil sector actors, together with the European Commission, around a specific program of action.

According to the Baltic 21 five-year summary report [85], progress on sustainable development has been made throughout the region and greater regional and cross-sector cooperation has been established. However, the report also identified the following challenges:

- The admission of new Baltic members to the European Union brings a greater diversity to the BSR, making sustainability strategies for the region more complex and challenging. The new member countries lag behind their western neighbors on many levels and are undergoing much change as they seek to bridge this gap. The new border countries of Belarus and Russia also pose serious considerations for the region.
- Increased emphasis on cross-sector initiatives is needed to better address all three dimensions of sustainable development.
- A need to focus future efforts on fewer initiatives that are larger, bolder and likely to produce tangible results that are visible in the region.

Overall, the issue of diversity within the BSR seems to be one of the most pressing issues for the region in its journey towards sustainability.

### **3.2.2 The Context for Sweden**

Sweden has as its goal to be one of the leading countries in the transition to sustainable development [86].

With ecologically sustainable development as its overall objective, in April 1999, the Swedish Parliament (Riksdag) announced fifteen national environmental objectives. On 1 January 1999, a new Environmental Code came into effect in Sweden. In a series of decisions from 2001 to 2003, the Parliament has subsequently adopted a total of seventy-one interim targets indicating the direction and timescale of actions to be taken to achieve the

fifteen objectives.

In 2004, the government widened its mandate to publish a national strategy for Sustainable Development. On January 1, 2005, a new Ministry of Sustainable Development was formed and the Ministry of the Environment ceased to exist. The Swedish Strategy for Sustainable Economic, Social and Environmental development builds on the 2002 World Summit for Sustainable Development held in Johannesburg, the Millennium Development Goals, the EU Strategy for Sustainable Development and the Lisbon Process.

The government's sustainability strategy is based on three main premises: (1) sustainable development in Sweden can only be realized in the context of global and regional co-operation; (2) sustainable development policies and measures must be integrated into all existing policy areas; (3) further action is required at the national level to safe-guard the long-term resources needed for sustainable development.

At the regional and local levels, County administrative boards (*länsstyrelser*) represent national sustainable development priorities. At the municipal level, local authorities (*kommuner*) are responsible for incorporating national goals in their planning and translating these into concrete local goals and action plans.

In the book *The Natural Step For Communities*, James and Lahti [87] emphasize the important role of the national government in supporting local level sustainable development initiatives in Sweden. The government "provides funding and technical recourses for local environmental initiatives and planning for sustainable development" [88]. According to James and Lahti [89], Sweden's membership in the European Union has also provided support to local municipalities interested in planning for and implementing sustainable development. Types of support have included: institutional arrangements, financial assistance, planning etc.

This support may explain the commitment of many Swedish municipalities to LA21. In comparison to the larger international context the Sweden's experience with Agenda 21 appears to be a notably positive example. This positive experience may also be influenced by the very nature of Swedish society, such as: democratic processes; extensive public participation; and broad based societal consensus.

### 3.2.3 Robertsfors, Sweden

*Document Review – Robertsfors.* The main legal and conceptual framework for the implementation of the project is “The Sustainable Robertsfors Project Document.” The document was developed by a team of authors that include representatives of the Robertsfors municipality and the county Administrative Board [90]. As one of the key objectives of this study is to understand the Robertsfors model, the main findings from the project document are included here to set the context for the actual pilot project. The data from this document is structured using the Five-Level Model.

*System.* In the document, sustainable development is defined as “synonymous with that of the Brundtland Commission and the four conditions of the system” [91]. The system in this case is the Robertsfors Municipality, comprising 7300 people, 2100 people living in the town centre and the rest in surrounding villages. The structure of the industry is described as very traditional and largely based on agrarian, service and manufacturing companies. The document recognizes the imperative of sustainable development within a larger global context.

*Success.* The vision of success is defined in the document as: “By 2025 the county of Västerbotten, through the pilot municipality of Robertsfors, will be a pioneer of sustainable development” [92]. Several objectives, goals and sub-goals are defined in the document.

The four main project goals as outlined in the document are:

- The inhabitants of the municipality of Robertsfors and their industry must be involved and provided with insight and knowledge about sustainable development;
- Robertsfors must lead the way in the long-term and become a natural centre for sustainable development;
- Work for sustainable development from an overall standpoint, ‘The sustainable Robertsfors’, which will be a model for other municipalities and local communities must be carried out;
- The conservation work must be placed in an overall perspective whereby ecological, economic and social aspects are dealt with jointly.

Sub-goals fall under three main areas: democratic process, the environment and sustainable industrial development.

*Strategies.* Strategies outlined in the document relate to ensuring a high-degree of transparency, a democratic process, a long-term perspective and the recognition that children and young people are crucial to the success of the project [93]. In this regard, the document stresses the importance of integrating sustainability into the school curriculum and working with students, teachers and parents. The document also emphasizes the importance of creating meeting places, partnerships and networks. Development-oriented working methods that clearly connect visions, goals and the measures implemented are also emphasized.

*Actions.* High-level actions are outlined in the document in three phases: project launch, operation and wrap-up.

The first phase outlines actions to launch the project including: holding public meetings and open discussions, creating meeting places, targeting specific groups (employers, schools), establishing an informational strategy, preparing study materials for teachers and pupils, the development of sustainability materials by community study circles, and the establishment of local, regional, national and international networks.

Measures within the operative phase include the implementation of the actions described in the first phase as well as holding an exhibition of sustainable ideas, products and companies etc. This phase is intended to extend over four calendar years and emphasizes the need for constant adaptation and skills support.

The final 'wrap-up' phase is said to occur in the last six months. The project process and results should be drawn up and presented and the methods documented. Evaluation is said to take place in the form of a seminar in which the interested parties meet to discuss the experiences and results.

*Tools.* The project document identifies the following indicators to measure success: 8 new jobs; 7 new companies; positive influence on and improvement of the environment, a collaborative inter-county project, development of environmental awareness and knowledge of environmental issues; the project maintains and improves the quality of the local / regional environment. It also calls for the development of three local networks and one network at the regional, national and international level [94].

#### ***Interviews – Robertsfors.***

*System – Awareness.* Almost all the people interviewed were aware about the Sustainable Robertsfors project. Most confirmed that they heard about

the project while attending a workshop on behalf of it. Most interviewees described the project in different ways. A farmer emphasized environmental projects and benefits. A project employee described it in terms of engaging the community, starting where people are and working systematically towards sustainability. Others emphasized the triple-bottom line approach of economy, environment and society. Democratic participation and the opportunity for young people to get involved were also emphasized.

In terms of awareness about sustainability, most respondents pointed out that sustainability itself is not a new issue for them. Some interviewees acknowledged that the project helped to increase their understanding by emphasizing the importance of social issues in addition to environmental and economic issues. Another respondent highlighted how the definition of sustainability had broadened since the project had started: “at the beginning many people thought that it was just about sorting rubbish. Now we can see that there is an ecological part, a social part and an economic part. It is so clear now if you compare to the beginning”. Others emphasized that their thinking had shifted from short-term to long-term thinking. A municipal employee in charge of social care emphasized this point: “usually we work using a one-year cycle. This project teaches us to plan for 15-20 years ahead and to apply different ways of thinking”.

*Success – Vision.* In terms of the vision for the community of Robertsfors, the chief of the municipal administration stated that, “Robertsfors would be the best municipality in Sweden and within 15 years, or by the year 2020, would have 10,000 inhabitants”. He didn’t think it was possible for all citizens to share the same vision.

A SR project employee felt that the vision was not shared in the community. She referred to a community meeting scheduled for April 16th as an attempt to create a common vision for the community. She also said that the politicians’ goal was to become the best Swedish municipality.

A local business person criticized the vision of being the best community in Sweden. “Why not have a smaller goal, to be the least worst? This is more reliable and believable. If you say it to people on the street, they laugh”, he said. He also stated: “I do not know what is sustainable about being 10,000 vs. 7,000 inhabitants”.

The SR project leader felt that it was not realistic for everyone to share the same vision and felt that it was important to see the differences. In terms of the project vision, the SR project leader communicated that “it is better to

start with the end. In the end we will have a sustainable action plan that deals with everything in the area of the municipality. This sustainable action plan will be some kind of sustainable management system for the whole area”.

*Success – Principles.* The principles of Success used by the SR project team are the four sustainability principles. In an interview, the SR project leader emphasized their importance by stating that, “you should remind people about the system conditions because this is the world-view everybody should have”.

However, only seven interviewees, not including the three project employees, were familiar with the four sustainability principles and only four could explain their meaning. Most people pointed out that they experienced some difficulty in understanding them. A respondent stated that it was not possible to start educating about sustainability using the four sustainability principles. Another interviewee felt that if this approach was taken that people go, “no way”. In her view, it should start “somewhere where people are.” A school headmaster stated: “We don’t talk about them directly to students. They are embedded in the work that we do”. Another municipal employee stated that “the principles should be here in the head. I don’t think they are in this group really”. The chief of the local administration also emphasized that so far the four sustainability principles had not been used in the municipal planning process. However, a number of the municipal employees interviewed said that there is now an explicit attempt to incorporate the four principles in a newly developed plan for the community.

*Success – Results Achieved.* A local business-person communicated his doubts that the project had reached people where they are. He felt that the Robertsfors project had cost a lot of money but not generated enough results. He assumed that one of the reasons was that the expectations and the aim of the project were too high. The SR project leader emphasized similar feelings: “I heard a lot of critical voices when it started. That there had been too much happening out in the villages, too many odd projects going on all over. They didn’t know what it led to. Where did the money go? That was a big thing. That was not very good”.

The SR project leader also noted that the project had not provided sufficient training for politicians and municipal employees. He indicated that the project hadn’t involved sufficient participation from business representatives to be able to provide a special education program for

company representatives. In his words: “if you want to help businesses become sustainable in Robertsfors, there are a lot of missing links that could be filled in with education. I guess one reason why there was limited enrolment might be that people couldn’t see what kind of job they could get when completing this education. These new kinds of jobs do not exist yet. It is always difficult to start with something completely new”.

The head of the municipal administration felt that the project had not brought any positive changes for the economic situation of Robertsfors. He stated that the economical results for last year showed a deficit of 15 million Swedish crowns. Referring to the environment, he made the following comments: “historically, we have not been a leading municipality in the environmental issues. In this field, the municipality had a relative low profile. I think that during this project we have learned and experienced more about environmental issues. It has become more interesting now for the people and politicians here to discuss the environment. Since many years, starting from the end of the 1960s, the municipality had one big environmental problem: a wood factory. The arsenic is now in the earth. We are going to clean this area during the coming summer. This is also a case of people becoming more interested in the environment”.

Many respondents pointed to the increased level of environmental education and work with young people as the major achievements of the project. Robertsfors was awarded the youth municipality of the year, increasing the awareness and engagement of the young people.

One of the project employees noted that the project had put a lot of focus on Robertsfors nationally and that it had become more famous nationally than locally. She explained this phenomenon by arguing that it is often “hard to see when you are in it [the community] that there is something special going on here”.

In his interview, the SR project leader expressed some positive economic results noting that people were now starting to move to Robertsfors as a result of “a change in the spirit and the image of Robertsfors”. However, evaluating the results in the social sphere, he noted that “there are still a lot of problems to deal with, especially since the municipality’s economy is bad”. He also gave some outline of the environmental achievements emphasizing “small steps, such as better waste management, environmental schools and ethanol cars”. The municipality’s conversion to ethanol cars was also emphasized by the chairman of the municipal board.

The SR project leader also mentioned that as a result of the project, 5 companies were ISO 14001 certified and in total 500-600 people had gone through a one-day training about sustainability.

*Strategy – Leadership.* When discussing the project, interviewees often referred to the leadership and actions of the SR project consultants. Leadership was perceived to come from this team and not from the municipality or local community members.

The SR project leader provided an extensive description of his role as a “process-leader”: “if you go in the project like this you must feel that you will stay. It is important that other people take the lead, people from Robertsfors. I prefer to be a little bit behind. It is important to bring in the experience of sustainable community development over the past 2 decades. It is the experience of these processes that I am trying to put together in some kind of concept that we are trying to implement here – to do it in only 5 years vs. 15-20 years. That is a challenge”.

Another member of the SR project team described his role as a coach and emphasized the importance of listening and enabling.

Some interviewees pointed to the lack of guidance and leadership from the municipal authorities from the beginning. One respondent stressed that the process “started from the bottom and had to work its way up”.

The chief of the municipal office also felt that the municipality had not been involved enough in the process and not taken enough of a leadership role from the start. In his words: “if I had taken a decision today where these people [the project team] would be functionally, I would say that they would be in this house [the municipal office building], not in another house away from the administration. They have worked with the project and worked with the inhabitants. But they haven’t worked with the municipality organization in the administration. They should have been in this house, teaching the people who are working with schools, elders etc”.

A project consultant hired on within the last year felt that the role of the municipality had grown a lot since he had started.

*Strategy – Strategies themselves.* Many respondents referred to the Municipal Action Plan currently in development as an important strategic document in this process. The action plan was described as a visionary document that should look out to 2050 and then provide targets and goals

for 2030, as well as a more detailed plan for 2010 and 2005. A member of the SR project emphasized that the project team “is trying to have the administration marry it [sustainability] with the political process”. The chairman of the municipal board commented that they “are building up a planning system with the four sustainability principles. The whole office is working with it right now. The system is built on the ABCD process. It is a big project”. In evaluating the format of the plan, a municipal employee felt that there was “too much paper”. “The people who want to use it have very little time; they need to read it easily”, he said.

Community engagement appeared to be another core strategy of the project and was referred to by several interviewees. An interviewee stated that sustainability work has to be a process requiring constant input since it is a way of changing the hearts of the people. Therefore, the need to work towards the centre and not from top-to-bottom or bottom-to-top was stressed. Specific actions discussed in the interviews related to community engagement are listed below under “Actions”.

*Strategy – Enablers and Barriers.* Enablers that are supporting progress towards sustainability and barriers that are hindering the process also emerged from the results of the interviews.

The following are a list of enablers emphasized by the SR project leader:

- An inventory should be done during the first weeks to see both the challenges that the municipality has to meet and also to find the good examples;
- The process leader should be internal, a member of the community. “They must live in the municipality and be a very strong part of the community. At the same time you need to have a very strong connection to the regional level and to external actors. But the driving force must be within the community”. Other members of the SR project team also supported this approach;
- The importance of “executive-level sponsorship” as an enabler for sustainability education and training;

Additional strategic enablers pointed to by other interviewees included:

- National political support of sustainability is perceived to be an important enabler. “The national documents state that schools should work with sustainable development and teachers feel that they should learn more”, said a respondent. It was also mentioned

that there are national systems in Sweden for determining if schools are green. This context sets a system that is available to think about sustainability and act towards it. A local teacher commented that the schools in Sweden had been studying these questions for many years so it felt rather natural to participate in this project. She noted that all the teachers saw the project as an opportunity;

- Local political support is also considered to be important. An interviewee emphasized that, “You need to have strong people in the municipal organization to keep going... Municipalities in Sweden are important for the local processes”, he said;
- The importance of working with village groups was mentioned by a SR project employee. This was considered by the respondent as the easiest way to reach people in the community because everyone is interested in the place where they live;
- Working with young children also seemed to be an enabler. The point was also made that it is easier to start with the kindergarten and primary school children to make sustainability a part of their every day life as there is more time and flexibility to work with sustainability issues. “When children are 15, they have so much to cover that they just have to focus on getting their work done”, noted an interviewee;
- A local business owner stressed the need to reach people where they are and to describe the goals in a way that “people can believe”. An SR project consultant also commented: “if you ask people’s opinion about sustainability they aren’t interested. They don’t know what it is. You have to find out the issues that are interesting to them”;
- An SR project team member emphasized the importance of communication and media involvement and the need for someone responsible for communications;
- Education was also perceived to be an important enabler. A teacher emphasized that while they had received some brochures and booklets they were difficult to understand. She emphasized a need for further education about sustainability for local teachers;

The strategic barriers that were identified in the interviews include:

- The funding structure of the project was problematic. According to the funding requirements, the money received had to be used during

the first three years of the project. This led to a shortage of resources in the latter part of the project. An SR project consultant stated: “in 2002 the project had a lot of money. And the project team wanted to keep the money, but they had to use it otherwise they would lose it based on the funding requirements. So they had to support a lot of different projects. Good then, but all the schools and all the actors got used to thinking they could get money from SR. In 2003 they cut back and even more in 2004. So now there is not at all as much money. They don’t know the terms that the project team was under”;

- Citizens feel that sustainability is something that the municipality should deal with. Community members say that they already pay taxes, vote etc. and that they should not have to take additional responsibility for the commons. This paradigm makes it difficult to engage community members in taking part in sustainability initiatives;
- Economic considerations take priority over sustainability. In referring to the adoption of the sustainability principles, a municipal employee emphasized the following: “these people have their responsibilities, they have very little money. Economy comes first, ecology comes second. They should use them [the sustainability principles] in their planning, but it is difficult to adopt them, as it’s a big conflict with the economy. The structural barriers and systemic barriers make it difficult to change”;
- Sustainability principles are perceived to be difficult to apply in real life;
- Another municipal employee emphasized the challenge of time as a barrier. “The work that we usually do make it difficult to have free time for this subject”, he noted.

*Actions - Supporting Measures.* Activities in the schools were mentioned frequently in interviews when referring to positive actions towards sustainability. The teachers interviewed indicated that in the beginning of the project, all teachers and school employers attended a one-day workshop about sustainable development in 2002. The interviews also highlighted the emphasis on democratic activities in the schools, with the students being involved in the decision making, such as the kind of food to serve at school. Education about composting was also mentioned as a positive example as

the children would then teach their parents about this. A teacher noted that, “children are very powerful in a family”. Another example cited frequently was the “environmental flower certification” developed with assistance from the SR project team as a mini-variant of the national school certification program.

Networking was mentioned as a positive activity in interviews and that presenting positive actions to international visitors and other schools in the local network gave local schools a sense of pride. The benefit of sharing new ideas in the school network was also emphasized. The importance of seeing that “you are part of a bigger picture” was also highlighted.

One interviewee felt that efforts should be aimed at creating a local community market. According to his point of view, large-scale producers currently have long-term contracts and the community has to solve problems for the small-scale food producers to secure their survival.

A local farmer in his interview mentioned the project assistance he received to set up a public organization in his village of Åkulsjön. He described the support he received to start an education program for the community residents in culture, handicrafts, local history and traditions. He is currently working on this feasibility plan in cooperation with the SR project team.

Another important project discussed was the planned eco-village to be built in the municipality. It was felt that this new village would be a way of attracting more people to move to Robertsfors.

A municipal employee in charge of social care also discussed plans motivated by the SR project: “we have plans to build a new day care house for elderly people. Now we are trying to find a sustainable way of heating the house... We are also thinking about how to help the elderly people to avoid being alone. We have to create more places for meeting for them and help them to come to these meeting places”.

*Actions – Engagement.* In engaging the community a SR project team member indicated that they had started the process by talking with existing community groups. “We didn’t know anything about Robertsfors, so we wanted to listen to the local people”, she stated.

The SR project leader emphasized the importance of involving the young people from the start. The process of engaging young people started with a ‘democracy day’ at the high school. Lectures about sustainable development and democracy were held and the young people were given an

opportunity to decide what they wanted to talk about. A student-led organization was established following this event.

The teacher from the environmental school in Åkulsjön noted that how teachers work directly with students about sustainability is up to the teacher. “You can write about it. You can draw about it. You can go out in the forest”. She noted that, “the project had worked well in the schools, but not with ordinary people living in the community”. She said that it wasn’t easy “to get them involved or thinking in the right way”.

The SR project leader also mentioned introducing proposals from community residents as a way to strengthen the democratic and participatory process in Robertsfors. “While every person has the chance to bring their proposal to the council and then to the municipality, not all proposals are accepted”, he admitted. To date, the largest number of proposals has been submitted by the youth in Robertsfors.

The importance of a democratic and participatory process was also stressed by another SR project team member. In his interview, he referred to a community meeting scheduled for April 16<sup>th</sup> 2005 saying that “it is very important. Every year in spring we are going to have this kind of forum and find as many people as possible to come”.

It was emphasized that the main town of Robertsfors was not as engaged as the villages in the municipality. According to an interviewee, the process of engaging people works easier in villages where people tend to be more involved in their community. In a town, people “don’t have things that bring them together. They don’t have to struggle together about the school closing or the shop closing. The villages always have to struggle to live”, she noted.

Some interviewees pointed to a trend of decreasing participation in the project. The head of the local administration emphasized that “many people have their own things and aren’t so interested in these [sustainability] questions”. The SR project leader stated that those who were committed at the beginning have done a lot of work and are tired. Nevertheless, he expressed his hope that the number of people engaged in sustainability issues would increase as the community’s image continued to improve and more people moved in. He also highlighted the need to revitalize the “fire souls” and to continue to work with the municipality to facilitate cultural evolution.

In terms of actual engagement, a member of the project team assumed that approximately 10 per cent of community residents were actively involved in the process. The local farmer had a similar point of view: “only some people are involved. People are sceptical. They are not willing to do something themselves. They want to wait and see”.

An SR project team member felt that while there are not many visible “fire souls”, “there are a whole lot of people who agree with this work and support it”.

*Actions – Enablers and Barriers.* Enablers supporting and barriers impeding actions towards sustainability were also identified in the interviews:

- In referring to the public forum scheduled for April, individual motivation and trust in the process was described as a potential barrier to participation and listening and following through as an enabler. As stated by an SR project team member, “the main obstacle is people’s motivation to come to this seminar. There is the fear of another seminar in a long line where we come and say what we want and nobody does anything about it. That is why I put emphasis on listening to people. If people are coming with a proposition, we must show that we are listening and we must deal with it”;
- A cultural reliance on authorities was described as a barrier to further community engagement. “In Sweden, we rely very much on authorities, much more than in any other country. We think that they are doing a good job. The backside of that is of course that we don’t rely on ourselves to spread new and important things”, said a respondent;
- Economic means was also cited as a barrier to changing behaviour. Referring to the issue of ethanol cars, a local teacher noted that she does not use this type of car since she cannot afford it. Another interviewee highlighted the barrier of organic food being too expensive. “How do we encourage community members buying food for the schools and eldercare to buy more local and organic? They always have this small wallet to consider”, he said.

*Tools – Success Criteria.* A municipal employee responsible for economic affairs stated that in the field of economy the municipality has no current practices of how to measure the effects. He highlighted that in the

purchasing policy there are environmental elements but nothing about social considerations. Doubts were expressed about the possibility of incorporating the four sustainability principles into the existing purchasing policy.

An SR project employee felt that the only way to measure success was to have an external consultant do an evaluation of the project. She felt that the evaluators should choose the evaluation criteria. She assumed that the evaluation might be based on the goals of the project but that these goals were “not very clear”. She also emphasized that she saw no clear relationship between sustainability and some of the goals in the original project document, such as, “to start five new companies”. She stated further that the people who wrote the project document were not from Robertsfors and didn’t know “where people are in their lives. You never know what the municipality is before you get there”, she noted.

Another SR project team member indicated that the project had not developed any measurement tools. It was suggested that sustainability is more about measuring changes in attitudes and that this is difficult to achieve and measure. The SR project leader suggested measurement criteria such as the number of schools that have been certified, the number of people involved in SR project activities, the number of people participating in external networks, the external perception of the community’s image, the quantity of ecological food consumed etc. Another project consultant felt that it was up to the municipal employees to come up with their own criteria for measurement. He did refer to the number of citizen proposals as a potential indicator.

*Tools – Applied.* The environmental management system that is being introduced in the municipality was considered by some to be an important tool for operationalizing higher-level sustainability goals. Education in the form of workshops and training was perceived to be an important capacity building tool.

### **3.2.4 Estonia – Document Review, and Interviews**

Leading up to independence from the Soviet Union, environmental issues were at the forefront of citizen concerns. With independence in 1991, the Rio summit in 1992 was the first international conference that Estonia participated in. With a strong commitment from the Estonian President, Estonia was the second country in the world to adopt Agenda 21 principles.

Following Rio, a UNDP sustainable development project called Capacity 21 was initiated and Estonia was one of the countries chosen to participate. This process helped to introduce the importance of Sustainable Development at national and local levels. A lot of training was done and extensive publications were developed.

In 1995, the law on sustainable development was passed by the Estonian parliament. It has been regarded as more of a declaration than a framework. If there is no guidance from other regulations then this law is referred to. A commission on Sustainable Development led by the Prime Minister was also formed. According to interviewees, this commission is not considered to be very effective. More hope is placed in the National Sustainable Development strategy that is currently awaiting approval in parliament.

Overall, the role of the state is to set the legal and institutional framework for sustainability and to incorporate EU principles. Based on document reviews and interviews, there appears to be a great deal of autonomy at the local level with regards to the development of sustainability strategies and action plans. The Association of Estonian Cities appears to play the largest role in forwarding Sustainable Development at the local level. The Baltic Local Agenda 21 Forum has also played a galvanizing role, with more importance prior to European Union accession. In the communities researched, LA21 was the main framework used for initiating sustainable development programs. Four cities in Estonia adopted Local Agenda 21: Tartu, Parnu, Viljandi and Kurassare. Within the context of this research, stakeholders were interviewed in the first three of these cities. While Capacity 21 was the first national sustainable development process in Estonia, Tartu, Parnu and Kurassare were already doing Local Agenda 21 work with the support of partner cities in Western Europe before Capacity 21 started.

Participation in Local Agenda 21 has been completely voluntary. However, if a community chooses to develop a Local Agenda 21 plan, it must be approved by the regulation of city council. In all three cities studied the municipal government played the role of project leader in the development of Local Agenda 21 programs and in coordinating the stakeholder engagement process.

When the Agenda 21 work started, community development plans were required by law and Agenda 21 was a separate document. Over time people realized that sustainable development principles should be incorporated into the development plan rather than producing separate documents. Now the

two processes have come together and most cities just have the local community development plan. According to an interviewee, “the reason there are so few cities that undertook Agenda 21 is because the Estonian legislative system changed. Today such aspects are written into acts and must be followed. As a result there are few Agenda 21 documents. Rather principles of sustainability are now written into the development plans instead of having a separate document.”

Despite the positive government-led steps towards sustainability, it appears that individual interest in environmental issues has decreased since the 1980s, with an increasing focus on the economy. “In the end of the Soviet period our people were very interested in environmental programs because our sea water was not so good, we had many problems with drinking water, etc. Nowadays we are not so involved in these processes. At that time it was the part of process to have independence in Estonia. Now we have economic problems to focus on”, said an interviewee in Parnu.

Table 3.1 Key Findings of the Interviews in Estonia.

	System	Success	Strategy	Actions	Tools
Estonia	<p><b>Perceived characteristics:</b></p> <p>Energy sector relies mostly on oil shale.</p> <p>National policies for SD are not considered to be effective at local levels.</p> <p>EU SD goals influence national policy.</p> <p>People are becoming more individualistic.</p> <p>Inheritance from Soviet times: people are passive.</p> <p>Volunteers not allowed by law.</p> <p>Only the well educated think long-term.</p> <p>SD vision – not shared.</p> <p>People are tired of so much change since independence.</p> <p>Concentration of power.</p>	<p><b>Perceived characteristics:</b></p> <p>Success measured by different interviewees as: quality of life and good environment; using less resources and fossil fuels; controlling consumption; local and healthy food production; better life for everyone; economic growth.</p> <p>Respondents had no knowledge of the four sustainability principles.</p> <p>Precautionary principle used.</p> <p>Goals: business &amp; infrastructure development.</p>	<p><b>Perceived characteristics:</b></p> <p>Best to not rush SD efforts.</p> <p>Promote SD engagement through online information and feedback forms.</p> <p>Work with cities in smaller groups.</p> <p>Easier to plan and to reach agreement.</p> <p>Use words that people understand, Sustainability lacks meaning.</p> <p><b>Enablers to the SD strategy:</b></p> <p>Consciousness about SD is rising</p> <p>EU SD mandates.</p> <p><b>Barriers to the SD strategy:</b></p> <p>Lack of real leaders hinders progress and undermines credibility.</p> <p>People often don't see meaning or results in SD efforts.</p> <p>Lack of resources.</p> <p>LA21 goals are high-level and difficult to apply.</p> <p>SD goals not broadly known.</p> <p>No clear strategies to achieve goals.</p> <p>Lack of clear indicators.</p> <p>People disappointed in SD efforts.</p>	<p><b>Perceived characteristics:</b></p> <p>Degree of community participation varies a lot by municipality.</p> <p>Many NGOs act in favour of SD.</p> <p>Car free day.</p> <p>Cycle paths.</p> <p>Eco-housing program.</p> <p><b>Enablers to SD actions:</b></p> <p>Small meetings generate more involvement.</p> <p><b>Barriers to SD actions:</b></p> <p>People are too busy and tired to get involved.</p> <p>People choose cheaper over eco-products.</p> <p>Badly planned actions generate complaints and limit further action.</p>	<p><b>Perceived SD tools:</b></p> <p>Media coverage as a tool for awareness building.</p> <p>Education as a capacity building tool is important at all ages.</p> <p>A21 guidebooks as a tool for some municipalities.</p> <p>EU Natura 2000 criteria used in some municipalities.</p> <p>Signs about local nature to educate people.</p>

### 3.2.5 Latvia – Document Review and Interviews

Since independence from the Soviet Union, there has been a great deal of restructuring in Latvia. In 1993 the first post-independence parliament [95] was elected in a complex scenario. Today more than 30 parties, among which some communist groups, play an important role in the Latvian political mosaic and the country is said to be “an independent democratic republic... where the sovereign power of the State... is vested in the people...” [96]. A post-communist goal was to become the “Switzerland of the Baltics”. In 1995, though, Banka Baltija, Latvia’s biggest commercial bank, broke, ruining the life savings of thousands of Latvians. By the time the economic whirlpool that resulted from this crisis was over, more than 40% of the Latvian banking system had disappeared.

In 2004 Latvia joined the European Union. The country’s focus on economic growth has led to considerable restructuring of industry. Manufacturing and agriculture have decreased in importance, while the service sector has experienced huge growth. There is a relatively small social layer, however, that benefits from this new trend with most of the Latvian population still facing a tight budget.

Rapid growth driven by efforts to catch up to European Union standards may sacrifice the countries’ efforts in sustainable development. Moreover, the Agenda 21 initiatives undertaken to date have been perceived to be too complicated to be effective. It has also been suggested that national plans for sustainability are more of a marketing effort than a real commitment to sustainable development.

On a local level, some efforts have been made to work with Local Agenda 21. According to interviewees, the problems faced are similar to those at the national level. Not only are the documents difficult to interpret, but there also are more urgent issues to be dealt with.

As an example, many Latvians still live in old houses from the communist era. Since the political regime changed, the old owners asked for their properties back. This request was granted by the government, with the condition that adequate time is allowed for the existing tenants to find new places to live. But these tenants are leaving slower than anticipated and the municipalities are dealing with this. There are many problems such as the one described above and the issues related to sustainable development don’t seem to be so urgent to local authorities. Besides that, as one municipal

interviewee said in Latvia about SD, “In Sweden there is national support and sustainability is professional, but here it is like a hobby”.

Table 3.2. Key Findings of the Interviews in Latvia.

	<b>System</b>	<b>Success</b>	<b>Strategy</b>	<b>Actions</b>	<b>Tools</b>
<b>Latvia</b>	<p><b>Perceived characteristics:</b></p> <p>Different social classes with different wants.</p> <p>History of centralized decision making with limits to public involvement.</p> <p>Corruption.</p>	<p><b>Perceived characteristics:</b></p> <p>Employment, good environment and human resources.</p> <p>Social equity.</p> <p>Triple Bottom Line.</p> <p>Green, healthy and silent cities full of healthy people.</p> <p>Safety, entertainment, availability of good quality services.</p> <p>Needs being met locally where possible.</p> <p>Good use of natural resources.</p> <p>Economic growth and profitability.</p>	<p><b>Perceived characteristics:</b></p> <p>Land-use directives for green areas.</p> <p>Education.</p> <p>Involve people from the start.</p> <p>Offer meaning.</p> <p>Break it down by neighbourhood.</p> <p>Need to implement cross border projects.</p> <p><b>Enablers to the SD strategy:</b></p> <p>Motivation to join EU favours SD.</p> <p><b>Barriers to the SD strategy:</b></p> <p>Broad-based participation not always sought.</p> <p>Developers' goals favoured over SD.</p> <p>Political priorities are a threat.</p> <p>Limited resources for SD.</p> <p>People only participate when affected.</p> <p>Focus on economic growth.</p> <p>Soviet legacy problems detract from SD focus.</p> <p>Lack of SD knowledge.</p> <p>Unclear indicators.</p>	<p><b>Perceived characteristics:</b></p> <p>NGOs and schools participate in SD initiatives.</p> <p>Public visioning sessions.</p> <p>Dissemination of information.</p> <p><b>Enablers to SD actions:</b></p> <p>Good regulations would help.</p> <p><b>Barriers to SD actions:</b></p> <p>Social classes don't work towards the same goals.</p> <p>Initiatives usually rely on a few activists.</p>	<p><b>Perceived SD tools:</b></p> <p>“The Blue Flag” program for clean beaches.</p> <p>Healthy cities program.</p> <p>Eco-schools and the environmental education program.</p> <p>Sports for the disabled.</p> <p>Economic social cohesion project.</p> <p>IT support for development of competitive art and craft program.</p> <p>Green newspaper.</p> <p>A SD plan is a tool for dialogue.</p>

### 3.2.6 Belarus

The review of official documents of the European Union (EU) suggests that the relation between the EU and Belarus has been deteriorating over the past decade. Although EU-Belarus relations progressed soon after the EU recognized Belarus' independence in 1991, relations began to take a turn for the worse soon after the election of President Lukashenko in 1994 [97]. Such developments have made it impossible for Belarus to benefit from the EU's Neighborhood Policy which is based on mutual commitment to common values, including democracy, respect for rule of law, good governance and the respect for human rights, including minority rights.

Furthermore, on 10 March 2005 the European Parliament (EP) passed a strong-worded resolution that calls for recognizing the current Belarusian regime as a dictatorship [98]. The 24-point document condemns the Belarusian government's crackdown on independent reporters, media outlets, oppositionists and human rights advocates.

The National Human Development Report of Belarus for 2003 [99] recognizes that, in terms of the Human Development Index, Belarus is still behind all of the Baltic States. The report mentions that ecological threats in Belarus have not disappeared but in many cases have an ever increasing potential due to the high deterioration of industrial fixed assets (over 70 per cent). As well, 22 to 23 percent of the country's total area is contaminated with radio nuclides as a result of the Chernobyl Nuclear Power Plant Disaster in 1986.

Within the context of these challenges, Belarus recently adopted a national strategy for sustainable development. According to data of the United Development Office in Belarus, on June 22, 2004, the National Strategy for Sustainable Development - 2020 was approved by the national government.

In recent years the Parliament of the Republic of Belarus has also adopted a number of important environmental laws, on "Environmental Protection", "Industrial and Household Waste", "Environmental Expertise" etc.

No data was found about local policies and initiatives for sustainable development in Belarus.

Table 3.3 Key Findings of the Surveys in Belarus.

	<b>System</b>	<b>Success</b>	<b>Strategy</b>	<b>Actions</b>	<b>Tools</b>
<b>Belarus</b>	<p><b>Perceived characteristics:</b></p> <p>Lack of national level support of local initiatives.</p> <p>Authoritarian government.</p> <p>Civil society has little influence on the decision making process.</p>	<p><b>Perceived characteristics:</b></p> <p>Civilized life that implies economic, environmental and societal aspects of development and taking care of future generations.</p> <p>Good life for all.</p> <p>Brundtland Commission definition.</p>	<p><b>Perceived characteristics:</b></p> <p>National Strategy for SD was approved.</p> <p>Attempt to use it as a regulatory document</p> <p><b>Enablers to the SD strategy:</b></p> <p>UNDP.</p> <p>Coordination council for NGOs.</p> <p><b>Barriers to the SD strategy:</b></p> <p>High-level SD legislation.</p> <p>Low awareness of sustainability.</p> <p>Difficulties in understanding a community as a part of the larger system.</p> <p>No talk of extending SD to local levels.</p> <p>No shared vision was mentioned.</p> <p>Not using four principles of sustainability.</p>	<p><b>Perceived characteristics:</b></p> <p>Attempt to develop Local Agenda 21 plans.</p> <p>Participation and organization of SD workshops.</p> <p>Establishment of network of local communities working towards SD through use of the Internet.</p> <p>Initiative to establish a business incubator based on sustainable technologies and principles.</p> <p>Campaigning</p> <p><b>Barriers to SD actions:</b></p> <p>Lack of social freedoms.</p> <p>Lack of self-organization.</p>	<p><b>Perceived SD tools:</b></p> <p>Course curriculum developed by NGO</p> <p>ECOPROJECT.</p> <p>Tools for Local Agenda 21</p> <p>Surveys.</p> <p>Aarhus convention.</p> <p>Roundtable discussions.</p> <p>Online SD forum.</p>

### 3.2.7 Denmark

According to findings from the Environmental Policy Research Center at Freie University in Berlin [100], Denmark's perspective on sustainable development has been largely influenced by the Brundtlandt Commission definition.

"Denmark's Sustainable Development Strategy: A Shared Future - Balanced Development" was presented in June 2002 [101]. The strategy's

aim is to secure economical and social development along with a high level of environmental protection. The strategy takes into account that sustainable development is a common international goal and that Denmark has a strong obligation at the international level.

Denmark's Sustainable Development Strategy is based on 8 core objectives, which are:

- The welfare society must be developed and economic growth must be decoupled from environmental impacts.
- There must be a safe and healthy environment for everyone.
- We must secure a high degree of bio-diversity and protect ecosystems.
- Resources must be used more efficiently.
- Action must be taken at an international level.
- Environmental considerations must be taken into account in all sectors.
- The market must support sustainable development.
- Sustainable development is a shared responsibility and we must measure progress.

Sustainable development policies in Denmark are based on the assumption that sustainability can only be assured if it is measured. In this context, the Danish Government developed a set of indicators strongly coupled to its sustainable development strategy. These indicators were developed through broad-based public consultation. Public consultation is emphasized as a key part of the process in working towards sustainability [102].

In Denmark, a number of counties and local authorities are establishing indicators for sustainable development as part of their Local Agenda 21 initiatives. The national set of indicators can be used as guidance for this regional and local work [103]. The process of monitoring and reporting on indicators is highly institutionalized in Denmark.

A report prepared by the Environmental Policy Research Center at Freie University in Berlin [104] emphasizes that sustainable development processes in Denmark benefit from a strong culture of communication and public engagement. With regard to sustainable development, the government launches studies, provides financial support to NGOs, supports Local Agenda 21 activities and organizes conferences, etc. Since February

2000, municipalities are required to report on their LA 21 activities at least every four years. The number of counties and local authorities working on Local Agenda 21 is an indicator for ‘Public participation and Local Agenda 21’ within the National Strategy for Sustainable Development [105].

*Table 3.4. Key Findings of the Interviews in Denmark.*

	<b>System</b>	<b>Success</b>	<b>Strategy</b>	<b>Actions</b>	<b>Tools</b>
<b>Denmark</b>	<p><b>Perceived characteristics:</b> Budget for SD at the regional level comes from the regional government. Democratic participatory society.</p>	<p><b>Perceived characteristics:</b> Awareness of the four system conditions. Brundtland definition of SD.</p>	<p><b>Perceived characteristics:</b> Started with Brundtland report then LA21. Importance of showing concrete results even while planning. Find the biggest potential for action. Adapt as needed. Started with environment, then health, youth and democracy, etc. Share ownership across municipal departments. Principles should be in a separate document to safeguard them. Leverage what is already in place to integrate sustainability. Focus on what people care about. <b>Enablers to the SD Strategy:</b> Political support increases with concrete results. Local motivation supported by regional networks. Adequate resources to run programs. <b>Barriers to the SD Strategy:</b> Not using the four sustainability principles.</p>	<p><b>Perceived characteristics:</b> Not reported. <b>Enablers to SD actions:</b> Not reported. <b>Barriers to SD actions:</b> Not reported.</p>	<p><b>Perceived SD tools:</b> Need a monitoring method to understand what is happening in society.</p>

### 3.2.8 Whistler, Canada

The Resort Municipality of Whistler (RMOW), the local government of Whistler has adopted the Strategic Sustainable Development Framework in its planning and operations. The initiative began with the development in 1998 of Whistler 2002: Charting a Course for the Future [106]. In this document, the municipality embarked on creating a vision that charts a new course for the community into the 21<sup>st</sup> century.

The Whistler Environmental Strategy (WES) [107] was also drafted for discussion and adopted in the municipality as a comprehensive, coordinated approach for improving environmental stewardship throughout the resort community. It established environmental values, principles, strategic goals and policies necessary to achieve the strategic goals. In order to monitor progress towards strategic goals, environmental indicators and targets were established.

With the aim of engaging community members in sustainability initiatives, the *Community Process Guidebook* [108] was developed. The guidebook recommends the following six steps:

- Engaging Early Adopters.
- Building a Common Understanding.
- Sensitizing the Community (beginning dialogue in the community).
- Creation of Resource Toolkits to explain the SSD concept.
- Shared Learning (provide further training about SSD and whole systems thinking).
- Community Launch (bring the initiative to a broader audience, celebrating early-wins and successes along the way to continually motivate stakeholders).

Building on the Whistler Environmental Strategy, a new comprehensive sustainability plan *Whistler 2020: Moving Toward a Sustainable Future* was developed and adopted in 2004 [109]. This plan represents a comprehensive visionary approach to long-term sustainable community development, using the SSD framework and was developed according to the phases listed below:

- Identify Success/Sustainability Criteria;
- Identify and Compare Scenarios;
- Select 'Preferred' Scenario;
- Develop Implementation Strategy:
- Values, Principles, Priorities, Directions
- Sector Specific "Strategies"

Table 3.5. Key Findings of the Interviews in Whistler, Canada.

	<b>System</b>	<b>Success</b>	<b>Strategy</b>	<b>Actions</b>	<b>Tools</b>
<b>Whistler, Canada</b>	<p><b>Perceived characteristics:</b></p> <p>Tourism is a major source of revenue.</p> <p>Tourism is dependent on nature.</p> <p>Democratic, participatory society.</p> <p>Continued growth in Whistler means more energy consumption.</p>	<p><b>Perceived characteristics:</b></p> <p>Success defined as human beings and other species surviving on this planet.</p> <p>To be a model for communities in Canada and around the world.</p> <p>To be a premier mountain resort.</p> <p>To meet the four Sustainability Principles from The Natural Step.</p>	<p><b>Perceived characteristics:</b></p> <p>Encourage people to work together.</p> <p>Consensus based-decision making process.</p> <p>Fix upstream problems.</p> <p><b>Enablers to the SD strategy:</b></p> <p>People are interested in SD.</p> <p>Municipal money supporting SD.</p> <p>Community awareness of SD holds leaders accountable.</p> <p><b>Barriers to the SD strategy:</b></p> <p>Loss of trust in the municipality.</p> <p>Transition from “community-led” to “municipal led” slowed progress until later stages of engagement for Whistler 2020.</p> <p>Paradigm of economic growth.</p>	<p><b>Perceived characteristics:</b></p> <p>Consultant hired to run the project.</p> <p>Organized speakers series</p> <p>Early adopters group formed.</p> <p>Community composting.</p> <p>No pesticides.</p> <p><b>Enablers to SD actions:</b></p> <p>Increased cooperation.</p> <p><b>Barriers to SD actions:</b></p> <p>Municipal executives driving SUVs sets a bad example.</p> <p>SSD framework: difficult to communicate</p> <p>Schools not so involved due to bureaucracy.</p> <p>Difficult and expensive to reach everyone with the marketing materials.</p>	<p><b>Perceived SD Tools:</b></p> <p>Media awareness.</p> <p>Newspaper ads.</p> <p>Toolkit (not everyone read the material).</p> <p>Video.</p>

### 3.2.9 India

India has made substantial progress in most spheres of development over the last fifty years, particularly during the past two decades. The Indian economy has grown at approximately 6 percent per year. Social indicators have improved. Literacy rates have risen. Mortality rates have declined. The gender gap has lessened. Poverty rates have fallen steadily. A large

base of skilled scientific and technical human resources and a diversified industrial base have also been created.

Despite these positive indicators, a large percentage of the population is still poor. Population growth is also an issue. The population has been increasing by an extra 17 million people every year. Population pressures have had an impact on the environment. Industrialization and the indiscriminate use of forest areas for fuel, power generation and irrigation purposes have also led to large-scale environmental degradation. And, while the introduction of new technologies has improved India's food security, it has been at the expense of falling water tables, soil degradation, and the increased use of pesticides and fertilizers. Rapid growth and increased urbanization have also led to pollution problems and have put an immense stress on resource usage [110].

To address these growing problems, environmental protection measures have increased over the years in India. After the UN Conference on the Human Environment in Stockholm 1972, the Government in India created a framework for the environment. Following this, the National Council for Environmental Policy and Planning was established. Since then, the government has developed strategic environmental plans, ratified the Kyoto-Protocol and supported the implementation of Local Agenda 21 initiatives. After the World Summit for Sustainable Development in 2002, the government initiated a plan to develop a national sustainable development strategy by 2005. Four main objectives are included as priorities for sustainable development in India: "combating poverty, empowering people, using core competence in science and technology, setting environmental standards: conserving natural resources and improving core sectors to ensure future economic growth [111]. At the time of writing this research, India's National Strategy for Sustainable Development was not available yet, at least online.

Table 3.6. Key Findings of the Interviews in India.

	<b>System</b>	<b>Success</b>	<b>Strategy</b>	<b>Actions</b>	<b>Tools</b>
<b>India</b>	<p><b>Perceived characteristics:</b> Local people feel overwhelmed by problems. Storytelling embedded in the culture / mindset.</p>	<p><b>Perceived characteristics:</b> Sustainability is macro. Indicators are micro. Such as, people have to eat. Principles of success vary. Demand for the program and the number of people trained in AI as indicators for success.</p>	<p><b>Perceived characteristics:</b> Appreciative Inquiry as a community engagement process. Find and reinforce community strengths, rather than problems. Issues need to be addressed at the micro level, rather than talking about macro level concerns for SD. Empower local people to change on their own. Emotional component is key. Facilitators need to build trust. Importance of simple ideas for people to understand and share. <b>Enablers to the SD strategy:</b> Funding was available to support the project. Sense of local ownership. <b>Barriers to the SD strategy:</b> Money is an issue over the long-term. Documentation of results is time consuming. Low level of literacy.</p>	<p><b>Perceived characteristics:</b> Train staff. And, then train local community members to become facilitators. Bring people to reflect together. Good old fashioned grass roots actions are needed. Regular sharing sessions. <b>Enablers to SD actions:</b> Anniversary of village groups to celebrate successes and to keep up momentum. <b>Barriers to SD actions:</b> Difficulty to bring people together.</p>	<p><b>Perceived SD tools:</b> Dialogue as a lever for change. Art as a communication tool.</p>

### 3.3 Funding Application

Within the scope of this research an application for European Union funding was undertaken. The aim of the application for ‘Seed Money’ was to study the feasibility of transferring the Robertsfors Model to communities in the EBSR. The money was not granted. The feedback from the funding provider provides valuable insights into considerations for transferability:

- Positive aspects:
  - The project is relevant;
  - The project is comprehensive and encompasses the complexity of sustainable community development (whole systems approach, sustainable communities, societal involvement).
- Negative aspects:
  - Partnerships almost solely at the local-level, with municipalities. Need for broader partnerships (e.g. regional, national, EBSR), to create a framework for macro-regional cooperation (the priority of the funding provider);
  - Need for involvement of several sectors. The project is very biased towards the environmental dimension of sustainability and thus almost mono-sectored.
  - The proposed activities (workshops, workbooks, training guides, e-learning tools, databases, teleconference) do not appear to be new or innovative and make it difficult to judge what new elements or benefits the project brings.

In conclusion, the proposal was viewed as too limited in its operational scope and partnerships.

## 4 Discussion

In this section, the results of the research are discussed by answering the four research questions of this study.

### 4.1 Research Question 1

*What are the key concepts and tools used in the Robertsfors model?* The concepts and tools used in the Robertsfors model can be described along two broad categories: sustainability frameworks and community engagement processes.

*Sustainability Frameworks.* Although the original project document defines sustainability as compliance with the four system conditions, in the most part a Triple Bottom Line approach was used in this document. In the Natural Step for Communities book, where the Robertsfors project is discussed, the SSD framework is communicated.

In practice, the SR project team used the SSD framework in planning and to a lesser extent in working with the community. While community workshops were held to explain the SSD framework, it seems that it was not always easy to communicate these concepts. As a result, strict use of the SSD framework was not always exercised.

Municipal employees are now in the process of incorporating the SSD framework into their planning processes. According to municipal officials and the SR project employees, this process started too late. It is telling that when discussing vision, goals, strategies, actions and measurement, the SSD framework was not talked about much. This gives an indication that the SSD framework has not been fully integrated yet.

In working with the schools, the SSD framework was communicated to teachers in training workshops and older students. For younger students, a simple flower symbol was used to communicate various principles of sustainability. The teachers interviewed had not integrated the SSD framework, processes and tools into the curriculum and stressed that they needed more education about sustainability.

*Community Engagement Process.* Community engagement appears to be a core strategy of the project, as referenced in the project document, in the Natural Step for Communities book and in the interviews. Key concepts

emphasized in the community engagement process include: broad-based community stakeholder engagement; a democratic participatory approach; finding the fire souls in the community; top-level political endorsement from the start; targeting key groups to work with, such as schools and village groups; finding and promoting good examples; creating opportunities for meeting; extensive community education about sustainable development; and the development of supporting networks.

## 4.2 Research Question 2

*What elements in the Robertsfors Sustainable Community Development Model indicate that it is (1) strategic, and (2) engaging? Strategic.* Primary research (interviews) and secondary research (document and literature review) were undertaken to answer this research question. To answer the question is it strategic, it is important to define what it means to be strategic in planning towards sustainability. As outlined in section 3.1.3 within the literature review on the Strategic Sustainable Development Framework, to be strategic in working towards sustainability is to ‘back-cast’ from a principled definition of success based on sustainability principles derived from natural laws of science that cannot be violated. These principles are necessary, non-overlapping, general enough and concrete enough to guide decision-making and actions towards sustainability.

Understanding 'being strategic' in a system as complex as our global socio-ecological system means having an approach that is large enough in space (the whole system) and time (as long as it takes) to reach success. Therefore, to be strategic in the case of global society also means taking a whole systems perspective.

A whole systems perspective understands the inter-linkages and interdependencies in the system and avoids reductionism. In this way, it seeks to find upstream solutions, rather than fixing downstream problems. A whole systems perspective also takes a long-term orientation and realizes that there are delays in the system and changes happening with outcomes that cannot be predicted.

To support this approach, it is helpful to have a strategic framework and planning process that allows systematic planning and decision-making towards sustainability. The Five-Level Model (strategic planning

framework) and the ABCD strategic planning process described in section 3.1.1 are good examples.

In answering the question, is the Robertsfors Model strategic, we found both strengths and weaknesses.

In reviewing the literature in the Natural Step for Communities, the process described in reference to Robertsfors appears to be strategic. It advocates: a vision-led process, based on back-casting from science-based sustainability principles; a whole systems approach; and use of the ABCD strategic planning approach. These guidelines were written by Torbjorn Lahti the leader of the SR project team, with acknowledgements to the Natural Step, the creators of the SSD framework. The fact that Mr. Lahti wrote these guidelines seems to indicate that the understanding of 'being strategic' was the prevailing mindset of the project leader.

While the project document mentions that the definition of sustainability is in line with the 'four system conditions', these principles of sustainability are not incorporated in the vision, goals, strategies, actions or indicators outlined in the document. For instance, one of the indicators is "improvement of the environment." This is a subjective measure, not quantifiable and does not reference adherence with the sustainability principles. Nor is there any reference to the importance of back-casting, or a strategic framework to guide decision-making. In terms of a whole systems approach, the document mentions the importance of a long-term approach to sustainable development but does not discuss or describe other elements of whole systems thinking or use this term. The long-term perspective appears to be drawn from the Brundtland Commission definition of sustainability that is mentioned in the document.

The SR project as set up in the project document was not strategic in its design.

While the project guide set the context for the project, it was drawn up before the project consultants were hired and was written for the purposes of a European Union funding program. While this document influenced the project, it is difficult to gauge to what degree. What is more telling is to understand what happened in practice.

In the interviews, when describing the Robertsfors project, individuals outside the SR project team did not mention the SSD Framework or the four sustainability principles. Rather responses focused on the environment, democracy or a triple-bottom-line definition of sustainability. When

discussing sustainability a triple-bottom-line definition was also given. Only when asked directly about the four sustainability principles did people discuss them. Of the 18 non-SR project consultants interviewed, only four interviewees could explain the principles when asked. Almost every interviewee said that it was difficult to understand the principles and to apply the concepts in daily life and planning. While the SR project team appeared to have a good understanding of the SSD framework, translation of these concepts to community members appears to have been more difficult.

In terms of visioning, the stated community vision, to be the “best municipality in Sweden and within 15 years, or by the year 2020, to have 10,000 inhabitants” is not bound by the four system conditions. Moreover, this vision is not widely shared in the community. When describing the vision people did not refer to the process of back-casting from a principled definition of success.

It is positive to see that the municipality is incorporating the four sustainability principles and using the ABCD process in strategic planning. However, the process did not happen early enough in the project. Many municipal employees also felt this would be a challenging task. Perceived barriers included: lack of time / competing priorities; lack of understanding of how to apply the SSD framework; and competing indicators and frameworks, such as Sweden’s 15 national environmental goals.

It appears that for many people these concepts were difficult to understand and not easy to internalize in daily life. Even municipal employees who were trained in these concepts and understood them still found them difficult to put into practice. The slow uptake of the four sustainability principles and SSD framework in the broader community is not indicative of whether or not the approach is strategic. Rather, uptake and use of the SSD framework and whole systems thinking is dependent on the ability to engage the community and change mindsets and behavior.

In terms of whole systems thinking, many interviewees stated that the project had helped to change their thinking, by encouraging a longer-term perspective. A broader definition of whole systems thinking was not provided, except by one municipal employee who described himself as a long-term environmentalist. Overall, it seems that the project succeeded in beginning to change mindsets, the highest leverage point in the system, and this is positive. However, the ability to engage community members and change mindsets is really a result of the success of the engagement process.

In terms of results, there have been many notable achievements such as more environmental awareness, more education and training about sustainability, better waste management etc. Perhaps the biggest achievement has been the work with the young children in the schools and the youth in Robertsfors. The focus on youth exemplifies a very strategic perspective, with the focus on affecting mindsets early on and taking a long-term perspective to change.

In summary, the project as defined by the project document was not strategic. The theoretical approach outlined in the Natural Step for Communities is strategic. In practice, the SR project team employs a strategic, whole-systems approach to sustainability. These concepts are also in the process of being adopted by the municipality. There have also been positive results in the community that appear to be leading in the right direction towards sustainability. However, this is more difficult to measure. And, while greater uptake in the community of a strategic approach to sustainability is needed, this is dependent on the success of the community engagement approach, not whether the approach is strategic enough, or not. The main elements of the approach used in practice in Robertsfors appear to be strategic.

*Engagement.* In order to answer the question about what elements of the model are engaging, it is important to have a definition of the verb to ‘engage.’ According to the Webster’s dictionary [112], the verb ‘engage’ can be defined as, “to enlist; to bring into a party.”

In the context of this research study, to ‘engage’ will be broadly defined as the ability to enlist the Robertsfors community in: (1) an increased level of awareness about sustainability, (2) an understanding of the importance of being strategic in working towards sustainability; (3) behaviour change towards sustainability. In this way, to be successful in engaging the community towards sustainability means to change mindsets and behaviour according to the definition of strategic sustainable development provided above.

In analysing the interview data, there are both strengths and weaknesses in the level of community engagement achieved in Robertsfors. The project succeeded to create a degree of greater awareness about sustainability in the community, although not as broad-based as may have been hoped. Instilling an understanding of the importance of being strategic in working towards sustainability was even less widespread. This is evident by the definitions of sustainability provided (triple-bottom-line etc.) and the inability of most

respondents to clearly explain the four system conditions. In terms of changing behaviour, positive actions have been taken in the community towards sustainability. However, the project has also been criticized for not having enough visible results. Moreover, it is difficult to analyse whether the actions were in fact strategic without a whole systems understanding of the longer-term impacts and trade-offs.

The elements of the model that helped to create more awareness, understanding and behavioural change towards sustainability are as follows:

Starting with the fire souls – The SR project team found individuals in the community who are passionate about these issues and tried to work with them to build greater momentum for the project and these issues.

Early political endorsement – The SR team sought early endorsement and support from the local and county politicians and municipal officials.

Targeting key groups – The SR team targeted key groups that it would work with, such as the municipality, schools, businesses and village groups.

Educational workshops – The SR project team provided educational workshops for the different target groups in order to increase awareness, understanding and behavioral change.

Creating meeting opportunities – The SR project team provided public forums for community members to learn more about sustainability and the project as well as to provide feedback and to share ideas. The emergence of a permanent meeting place / house for youth is a powerful example.

Developing networks – The SR project team helped to develop networks to encourage and support further momentum for the project and movement towards sustainability. An example here is the teachers network for sharing ideas and success stories about sustainability.

The elements of the model that could be improved in engaging the community further towards sustainability are as follows:

Businesses not on board – The project has not been successful to date in engaging businesses in Robertsfors in adopting a strategic approach to sustainability. An early focus on bringing the business opinion leaders on board might have helped to create greater buy-in and momentum amongst this target group.

Early adopters group not organized – While the project team attempted to work with the fire souls early on in the project, the fire souls are tired and less engaged now. The creation of a network amongst the fire souls might have helped to sustain this early momentum. This would have been particularly helpful as project funds and available resources were reduced later in the project.

Not enough visible on-going results – While more results were generated early on, there were not enough visible wins throughout the duration of the project. This may be due to a lack of planning on the part of the project team. However, it seems that the bigger constraint was the funding structure within which the project was operating. The funds received at the outset had to be used within the first three years of the five-year project. This resulted in fewer resources available for projects later on.

Limited local ownership of the project - One of the greatest opportunities for improvement would be to have engaged the municipality earlier on in the project. Leadership of the project has not been internalized in the local community and is still overly dependent on the SR project consultants. This poses great risk for the continuation and success of the project over the long-term.

Need for more education - It seems clear from the interviews that more education early on and throughout the project would have been helpful. However, this also raises some questions: (1) whether a different way of communicating these concepts might be needed; (2) whether different approaches are needed for different target groups; (3) whether all concepts need to be taught to all citizens. For example, do regular citizens need to understand the Five-Level Model or the ABCD planning process? It is notable that the flower symbol used in the schools to communicate sustainability concepts to young students appeared to be a successful tool for engaging children. It would be interesting to see how this flower could be used more fully to emphasize a whole systems perspective and the four sustainability principles in a way that is easy to understand and still engaging.

In conclusion, elements of the approach used in Robertsfors were engaging. Areas of improvement include: greater interaction and integration with the municipality earlier on in the project; the encouragement of greater self-organization amongst the early adopters; more focus on working with the opinion leaders in the business community; more education; better communication strategies; and more on-going visible wins.

### 4.3 Research Question 3

*What might influence the success of transferability of the Robertsfors Sustainable Community Development Model to communities in the Eastern Baltic Sea Region?* It is not likely that transferring only the objective parts of the Robertsfors Model would deliver the same results as observed in Robertsfors. What happened in Robertsfors, with its strengths and weaknesses, is the result of a blend of characteristics and components. This includes the explicit contents of the model (i.e. SSD Framework, including the four sustainability principles) and the tacit parts (i.e. local context and culture, leadership and so on that were discussed earlier in section 3.1.3 on '*knowledge transferability*'). Although this classification helps, in order to avoid reductionism it is important to bear in mind that these concepts mix in practice. This division should not be seen as completely distinct and separate.

On the explicit side, the SSD framework, including the four sustainability principles and the process of planning and applying these concepts can be easily taught in handbooks, through lectures, even through software etc. This is extremely important. The more the Robertsfors Model can be 'productized', the easier its application elsewhere. To this end, consultants can be trained to teach and apply the framework, its concepts and the science behind them.

On the tacit side, however, things might not be so simple. This could hinder the effectiveness of transferring the Robertsfors Model elsewhere. While the SSD framework is codified and explicit, its understanding and application are not. Although it is designed to accurately guide sustainability efforts towards success on a principle level, the SSD framework requires its users to challenge boundaries and assumptions in a way that may not be common to all cultures and individuals. This component of the practical application of the SSD framework cannot be transferred or taught but requires practical experience to be learned or developed. Perhaps, the biggest challenge is that adoption of this framework may require change in mindsets from prevailing paradigms. A community's availability to change, to accept what is new, to share understanding, to care for the commons and so on may vary hugely from one place to another. Many other points could be made about what cannot be codified and therefore is difficult to transfer.

The following points should be considered in determining what might influence the success of transferability of the Robertsfors Model:

Systems thinking – Communities are very complex systems. It is very difficult to predict the possible results from the use of a framework. In general, the more a change process can positively affect the higher leverage points in the system, the more successful it tends to be. To this end, the ability to change the collective mindset is the most desirable measure;

Knowledge transferability – The effectiveness of a transferred model may increase if the process includes the creation of individual and collective experiences that can communicate the required tacit knowledge (i.e. new paradigms, care for the commons etc.). Culture, values, stories of meaning, myths and exposure to practical experiences may be good mediums for transferring this tacit knowledge;

Planning – The practical implications of transferring a model also need to be considered. To this end, careful codification of all processes and concepts is required. Adequate resources (human and financial) to transfer the model are also needed;

Leverage networks – Horizontal (cross sector) and vertical (local, regional, national and macro-regional) partnerships need to be structured well enough to assure support for the project at all levels. In this regard, it may be useful to leverage existing infrastructure and networks such as those created for Agenda 21, or more specifically, Baltic 21 etc.

Understanding vs. knowledge – Whoever deals with the change process should come to real understanding about the local issues and this requires more than explicit knowledge. It comes from being a part of the community and understanding its values and its people. Only deep involvement can result in real understanding. Therefore, for a transferred model to be effective, it needs to be shaped by local leaders who really understand the local complexity;

Language – The previous point leads to the importance of language and meaning, brought up by many interviewees. When speaking about sustainability, words should be chosen according to the local context and according to what people care about. Broad-based terms such as sustainability and macro issues such as global warming do not reach people's hearts in the same way as issues perceived to affect them personally. What has meaning in one country or in one neighbourhood may not be important in another. Citizens should be invited through meaningful

issues to dialogue and, whatever these issues are, they will always lead to the same complex system;

The importance of size – when communities and organizations grow too much, individual engagement and ownership tends to decline. Whatever lies beyond what can be considered human scale is difficult to reach by the individual. From some interviews and theories, the recommendation is to: “keep it small enough to be meaningful”. If the model is to be transferred to bigger cities, neighbourhoods might be a good focus. Still the previous point is valid about fostering partnerships vertically and horizontally: the whole system should be reached, even if it was dealt with through smaller cells or subsystems within a larger network;

Assessing fundamental human needs – a healthy community needs to provide its citizens with conditions to satisfy their fundamental needs. And although the needs are the same everywhere, the way people choose to satisfy their needs varies. No foreign model, no leader or politician, no one other than the local people themselves know how these needs can be met. In order to successfully transfer the Robertsfors model, the situation about the local needs should be assessed locally and popularly.

#### **4.4 Research Question 4**

*What additional concepts and tools can help to improve the Robertsfors Sustainable Community Development Model?* There is some overlap between the answer to this question and the answer to the previous one. Some of the points that might influence the success rate of transferability of the Robertsfors Model may also improve it.

The Robertsfors Model uses the four sustainability principles as a principled definition of success. The fourth one – about people not being subject to conditions that systematically undermine their capacity to meet their needs – references Human Scale Development concepts that were discussed in section 3.1.3. However, a key tool from HSD, the matrix of human needs and satisfiers has not been applied in Robertsfors.

This matrix is an exercise to be used with community members, ideally in groups of fifty people. If conducted correctly, it results in an assessment of the ways in which a society hinder its members’ abilities to have their needs satisfied, as well as of the ways in which it might foster satisfaction. More important than just informing the municipality about the local social

situation, the matrix may bring collective consciousness about needs and satisfiers and mobilize community members around the theme. When applying the Robertsfors model in another community, starting with the matrix of needs and satisfiers might be a good means of creating engagement early on and perhaps a way to build a core group of fire souls to help carry the project forward.

Another useful concept from Human Scale Development is that it is easier for group members to gain ownership of the commons when the group size is “human scale”. This is also supported by some of the interviews. Achieving broad based participation might be easier if efforts are focused on smaller groups and their meaningful issues.

Still from Human Scale Development: develop indicators in ‘Completeness, Consistency and Decidability’ to assess, respectively, ability to self-organize; ability to avoid self-destruction and ability to learn from experience at all levels. Indicators in these areas would help inform about the community’s ability to move towards sustainability.

Appreciative Inquiry is another useful community engagement tool that could be added to the toolbox and applied when appropriate. An appreciative approach can be a powerful means of: building rapport and trust amongst individuals; finding the positive energy for change and; rekindling the fire if it starts to go out.

Community Based Social Marketing is also another tool to explore further with its systemic approach to influencing social behaviour. This is a method that seeks to affect behaviour through the following steps: identification of barriers and benefits related to a certain behaviour; development of a strategy to deal with these barriers and benefits; implementation; and evaluation in order to restart the cycle.

Understanding of the characteristics of different types of knowledge and considerations for transferability would be helpful information to be included in the model.

It is also useful to consider the difference between knowledge and understanding. Direct involvement in community issues can foster greater understanding than the simple transfer of codified knowledge.

Consider organizing a “speakers series”, as was done in Whistler. Renowned speakers from many parts of the world came to town to talk about sustainability. This brought people together, created momentum and enthusiasm amongst the audience, while building awareness.

Ask people what they care about. Talk about issues and use words that are meaningful. This is essential to generate popular interest in participating in the communities' questions.

From the interviews, it was clear that people often perceive the four sustainability principles as difficult to understand and to use. It might be useful to offer practical examples of actions and measures that can be undertaken in daily life that comply with the sustainability principles. An example would be a list of products that comply and that do not comply with the principles. This would help make it easier to use the principles on a daily basis.

As a very complex system, a community's behaviour is hard to assess and to change. Conceiving and considering potential measures through the lens of the leverage points as mentioned in section 3.1.3 may lead to better and more impactful choices.

Another best practice that should be considered is the creation of a network or more formalized structure for the fire souls in the community to meet, share ideas and provide input into the process. The early adopters group in Whistler created a strong nucleus of supporters and doers in the community. Equally, the council of stakeholders in Stormstrom County was considered to be key to the success of their process.

## 5 Conclusions, Propositions and Questions for Further Research

This section includes conclusions, key propositions and questions for further research emerging from the results and analysis of this research study.

### 5.1 Conclusions

In order to move towards sustainability, a community is dependent on a shared vision for sustainability bound by valid sustainability principles. The vision is supported by appropriate strategies, actions, tools and indicators and the ability to engage the population in working towards this vision. The range of knowledge required in a community sustainable development project, goes from the most explicit to the most tacit kind. It is important to understand this not only when planning to address sustainability in different cultures and settings, e.g., between the ‘traditional’ western democracies of the Baltic Sea region and the newly accepted EU members with extensive communist pasts (see Appendix D), but also when dealing with the huge complexity of a single community.

What has been observed during this research is that community sustainable development is not at all a simple issue. Even when competently using a solid strategic sustainability framework such as the SSD framework, led by experienced experts, communities still change very slowly. Among the most difficult issues is achieving broad-based participation, which rarely happens with enough critical mass, adequate commitment and sustained momentum as to ensure a shift in unsustainable trends. People’s availability for the commons does not usually arrive as a result of engagement processes. There are some reasons for that, hinted at by some of the interviewees: “we already pay taxes, vote... the authorities should take care of sustainable development, visions etc. Not us”. Theories from historical and political sciences offer a possible explanation for that. There is a general movement in history through which society increasingly organizes itself, legitimating authorities to take care of the commons. The positive side for individuals is having more personal time dedicated to private matters. Asking people to dedicate free time to the commons may be

against the main stream of history. Further research on this theme might offer some light on the important issue of community engagement.

In general, this study indicates that some elements of the ‘Robertsfors Model can be considered as strategic and engaging. However, the broader research in other Baltic Sea region communities and municipalities in Whistler (Canada) and India indicate that the initial assumption by James and Lahti [113] about the model’s transferability to other communities regardless of their geographical position, size, political, social and economic situation and national context, does not reflect the real situation. It does not appear that a model for SCD can be directly transferred to another community. The large percentage of tacit knowledge embedded in the process of applying the model and the differences in local context will impact the success of the model elsewhere. What is more transferable is the objective, codified elements of the model, specifically, the SSD framework. With respect to applying the model and community engagement, it would be best to create a tool-box of codified guidelines, processes, check-lists, engagement tools and suggested measures etc., that a community could draw from based on an understanding of the local context. It is also helpful to participate in an SDC practitioners’ network to share ideas and to exchange support.

## 5.2 Propositions

In reflecting on the results and conclusions of this study, the following propositions have emerged. These propositions should not be considered as a general theory, but rather are meant to serve as untested considerations for sustainable community development practices in other settings.

*Proposition 1: In the process of engaging a community towards sustainability, it is important to acknowledge the current situation and start from there.* Most people are quite resistant to change, especially if it concerns new ways of thinking. The chances of achieving success are significantly lower if the process starts by teaching rather than listening. Pushing sustainability thinking too hard may result in an equal amount of societal resistance.

*Proposition 2: Systems barriers should be identified at an early stage.* A community is a sub-system of a larger societal system. In this context, the larger system of policies (regional, national, international) and its enablers

and its barriers should be carefully taken into account in the process of engaging communities towards sustainable development.

*Proposition 3: Create a team (network) of early adopters (fire souls). Work with this network to create a “network of networks”.* In his book *Linked*, Barabási [114] argues that errors and failures typically corrupt all human design. However, most systems displaying a high degree of tolerance against failures share a common future: their functionality is guaranteed by a highly interconnected complex network. Barabási [115] suggests some examples of a cell’s robustness that is hidden in its intricate regulatory and metabolic network; of the economy’s stability that is maintained by a delicate network of financial and regulatory organizations; of an ecosystem’s survivability that is encoded in a carefully crafted web of species interactions. In this context, Barabási [116] further argues that society’s resilience is rooted in the interwoven social web being a part of universal network architecture. As it seems that the whole system strives to achieve robustness through interconnectivity, networks are crucial for building and fostering momentum for community sustainable development.

*Proposition 4: Support from the authorities.* It is important to have top-level political endorsement to legitimate the process and to secure the needed resources in the community. It may be advisable to include representatives from the local authorities (local leadership) in the team of early adopters in order to ensure political support and engagement from the start and throughout the process.

*Proposition 5: Local leadership.* When launching a sustainable community development project, the leadership structure might include both external and internal elements. However, to ensure the program becomes part of the local process and culture, local leadership that emerges from the community is essential.

*Proposition 6. Awareness of Strategic Sustainable Development.* Broad-based community education in SSD concepts is a very important part of the process. Working with the network of early adopters, schools and the youth is a good place to start.

*Proposition 7. An across- the-board, community-wide, strategic approach to sustainability.* A comprehensive community sustainability plan based on the SSD concept, with shared ownership across all municipal departments, is key for a science-based, systematic approach to sustainable community development.

*Proposition 8. Sustainable community development toolbox.* Rather than having one model, or pre-established approach to sustainable community development, it is useful to support the use of a science-based sustainability framework (SSD) with a toolbox of principles, guidelines, codified processes and potential measures that can be used and adapted to the local context and needs.

*Proposition 9. Visioning process.* When inviting citizens to create a shared community vision, it is important to find the balance between inviting too early, when awareness about sustainability is still not strong and too late, when the momentum may have been lost.

*Proposition 10. Leverage points.* When defining strategies and conceiving and selecting measures, try to consider the best balance of leverage points. High leverage points are very effective, but hard to influence, while low leverage points are less effective, but may be easier to affect [117]

*Proposition 11. New set of indicators.* It would be useful to have indicators for ‘Completeness, Consistency and Decidability’ to assess, respectively, a community’s ability to: self-organize; avoid self-destruction; and learn from experience at all levels.

*Proposition 12. Understanding.* Efforts towards sustainability should be informed by the real understanding that results from deeper involvement in the community. Individuals shepherding a sustainable community development process should be as involved in the community as possible.

### **5.3 Questions for Further Research**

*Question 1. Engagement – enablers and barriers.* What are the enablers and barriers to community engagement? To answer this question requires further study of human behavioural change, social change theories and the historical movement of societies towards increasingly organized structures. In looking at the historical context, engagement processes may be trying to move societies back in history by asking for ownership of the commons that has been delegated to the government.

*Question 2. Knowledge transferability.* In attempting to engage a community in sustainable development, what types of knowledge are needed and what are the best means of transferring this know-how and understanding?

*Question 3. Leverage points.* How can an understanding of system-level leverage points help to inform better development and evaluation of measures towards sustainability? In developing a community vision using the SSD framework, the four sustainability principles impose broad constraints that must be complied with. At the same time, this leaves a lot of freedom and creativity for choosing measures that move in the right direction towards sustainability. Further research on how to integrate understanding of the leverage points with the process of creating and prioritising measures outlined in the SSD framework might be advantageous.

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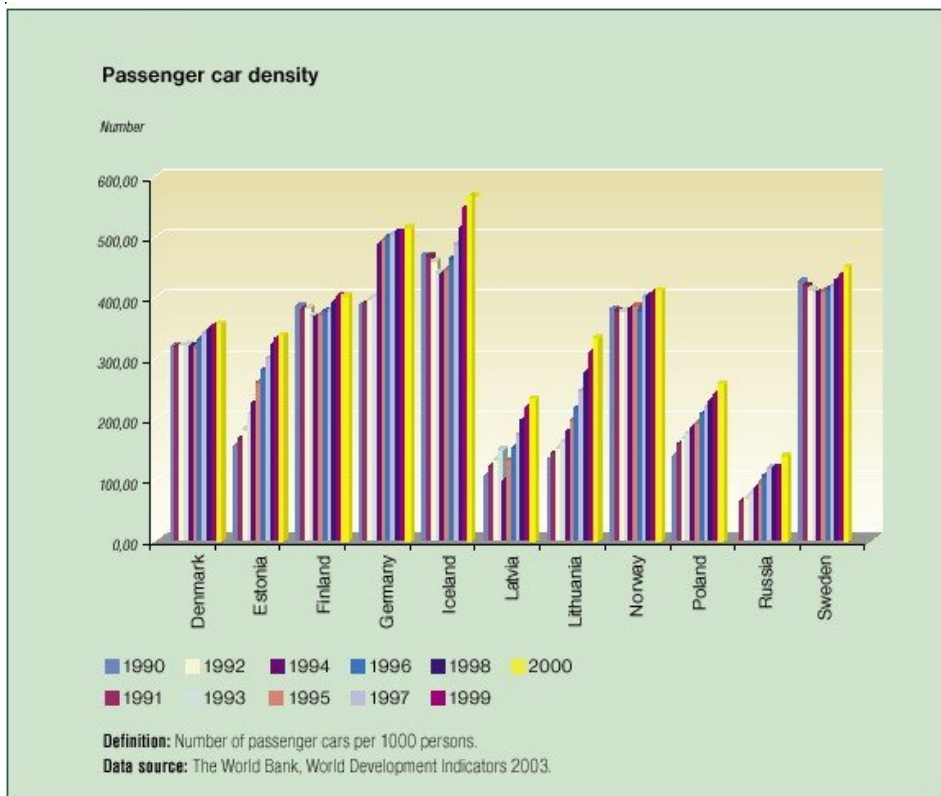
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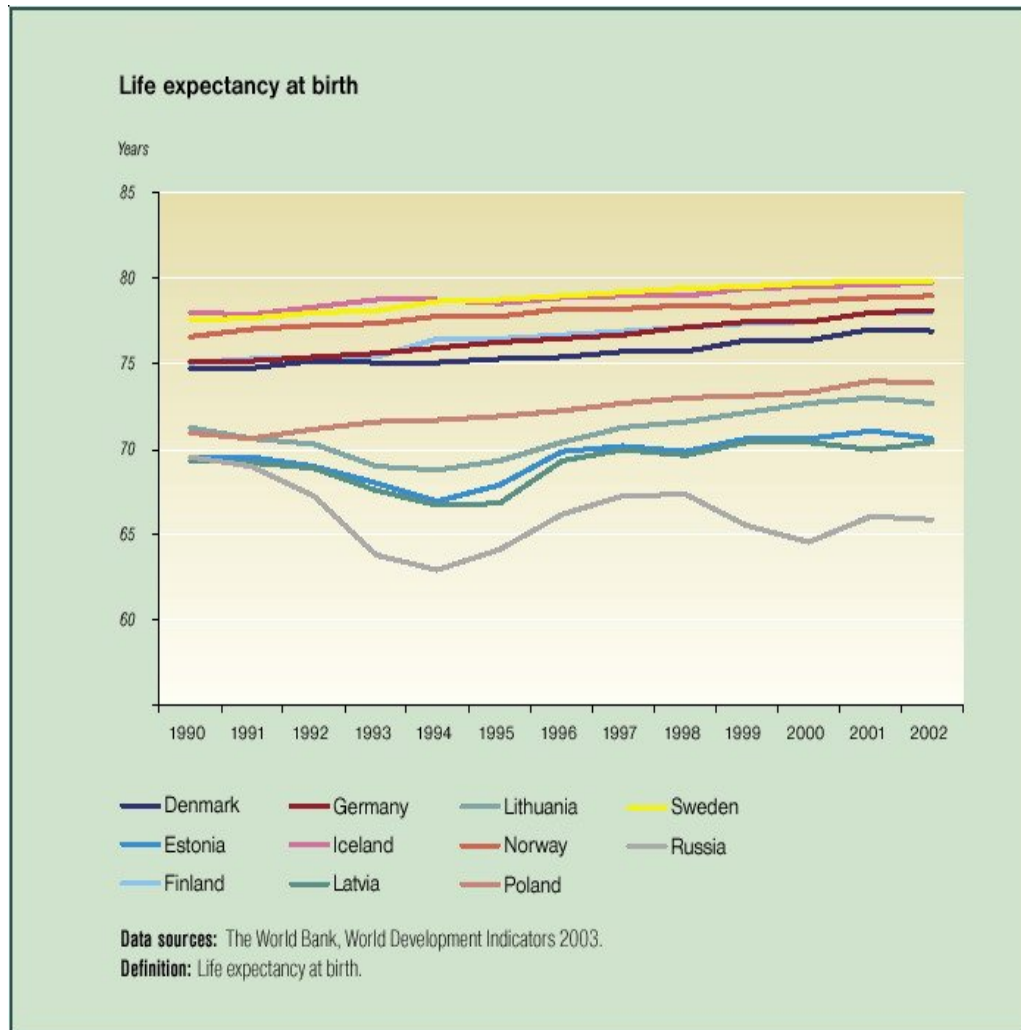
## Appendix A: Passenger Car Density in Baltic 21 Member-States



This table is an example of the rapid changes the countries in the EBSR have been undergoing. There has been significant increase in passenger car density in these countries in the 10-year period from 1990 to 2000.

Source: Five Years of Regional Progress Towards Sustainable Development. *A Baltic 21 Report to the Prime Ministers of the Baltic Sea States*. In Baltic 21 Series no. 1/2004. The text of the Report can be found on the Baltic 21 website at: [www.baltic.21.org/attachments/report\\_no\\_1\\_2004\\_5\\_year\\_report\\_to\\_prime\\_ministers.pdf](http://www.baltic.21.org/attachments/report_no_1_2004_5_year_report_to_prime_ministers.pdf)

## Appendix B: Life Expectancy at Birth in Baltic 21 Member-States



Life expectancy in the EBSR countries appears to have declined during the initial transition period from the communist era to a market economy, showing positive signs in the past years.

Source: Five Years of Regional Progress Towards Sustainable Development. *A Baltic 21 Report to the Prime Ministers of the Baltic Sea States*. In Baltic 21 Series no. 1/2004. The text of the Report can be found on the Baltic 21 website at: [www.baltic.21.org/attachments/report\\_no\\_1\\_2004\\_5\\_year\\_report\\_to\\_prime\\_ministers.pdf](http://www.baltic.21.org/attachments/report_no_1_2004_5_year_report_to_prime_ministers.pdf)

## Appendix C: Leverage points & places to intervene in a system

The leverage points identified by Meadows [49] listed in order of least to greatest impact include:

*12- Constants, parameters and numbers (such as subsidies, taxes, standards).* Parameters set the level of intensity of certain flows, affecting but not changing the behaviour of the system. For instance, taxation as a parameter can increase or decrease the size of public debt. However, the structure that allows for the creation of debt will remain the same. As a result, parameters are considered to be the lowest point of leverage in the system. This is not to say that parameters are not important. For instance, the share of the municipal budget allocated to health care may make a huge difference to the people dependent on the health system. Parameters may be important in the short-term, but ultimately have little impact in changing the larger system.

*11- The sizes of buffers and other stabilizing stocks, relative to their flows.* A buffer affects the stability of a system. The degree to which a system is affected depends on the size of the buffer in relation to the flows through which it is connected to the whole system. An illustration may be a lake with streams coming in and out of it. If all of a sudden the incoming flows increase a lot but the outgoing flows remain the same, eventually water will go over the borderline. How fast will this happen? It depends on the size of the lake in relation to the size of the flows. The bigger the buffer the less it will be impacted by flows. While relatively big buffers may create stability, on the other hand they may make the system less flexible. Although buffers can be an important leverage point, they are not high on the list because they are difficult and usually expensive to change.

*10- The structure of material stocks and flows (such as transport networks, population age structures).* A good example to illustrate this leverage point is the transportation infrastructure of a town or a region. In planning, if most routes join up through a central hub, this can affect real estate development, available transportation options, the concentration of businesses, traffic problems, air pollution, health care costs etc. If on the other hand routes are laid out to create multiple interaction possibilities, the whole development of the area will be different. The only way to change the structure of material stocks and flows is through re-building, which may

be difficult and expensive and lowers the viability as a high leverage point. After a structure is built the best thing to do is to understand its limitations and problems in order to avoid spending efforts in improving or fixing something that may only reinforce the negative behaviour of the system.

*9- The length of delays, relative to the rate of system change.* Adjustments to flows are usually informed by feedback from the system. If an adjustment is made in a flow, the time it takes for the results to show up may vary significantly. Then when results start to come, adjustments may be made again without immediate feedback, therefore exposing the system to the risk of big oscillations and eventually even chaos.

An example of this is the effect of pollution on health care costs. Society is experiencing the results of actions that were taken many years before. Delays are extremely important and the only reason why they are not a higher leverage point is that it is not very likely that they can be changed. The only thing to be done is to know that the decisions made now may deliver unexpected results much later.

*8- The strength of negative (balancing) feedback loops, relative to the impacts they are trying to correct against.* This point is the milestone that marks a move from the physical part of systems towards what relates mostly to information and control. When examining feedback loops, another name for negative could be balancing or self-correcting. A balancing loop is meant to control trends and keep systems within safe boundaries. To that end, any balancing feedback loop needs a goal. For instance, the body temperature is prevented from reaching critical levels by the ability of sweating or shivering until its level is again within safe limits. In other words, a negative or balancing feedback loop is meant to keep a stock or buffer as close as possible to its ideal level and is supposed to increase in intensity proportionally to the distance from the goal.

Not all the balancing feedback loop mechanisms are visible, but they are of huge importance to the safety of the system. Sometimes they are rarely used or seen and if they appear to be costly, there is a tendency of reducing them or even eliminating them. But the less a system has balancing feedback loops, the narrower the range of conditions within which it can survive. An example of this is the systematic reduction of biodiversity resulting from industrial agriculture. Although it may appear that nothing has changed, the ability of ecosystems to survive is dramatically reduced by the loss of biodiversity. Similarly, democracy is a balancing feedback loop that keeps the social system stable by having governments as in line as possible with

people's will. If the flow of information and the mechanisms through which power is established are not transparent, distortions between popular will and the government tend to be bigger.

The leverage point here is keeping the balancing loop as transparent, free and unbiased as possible.

*7- The gain around driving positive feedback loops.* If a negative feedback loop is self-correcting, a positive one is self-reinforcing. This means that the more a phenomenon happens, the more it gains power to keep on happening. Simple examples are population growth (the more babies are born, the more people there are to have babies), or a fire in a dry forest (the more it spreads, the more it tends to spread). It is easy to see that without balancing loops, positive feedback loops may drive systems to uncontrolled growth, explosion and collapse. Either a self-correcting loop kicks in or the system will eventually destroy itself. For instance, as fish stocks go down, fish prices go up in the market, which stimulates investments in more efficient technologies to catch fish. Contrary to the opinion that the market forces regulate flows, the natural price adjustment will drive the stocks to collapse.

There is a higher leverage point in reducing the gain around a positive loop than in strengthening balancing ones. By reducing growth, balancing loops have time to work more effectively even within their natural time constraints and delays. To illustrate this point, compare the effectiveness of preventing infection when a disease is spreading to waiting for a reduction in the population due to deaths to control it.

To find the leverage points for positive feedback loops key issues to consider are interest rates, birth rates, wealth concentration trends, soil erosion, increase in the demand for agrochemicals etc.

*6- The structure of information flows (who does and does not have access to what kinds of information).* The delivery of the right information to the right destination is a high leverage point. This is not about adjusting parameters, but rather creating new flows of information that result in behaviour change. Often a missing feedback loop is a cause of problems and the delivery of information through a new flow is a powerful intervention measure. The state of fish stocks may illustrate this point. As stocks go down, prices go up, investments go up and new technologies to catch fish emerge. If investment decisions are informed that the result of this trend is collapse of the fish population, different decisions may be made. The key leverage point here is to provide accountability for actions

and decisions by ensuring the correct flows of information move in the right direction.

*5- The rules of the system (such as incentives, punishments, constraints).* Rules define a system's boundaries. Through a set of agreements, everything is bounded in a system (e.g. the law is to be respected, contracts are to be honoured, schools are meant to teach and so on). Rules follow a graduation of severity, from the absolute laws of nature (e.g. the law of gravity, the second law of thermodynamics etc.) to more subtle social conventions.

To demonstrate the power of changing rules, it is enough to see that many revolutions in history changed the rules that guided the system. The industrial revolution changed the rules about production and so on. When Perestroika happened, the economic rules that guided the former USSR were transformed and the whole system changed as a result. Rules establish systemic trends and require feedback, or uncontrolled reinforcing (positive) loops may occur causing the system to collapse.

The functioning of a system is usually closely tied to the rules that structure this system and those who have power over the rules.

*4- The power to add, change, evolve or self-organize system structure.* Living and social systems have the capacity to self-organize. This means that they can create new structures and behaviours. This may be in the form of evolution, social revolution or technical advance. In simple terms, it means the ability to change any of the previous leverage points. The more a system can perform this task, the more resistant it is.

The more there is diversity, the greater the number of opportunities for self-organization. From a systems point of view, if a species becomes extinct the whole system may still function, but the risk of problems goes up. A parallel could be made with culture. If the economic system allows cultures to be overridden by a dominating one, the stock from which social evolution can arise goes down and the society becomes less adaptable to possible changes.

*3- The goals of the system.* The goal of a system is extremely powerful as a leverage point, because it is what shapes all the previous points. For instance, if a system has the goal of keeping the rich wealthy, all the previous leverage points tend to be shaped to deliver this goal.

The previously described loops (reinforcing or balancing) have their own goals and the aggregate of these goals result in a system's goal. Examples

of whole-system goals include: growth, resilience, survival, differentiation and so on.

2- *The mindset or paradigm out of which the system – its goals, structure, rules, delays, parameters – arises.* The mindset is the unspoken, unwritten set of assumptions that individuals hold that creates system goals and contributes to each of the previously described parts of a system. It is the set of beliefs about the world that shapes the network of relationships within a system. Examples of paradigms may be “growth is good”, “development is necessary.”

Mindset is a very high leverage point. As Thomas Khun points out, a change occurs when the failures and anomalies of the old paradigm are constantly shown, when people with the new paradigm are inserted in visible and powerful positions, when time and efforts are not spent with reactionaries and when the open minded part of the population is effectively dealt with [61].

1- *The power to transcend paradigms.* This is the highest of all leverage points because every paradigm, no matter how fair, comprehensive and appealing, limits the immense array of possibilities of understanding the world. Transcending paradigms depends on the courage and availability to challenge beliefs and mindsets, to envision things in different ways. It is about accepting that there is no such thing as “the right paradigm”.

## Appendix D: Country Context for Transferability

	Sweden	Estonia	Latvia	Belarus
Political	Participatory Democracy Decentralized	Recent Democracy Transition	Recent Democracy Transition	Authoritarian  Centralized
Social	Horizontal	Vertical Power	Vertical Power	Highly Vertical
Economy	Developed Stable	Transition High growth	Transition High Growth	State-Run Centralized
Cultural	Consensus-based Homogeneous Self-organization	Individualistic Limited self- organization	Individualistic Limited self- organization	Collective No self- organization
EU	Pro-active	Re-active	Re-active	No relation
Pace of Change	Stable	Rapid Change	Rapid Change	Restricted Capacity
Sust. Policy	Strong national & local support	Vague national law	Vague national law	High-level regulation

## Appendix E: 2005 Environmental Sustainability Index for Selected Countries of the Baltic Sea Region – Score and Ranking

ESI Rank	Country Name	ESI Score
1	Finland	75.1
2	Norway	73.4
4	Sweden	71.7
15	Latvia	60.4
22	Lithuania	58.9
26	Denmark	58.2
27	Estonia	58.2
33	Russia	56.1
47	Belarus	52.8

Source: 2005 Environmental Sustainability Index Report by Yale Center for Environmental Law and Policy, Yale University and Center for International Earth Science Information Network, Columbia University\* ([http://www.yale.edu/esi/ESI2005\\_Main\\_Report.pdf](http://www.yale.edu/esi/ESI2005_Main_Report.pdf))

\*As the Report indicates, the Environmental Sustainability Index provides a composite profile of national environmental stewardship based on a compilation of 21 indicators that derive from 76 underlying data sets. In this regard, the report recognizes that given “the noise” in the analysis, the available data rather reflect the trends than gives the exact background. In this sense, the 26<sup>th</sup> rank of Denmark might not exactly reflect the real situation in the country. On the other hand, it provides a clear indication of compatibility between the ‘traditional’ and newly joined EU countries within the Baltic Sea Region.

# **Appendix F: Sustainable Communities Research Questionnaire (Robertsfors)**

**Masters in Strategic Leadership Towards Sustainability  
Blekinge Institute of Technology, Karlskrona, Sweden**

## **Questions and Responses**

### **BACKGROUND**

1. How long have you been in this community?
2. What do you do here?

### **AWARENESS**

3. What do you know about Sustainable Robertsfors?
4. How did you first here about this project?
5. How would you describe the Local Sustainable Community Development projects in your region?

### **PROJECT CONTEXT**

6. What do you think was the motivation for starting the Sustainable Robertsfors project?
7. Why do you think the project received support and was able to get started?
8. Who are the key people who started this initiative?
9. What role has the municipality played in this process?
10. What did they do initially to launch the project?
11. What was successful about this approach?
12. What were some of the weaknesses?
13. What do you think might have been done to make this better?

## **PROJECT LEADERSHIP**

14. Who are the key people running the project now?
15. How would you describe their leadership?
16. Who are other important supporters or fire souls in the community?
17. What is their role?

## **KNOWLEDGE of SUSTAINABILITY**

18. What did you know about sustainability before Sustainable Robertsfors?
19. What do you know now?
20. Have you attended any educational workshops put on by Sustainable Robertsfors?
21. Did they increase your awareness about sustainability? Your interest? Your involvement?
22. Have you heard about the 4 System Conditions?
23. What does sustainability mean to you personally?

## **ENGAGEMENT**

24. Do you participate in the Sustainable Robertsfors project?
25. Why did you decide to get involved?
26. How do you participate?

## **VISION**

27. What is your vision for the community of Robertsfors?
28. What is the vision of the Sustainable Robertsfors project?
29. What are the goals of Sustainable Robertsfors?
30. What are the goals of the municipality?

31. Were you invited to participate in the creation of the vision for Sustainable Robertsfors?
32. Would you like to be more involved in creating this vision?
33. Do you think everyone in Robertsfors shares the same vision?
34. If not, do you think its possible to integrate these visions?

### **ENABLERS**

35. What things are helping to enable Sustainable Robertsfors to be successful?

### **BARRIERS**

36. What are some of the challenges to realizing a vision of a Sustainable Robertsfors?

### **BROAD BASED COMMUNITY PARTICIPATION**

37. What percentage of the community do you think knows about this project?
38. Are people generally supportive of the project?
39. What percentage of the community do you think are involved?
40. What major groups are involved?
41. What is the role of the municipality now?

### **SUCCESS**

44. What is the criteria used to measure the success of Sustainable Robertsfors?
45. What is the criteria you personally use to measure success?

### **ACTIONS**

46. What actions and projects are underway in the community to help Robertsfors become more sustainable?

47. What actions have had a big impact?
48. What actions have had a small impact?
49. Which actions have had a neutral or negative impact?
50. What do you think are the most important actions that should be taken to help Robertsfors to become Sustainable?

## **RESULTS**

51. Overall, what do you think about this project?
52. What are the strengths?
53. What are the weaknesses?
54. What changes have you seen in the community? Please provide examples or facts.
55. Do you think Sustainable Robertsfors is helping with economic growth?
56. Better social conditions?
57. Improved environment?
58. Do you think it has succeeded in involving broad-based community participation?
59. Do you think this project has caused you personally to change in anyway?

## **FUTURE**

60. Do you think the projects started during Sustainable Robertsfors will continue after the project ends in December?
61. Do you think Sustainable Robertsfors itself will continue?
62. What are the threats for Sustainable Robertsfors?
63. What are the opportunities for Sustainable Robertsfors?
64. Do you personally feel hope for the future?
65. In what way?

# **Appendix G: Municipal Employees Sustainable Communities Research Questionnaire (Robertsfors)**

**Masters in Strategic Leadership Towards Sustainability  
Blekinge Institute of Technology, Karlskrona, Sweden**

## **Questions and Responses**

1. What is your role in the municipality?
2. How long worked in the municipality?
3. How long have you lived in the community?
4. How has the Sustainable Robertsfors project changed the work that you do?
5. What is positive about this project?
6. What are the challenges?
7. Do you know of the 4 system conditions / sustainability principles?
8. Were the 4 system conditions / sustainability principles easy to understand?
9. Do you use the 4 system conditions / sustainability principles in your planning?
10. When did you start to work with this?
11. Have there been any changes in your work because of the Robertsfors project?
12. Has this project changed you personally?
13. Is there anything else that you would like to add?

# **Appendix H: Sustainable Communities Research Questionnaire (Denmark, Estonia, India, Latvia, Whistler)**

**Masters in Strategic Leadership Towards Sustainability  
Blekinge Institute of Technology, Karlskrona, Sweden**

## **Questions and Responses**

1. How long have you been in this community? (Please include the name of your community).
2. What do you do here?
3. Please describe the sustainable development strategy and activities in your community.
4. Why did the sustainability program start?
5. Who are the key people who started and who run this initiative?
6. What role has the municipality played in this process?
7. What did they do initially to launch the sustainability program?
8. What was successful about this approach?
9. What could have been done better?
10. Which groups are most actively involved in the sustainability program?
11. What sustainability principles do you use in your planning?
12. What does sustainability mean to you personally?
13. What is the vision for this community? For a sustainable community?
14. Were citizens invited to create a vision of sustainability for the community?
15. Would citizens like to have been more involved?
16. Do citizens share the same vision of sustainability?
17. If not, would it be possible to integrate all the different visions?
18. What have been the keys to success of the sustainability program in your community?

19. What have been the challenges for the sustainability program?
20. Are people generally supportive of the program?
21. What is the role of the municipality now?
22. What criteria are used to measure the success of the sustainability program?
23. What have been the most important actions and/or projects for sustainability in this community?
24. Please describe the most successful elements of the sustainability program.
25. What are the overall strong points of the sustainability program?
26. What are the weak points?
27. What changes have you seen in the community? Please provide examples or facts.
28. Do you think the sustainability program is helping with economic growth?
29. Better social conditions?
30. Improved environment?
31. Do you think it has succeeded in involving broad-based community participation?
32. Do you think the sustainability initiatives increase/decline overtime?
33. What could stop the sustainable initiatives in the community?
34. What might help the sustainable initiatives to become stronger?
35. Is size important? In other words, should a big town have sustainability initiatives subdivided in neighbourhoods for people to participate more actively?
36. What advice would you give to a community that wants to become sustainable?
37. Is sustainability possible with the Western market economy?
38. What is the biggest sustainability problem for your country?
39. Is crisis necessary for sustainability (for people to change behaviour)?
40. Do you personally feel hope for the future? In what way?

# Appendix I: Sustainable Communities Research Questionnaire (Belarus)

Masters in Strategic Leadership Towards Sustainability  
Blekinge Institute of Technology, Karlskrona, Sweden

## Questions and Responses

1. What is your professional occupation currently?
  2. What is your education (specialization by diploma)?
  3. What city / community in Belarus do you live in?
  4. How long have you lived in your city / community?
  5. What does sustainability mean to you?
  6. What could your community do to become sustainable?
  7. Are you engaged in some sustainability planning for your community?
  8. What actions aimed at community sustainable development have you been engaged in so far?
  9. What tools (if any) do you use to support your actions in sustainable development?
  10. What do you think is needed to encourage a sustainability movement in communities in Belarus?
  11. Do you cooperate with other communities with regards to sustainable development programs in Belarus (please list them).
  12. Do you know about the strategy of sustainable development in Belarus approved by the national government? If yes, how do you apply it?
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