



## **Ecovillages: is it a way to reach environmental sustainability?**

### **Case studies in Denmark**

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## **Abstract**

Ecovillages are social groups highly dedicated to sustainable living. These intentional communities promote realistic solutions trying to minimise the misuse of limited natural resources. The main purpose of this thesis is to examine the relation between ecovillages and sustainability. Theory review and qualitative research was done in order to investigate how these communities are taking actions and leading the way for sustainable living.

In the last years interest in these social groups has grown rapidly due to the raising awareness of healthy and non-destructive living. Global Ecovillage Network uniting ecovillages spread all over the globe is continuously expanding as more and more new communities are joining the network. These social groups introduce new ideas promoting sustainability through their individual initiatives and cooperative projects. In this research, three Danish ecovillages will be investigated in order to find out how knowledge sharing and learning related to sustainability take place in these communities. Environmentally friendly techniques implemented in these communities in order to save energy and water will be analyzed while using Udgaarden, Staerhoj and Tinggaarden ecovillages as illustrative examples. After that, interviews that were conducted in the visited communities will be analysed while making use of Communities of Practice approach. These study cases clearly show that valuable things concerning sustainability can be learned constantly in many different forms just by living in these communities. However, the greatest amount of knowledge, skills and expertise is transferred while actively taking part in different activities and practices inside the community.

Finally, opportunities for the ecovillages and conventional society to reduce environmental impact caused by mankind will be explored.

**Key words:** Ecovillage, Sustainability, Communities of Practice

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## **List of Abbreviations and Acronyms**

CoP	Communities of Practice
DEN	Danish Ecovillage Network
FIC	Fellowship for Intentional Communities
GEN	Global Ecovillage Network
IEA	International Energy Agency
LPP	Legitimate Peripheral Participation
SBC	Sustainable Building and Construction
SCOT	Social Construction of Technology
SD	Sustainable Development
STS	Science, Technology, Society
UNEP	United Nations Environment Programme
WCED	World Commission on Environment and Development



## **1. Introduction**

Nowadays, changes in technologies, our personal lifestyle and environmental problems force us to revise our core values while taking a critical view at our own way of living. Obviously, some actions have to be taken to slow down the rhythm of our lives, destruction of nature and exploitation of our limited resources. All the good intentions and sophisticated analysis of the problems that society faces today and solutions that are proposed by scholars, politicians, and concerned ordinary people mean nothing until and unless individual citizens are going to realize that they have to change their personal lifestyles.

Members of the Global Ecovillage Network were among the first ones who took this issue seriously and got their hands dirty. People from the ecovillages of this network, spread all over the globe armed with alternative ideas and life-changing social structure, rejected the common over consumptive way of living and favoured the worldview that recognizes the interdependency of human and environment.

Ecovillages were largely neglected and considered as nothing more than just some kinds of social experiments but now they are taking the lead in the reduction of human footprint being an example to the mainstream society while showing the alternative ways of organizing the practical life without exhausting nature.

### ***1.1 Purpose and Significance***

This work will present analysis of Danish ecovillages from the interdisciplinary perspective firstly looking at them through the social prism because these communities play an important part in today's society in the context of sustainability. The aim of this research work is to localize this movement in the previously mentioned context while making use of the sustainable living principles that were introduced by IUCN, UNEP and WWF<sup>1</sup>, and try to determine the relation

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<sup>1</sup> Here IUCN – International Union for Conservation of Nature, UNEP – United Nations Environment Programme,



between the ecovillages and traditional life. In addition to this I want to look at different ecovillages in Denmark trying to find out what types of technological innovations have been implemented in these communities. I am very interested whether they do play a part in the development of technological innovations which could actually give birth to a truly sustainable society. When overviewing the national and regional ecovillage networks such aspects as their way of knowledge sharing, intercultural cooperation, creation and implementation of new technologies could be discussed. I understand that living in a community or sharing a house with others might be not acceptable for some of the people but according to Kozeny (1996), history confirms that experiments in such *social groups* inevitably lead to a variety of new social and technical innovations that could eventually find many useful applications in other segments of society.

I am interested in ecohouses and sustainable technologies used in the ecovillages in Denmark because I believe that these communities are influenced by new environmentally friendly innovations and in return do shape the trend that certain technologies have been developing recently. One of the main purposes of this thesis is to look at ecovillages and sustainable technologies from STS (Science, Technology, and Society) perspective and to provide theoretical and empirical insights in the role that eco-communities play in sustainable development, science and technology.

The selection of my thesis topic was influenced by a few factors. One of them is that sustainability is a very hot topic today, which is broadly discussed in many European countries, including Denmark. Most of the existing articles about ecovillages focus only on their social aspects and give some practical advice concerning the establishment of such communities. On the other hand, papers covering sustainable technologies usually exclude the social perspective of intentional communities. As a STS student, I find it important to combine both social and technological elements of ecovillages in order to examine their relationship between each other and influence

another. I believe that these communities receive insufficient attention, albeit they are outstanding examples of a preferred way of living. Up to now most discussions, concerning various dimensions of ecovillages, were made by their residents who are seldom scientifically trained to produce professional analysis, therefore, my academic research is an important contribution to the field.

## ***1.2 Research Scope and Research Question***

The main research question in my work is how ecovillages promote environmental sustainability as an example to the rest of the society. I will try to answer this question by looking at some of the related social theories, analyzing relevant literature and giving my personal insights, based on the conducted research.

Sub-questions were designed as a support for the main theme and will be answered further on in my thesis:

1. What can be learnt about different ways of achieving sustainability in the ecovillages?
2. Taking ecovillages in Denmark as illustrative cases: what environmentally friendly technologies and practices are implemented there?
3. Taking into account ecovillages in Denmark as study cases: how are those communities developed and maintained, what are their core objectives, principles, inner structure ('self-management'), how are their social relationships cherished?

Ecovillagers' perception of sustainability, various ways to achieve it, and their motivation for ecological living will be examined in more detail as it would reveal a more clear and comprehensive picture of environmentally friendly life style in each ecovillage. Further on, as a part of second research sub-question, technological solutions used there and the core values their decisions are based on will be investigated. These will give the general view of the sustainable technologies used in the communities; communards will reflect on the importance of these innovations, how they selected and implemented them also expressing the advantages and disadvantages of these solutions.

In the process of creating an ecovillage, especially if it is supposed to be in the rural area, the community might face some barriers in building policies, financial support, disagreements in the community while making first decisions as a group. On the other hand, inner structure and the vision they all share might be keeping them together creating the lifelong friendships. After analyses of these elements the third research sub-question could be answered.

As being a qualitative research, answers for the research sub-questions require theoretical interpretation. Therefore, Wenger's *Communities of Practice* model, originally introduced in the organizational context, will be used to explain all addressed questions. Detailed description of how this concept is applied for this research work will be presented in the following chapter.

### 1.3 Methodology

Research design and methods that were conducive to finding out the ways of how ecovillages promote sustainability are presented in this part. In order to get a complete picture of the ecovillages, knowledge sharing, used sustainable technologies and the social structure existing there, research was made. It was started with the literature analysis of the global ecovillage movement and environmental sustainability. Later on, for gaining hands-on experience, a field research, comprised of observations and focused interviews, was carried out.

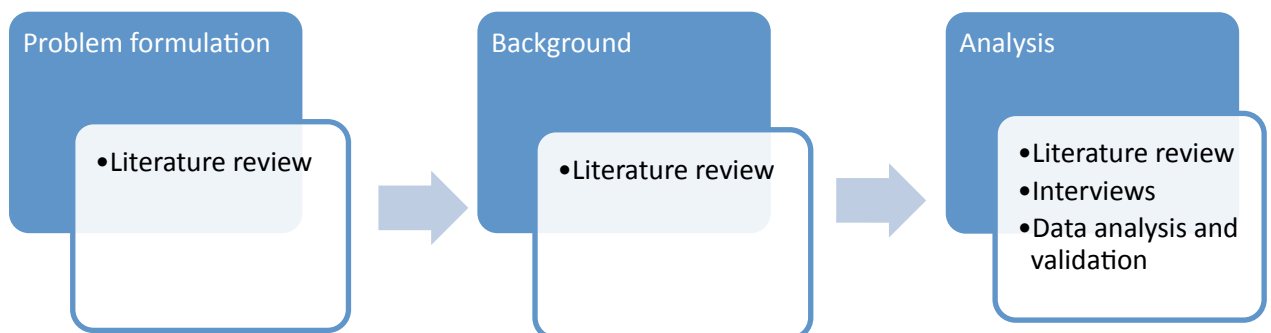


Figure 1.1.3 Methods applied for each part of the research

## **Literature review**

Literature review has been used during all the phases of the research. Literature was analyzed in order to find related theories and researches done by the scholars in this field. According to Silverman (2000), theories provide a set of concepts that can be used in order to have a better understanding of the phenomenon of interest. This stimulated case study structure of the research framework with respect to a theoretical background. In the following chapters of this thesis, literature related to the concept of ecovillage and characteristics of environmental sustainability and sustainable society will be reviewed. Also, I will elaborate more on the history of Wenger's Communities of Practice model giving a short history of its development and possible applications in order to use it as a tool for the analysis of my case studies later on.

## **Case studies**

Case studies are a suitable research strategy when a contemporary phenomenon is studied (Yin, 2003). In this work three study cases, i.e. 3 ecovillages in Denmark, will be used for two main purposes: Firstly, they will be used **to illustrate** practical implementation of different sustainable technologies in the communities. Secondly, by using the communities of practice model as a tool, ecovillages will be **analysed** and findings will be compared in order to answer the research question and sub-questions discussed earlier.

## **Interviews**

Qualitative data is spoken and written representations of human experiences. Observations, interviews and documents are a few examples of such data (Punch, 1998). In this research work focused interviews were used as the main data collection tool. These interviews were based on the relevant theories and information obtained from the literature review. After interviews in the ecovillages were conducted, they were transcribed and used for further assessment. All the data

obtained through the interviews was focused, simplified and transformed; this data reduction step was mainly used to get rid of unnecessary information and to decide which part of the data will provide the most valuable information (Silverman, 2000).

During the qualitative research of collecting the necessary data, focused interviews and observations were used in order to:

- Find out the essential ideas motivating ecovillagers to live in the communities;
- Collect information about sustainable practices there.

More detailed information about the respondents and conducted interviews are to be found in Chapter 5 as well as Appendix A and B.

### **Data analysis and validation**

Qualitative analysis is the basis for answering the research question of this thesis. The main directions and missing information in the research can be easily clarified through the process of organizing obtained data in tables and figures. Analyzing the meaning of collected data, noting patterns, and possible configurations are the objectives of the last step of data analysis and conclusion drawing.

### ***1.4 Structure of the Thesis***

Firstly, the work is composed of a theoretical part, in which an overview of the intentional communities, with a special attention to ecovillages in Europe, is presented. The movement of ecovillages is analysed by giving the most common definitions and descriptions of the main ideas that these communities are based on as this would allow us to grasp the complexity of this issue. After that, their roots in Denmark are analysed and the relation between ecovillages and traditional life style is being overviewed.

Secondly, I will introduce environmental sustainability and the main principles of the sustainable society which later on will be used as an instrument for the analysis of sustainability in

the ecovillages that were selected as the case study units. After that, I will present technological innovations that are implemented in the ecovillages in order to improve sustainability in their daily life. In addition to that, a short description of the background of each community selected for the research will be presented as it is necessary to provide a clear background on the object of analysis. Also, the analysis of the social aspect and its influence for the environment of the community will be given.

Finally, I will present my review of what have been featured in this research work trying to come up with the answers to the questions presented at the beginning. Furthermore, I would like to give my personal insights and share my experiences that I have obtained while analyzing different material and conducting my research, all of which was great pleasure and an interesting experience.

## 2 Theoretical Context and Analytical Framework

In this chapter, in order to create a background that could be used later on in this thesis to analyse achievement of sustainability in ecovillages as a process of learning, the concept of communities of practice will be introduced and described in a more detailed way. After that its modification and adjustment for this research will be discussed.

### 2.1 *Defining Intentional Communities and Communities of Practice*

When I started literature analysis, I found it confusing that different authors were referring to ecovillages as *intentional communities* or *communities of practice*. Therefore, I have decided to start my literature review with the explanation of those two concepts before going further into details about the ecovillages.

Geoph Kozeny, who is one of the very well-known communitarians, defined *intentional community* as “a group of people who have chosen to live together with a common purpose, working cooperatively to create a lifestyle that reflects their shared core values” (Kozeny, 1996, p. 1). Usually this type of community is created by a certain group of people that share the same social, political, religious, or spiritual vision that sometimes might be considered to be alternative to the already existing society. These social units are unique in their own way therefore even if some groups have certain characteristics in common, no two identically similar could be found because of the differences in their objectives, values and community members.

The description of the *communities of practice* used by Wenger seems to be quite similar to the description of the *intentional communities*. According to Wenger, this concept refers to the group of people “who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (Wenger, 1998, p. 4). Communities of practice are very diverse and the value systems that their members share might be very different. Exchange of their

knowledge and expertise in a certain area is usually taking place by active participation in an ongoing process. These communities might be of many different forms and highly depend on the work place, university, or hobbies and passions. However, it is important to note that not every social group which is called a community is actually a community of practice. Wenger (2009) identified three main characteristics that separate these communities from all the other: 1) **shared domain** of interest which distinguishes members of the group from other people; 2) **community** resulting from collective learning and social interaction among community members; 3) **practice** that stems from mutual experiences, stories, tools, ways of addressing recurring problems.

Like some other social units ecovillage is a specific type of intentional community. As a subgroup of this family, communities living in the ecovillages have all the required characteristics, therefore, I will use the *intentional community* term when I have ecovillage in mind. The concept of *communities of practice* seems to be more encompassing than the previous one, as it is more related to the learning process happening in the human interaction. Therefore, further on in my thesis I will use this term when I refer to the broader phenomenon of my research.

## ***2.2 From Apprenticeship to Legitimate Peripheral Participation***

In order to find out to what extend social co-participation in communal activities at the ecovillages leads to learning about sustainability, the model of intentional communities presented by Etienne Wenger in his book '*Communities of Practice: Learning, Meaning, and Identity*' will be used (Wenger, 1998). At the beginning of this book, author stated that he and Jean Lave could not decide whether he or his colleague (Jean Lave) was the one to come up with the concept of *community of practice* first. However, they certainly used it in 1991 in their collective book entitled '*Situated Learning: Legitimate Peripheral Participation*'.



This book is essential mean for my thesis because Wenger and Lave moved the emphasis of learning away from *apprenticeship learning*<sup>2</sup> to the knowledge sharing in the communities of practice; they revised and reformulated the concept of learning that was commonly used at that time. While trying to find out what kinds of social engagements provide the proper context for learning to take place the authors came up with one more useful concept – *situated learning*. It refers to learning that is carried out in the same context in which it would be applied and was considered as a transitional step that bridges the gap between apprenticeship learning and *legitimate peripheral participation*.

The main idea of apprenticeship learning is that person A learns from person B while working with him; in case of situated learning, it would happen in a community context where the person A would be a newcomer and would learn from others, through involvement into various practices, in order to become a full practitioner. However, the idea of legitimate peripheral participation goes further than the previous two, by saying that “learning is an integral part of generative social practice in the lived-in world” (Lave et al, 1991, p. 35). This term has a meaning in a broader scale that encompasses it all: people, activities, knowing, and world. Wenger and Lave (1991) put it nicely in one sentence: “If the person is both member of a community and agent of activity, the concept of the person closely links meaning and action in the world” (p. 122). I think that this shows how unlimited, diverse and unexpected learning process can be.

After the legitimate peripheral participation idea was developed, they introduced a new concept - *community of practice*. It refers to communities that new people would join in order to get new knowledge and learn the socio-cultural practices of the community. This theory is different from others because of its new approach to learning and learners. How and why it is different, will be explained in the following chapters.

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<sup>2</sup> In the Collins Cobuild dictionary apprenticeship learning was described like this: “Someone who has an apprenticeship works for a fixed period of time for a person who has a particular skill in order to learn the skill.”

### 2.3 Using Communities of Practice as a Model

In 1998, Wenger refined the social theory of learning focusing more on the social participation. As a result, he distinguished four elements (Figure 2-1) that were considered to be the most important parts of the theory (Wenger, 1998):

- 1) Identity - learning by becoming. It focuses on the person, but from a social perspective, which is a balance between individual and social.
- 2) Meaning – learning by experience. It emphasizes importance of experiencing the world and being engaged in different practices that help people to produce meaning of their own.
- 3) Practice – learning by doing, which means taking part in different activities, that a group of people, sharing the same goal, develop to achieve their objective.
- 4) Community – learning by belonging. There are three different ‘modes’ to describe the way in which members of the communities of practice could belong to the group:
  - **Engagement** refers to different ways that members of the community can actively participate in different activities and practices inside the community;
  - **Imagination** refers to the reflection and construction of an image of the community, one's place within it and its place within a larger context (Wenger, p.227);
  - **Alignment** refers to the structure and agreed rules inside the community that all the community members are to respect and they in return assure equal possibilities and responsibilities for all the community members.

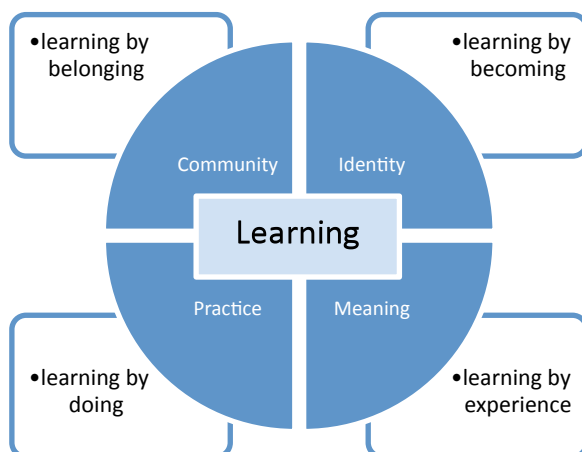


Figure 2.3-2.1 Fundamental components of the social theory of learning<sup>3</sup>

After taking a medical claims processing centre of a large American insurance company as a study case, Wenger thoroughly describes how his theory can be applied not only to individuals, communities but also organizations. Even though the model of Communities of Practice is relatively new, it has already been widely used in association with knowledge management and is now accepted as a part of organizational development. In my thesis I will try to use this model as a basic tool to analyze ecological communities of practice and their way of learning related to sustainability. As Wenger (1998) stated in his book, for the communities “learning is an issue of refining their practice and ensuring new generations of members” (p. 7). I believe that this idea might be applied to the ecovillages as well, because most of the members in these communities are young or middle age families. People living in the ecovillages that I had a chance to visit do their best to keep the environment in the community safe and healthy for their children to grow. Sharing things and making decisions together, helping each other give the children a good example and involve them to the process of learning about sustainability, ecology, and cooperative living.

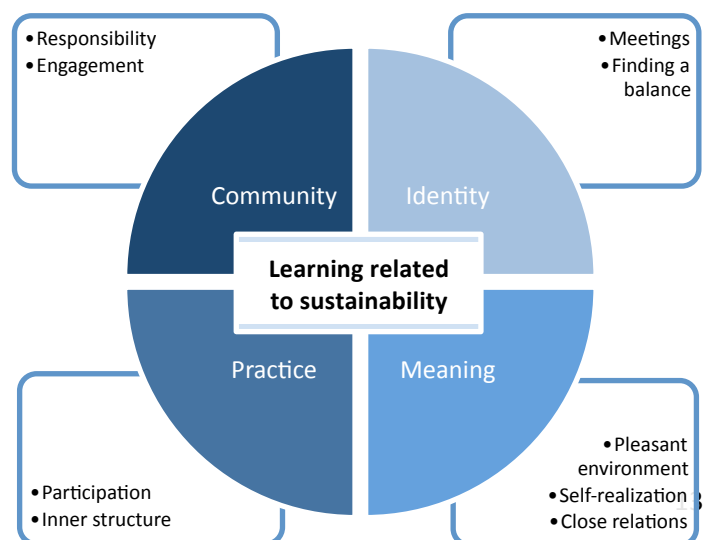
Communities of Practice (referred to CoP in the following) approach and its limitations were highly discussed by the critics. Wide range of its possible application is considered to be not only as its strength but as a weakness also, since it may encourage inappropriate applications of the model (Roberts, 2006). It has gained increasing interest of individuals and separate sectors of organizations due to the useful knowing and learning perspective it provides (Wenger, 2009). Combination of different elements of this method is aimed at various social groups in order to improve their performance. However, critics claim that broader and deeper exploration of this knowledge management tool is necessary in order to explore and overcome its limitations that have been overlooked for a long time: regional culture, organizational hierarchies, time constraints, cultivation and size of the community (Roberts, 2006), (Kerno 2008). On the other hand, despite all

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<sup>3</sup> This scheme was borrowed from the Wenger’s book *Communities of Practice. Learning, Meaning, and Identity* (1998).

the limitations, CoP approach is increasingly applied and studies in various organizational and social contexts.

The reason I have applied it in my research work is to find out how learning takes place and knowledge related to ecological sustainability is shared among the community members and other ecovillages in the network. As sustainability still remains a highly debated issue in many international conferences, practices applied in these social groups could be used as an example for the mainstream society in order to change the destructive way of living. To discuss different social aspects of the communities living in the ecovillages in an analytical and comprehensive form CoP model is an irreplaceable tool. For my research work, I used this model in several stages: 1) it was used as a framework when a list of questions for the focused interviews was created; 2) after interviews were conducted, CoP model was modified in order to represent the information obtained in the ecovillages. As it can be seen in the Figure 2.3-2, this did not require significant changes in the model, but rather application of empirical data to the theoretical design. I do agree with the author, that all 4 parts (Community, Identity, Meaning and Practice) of the scheme presented before (see Figure 2.3-1) are equally important for the learning process; however, each of these concepts is quite broad at the same time. I did my best in order to discuss all these four elements as thoroughly as possible, even though, my time in the communities was very limited. Despite the fact that I was a total stranger to the interviewed people they were very open and answered my questions in a friendly manner. According to the information obtained from the respondents I have distinguished the most important aspects and challenges characterising learning related sustainability in each part of the model. I will talk about this in more detail in the analytical part of the thesis while applying it to my study cases.



**Figure 2.3-2.2 Adjusted model to my research**

### 3 Reaching for Sustainable Society

*“Making a viable future visible in the present”*

*(E.F. Schumacher)*

As Sharon Ede (2007) nicely expressed in her article, entitled *Transcript of Evidence* (p. 5):  
“... before we can even start talking to people about sustainability, we need to be able to communicate what it is”.

In the last few decades a great amount of different articles, related to sustainable development (referred to SD in the following), was published. Diverse definitions have been suggested and discussed in many articles and conferences, thereby exposing a wide range of approaches and world views that SD can be linked to (Pearce and Turner, 1990). Nowadays the most often used definition of sustainability was introduced by the World Commission on Environment and Development. They defined Sustainable Development as ‘*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*’ (United Nations, 1987). To achieve the main goal, a set of principles that can give some defined forms to the sustainable development strategy were required. Therefore, in 1991 IUCN, UNEP and WWF for the Earth Charter Project prepared the main principles for the sustainable living:

1. Respect and care for the community;
2. Improve the quality of human life;
3. Conserve the Earth’s vitality and diversity;
4. Minimize the depletion of non-renewable resources;
5. Keep within the Earth’s carrying capacity;
6. Change personal attitudes and practices;
7. Enable communities to care for their own environments;

8. Provide a national framework for integrating development and conservation;
9. Create a global alliance.

These principles are used as the backbone of the SD strategy and can be easily found in the shared objectives of many eco-communities showing the diverse dimensions and many applications of the sustainability concept – social/cultural, economic, political, environmental and moral (Turner, 1993). The concept of Sustainable Development is extremely broad, therefore, further on in my thesis I will focus only on the social/cultural and environmental aspects as they are most closely related to the learning process in the ecovillages that I will discuss in the following chapters.

To have a better understanding of the principles that were mentioned before and their necessity in these days I think it would be helpful to look at a few phenomena happening lately. First of all, overconsumption of energy and other resources that humans are taking from nature. In the International Energy Outlook (2009) it was estimated that about 15 percent of the world delivered energy was consumed by households for heating, cooling, lighting purposes and various appliances. When talking about developed countries, larger residential buildings tend to include more energy-using devices such as television, computer, washing machine, etc. Besides, more energy is required for the big areas to be heated or cooled. Energy type and amount used in the households vary from country to country depending on the income level, available natural resources, climate zone, and available energy infrastructure (International Energy Outlook, 2009). It can be noticed that since 2003, due to the increasing prices of crude oil and environmental awareness in many countries, innovations in the field of renewable energy generation were encouraged. According to the International Energy Agency, in 2006 green power comprised 18 percent of the global energy consumption, which is slowly increasing due to the international agreements and the European Union common energy policy. There are already small places, such as Rock Port in the United States or Varese Ligure in Italy, where all the energy needed for the town residences, is generated from renewable sources like sun, water and wind. They are standing as

examples to show that autonomous and sustainable energy generation that fully meets users' needs is real. As a result, many developed countries are making green future plans and taking small steps towards renewable energy and sustainable society. I believe that a great part of world's consumed energy could be saved by raising consciousness on these issues, encouraging people to build smaller houses or try cohousing, promoting renewable energy and giving small tips on how every person could reduce energy consumption in their own environment.

It was estimated that a person spends from 80 to 90% of his/her time in the built environment (UNEP, 2003) therefore it is very important to make sure that these constructions are healthy and safe for the human beings. In addition to this, in another environment programme prepared by the United Nation in 2002, a warning was issued about the dangers that nature has been facing in the last decade due to the new construction. It states that patterns and the extent of building and construction should be changed or otherwise natural habitats and wildlife on over 70 percent of the Earth's land surface will be destroyed or disturbed by 2032. This required considerable changes in this field in order to preserve the environment.

UNEP Industry and Environment in the report (2003) stated that environmentally friendly building and construction highly relies on the life-cycle approach. This approach takes into account all the building stages, actors involved, their actions and the environment-related impacts that they may have. As it can be seen in the Table 3.1 on the next page, four stages, sitting/design, construction/ refurbishment, use and demolition/deconstruction, are organized linearly, what is sometimes also referred to "cradle-to-grave" approach. In order to reorganize this structure according to the life-cycle thinking, where material loop is closed, various measures and mechanisms can be used in every stage (UNEP Industry and Environment, 2003). This would lead towards reuse and salvage of various materials what makes building more sustainable. These tools are presented in the Table 3.1 however I will not discuss them in many details as they are not the

main focus of my research work. Way more important for me in this case is the role that owners together with architects, engineers, government authorities and labourers play in this system.

Stage of building process	Siting/design	Construction/ refurbishment	Use	Demolition/ deconstruction
<b>Policies and policy measures</b>	Codes and standards Zoning ordinances Land-use criteria Procurement policies	Full-cost material pricing Regulations Labour laws and standards On-site EMS Monitoring and reporting	Full-cost pricing Taxes Codes and standards Take-back regulations Disclosure requirements Awareness programmes EMS	Disposal regulations Recycling legislation Taxes Monitoring and reporting
<b>Tools</b>	Life-cycle assessment WLC accounting Sustainability indicators	EPDs ISO 14000	Labels/ certification Energy audits Supply chain management	
WLC - Whole Life Costing EMS – Environment Management Systems		EPDs - Environmental Product Declarations ISO - International Organization for Standardization		

**Table 3.1 Policies, measures and tools promoting sustainable building and construction (SBC)**

UNEP Industry Environment suggested 5 steps that can be taken by every person in order to instantaneously reduce environmental impact. In my opinion these points perfectly fit the communities achieving sustainability and can be looked at when analysing the selected ecovillages (UNEP Industry Environment, 2003):

1. Reduce material wastage;
2. Increase usage of recycled waste;
3. Improve efficiency of the energy;
4. Wiser use of the water;
5. Increase structures service life through built-in flexibility of material use.

I believe that these small adjustments to the daily life would not require outrageous efforts that would cause growing discomfort. In most of the European countries citizens are already separating their household waste making it possible for the materials as glass, paper, aluminium, or plastic to be re-used or recycled. Also, raising public consciousness on many environmental issues and the positive influence it had on many people's actions can be noticed already. The set of principles that was introduced in the beginning of this chapter is a great tool for everyone promoting



sustainable living at the same time encouraging everyone to revise their value systems and presenting them the real and contemporary values.

## 4 Ecovillages: What They Are Doing and Why they are Important

*“Never doubt that a small group of thoughtful committed citizens can change the world. Indeed it is the only thing that ever has.”*  
(M. Mead)

Over the last few decades the interest in sustainable development and intentional communities, whether they are ecovillages, cohousing, or other kinds of communities related to sustainability, has grown rapidly (Christian, 2003). It seems like a very significant shift in consciousness has occurred across the globe and society has become aware of environmental problems which can no longer be ignored and something has to be done (Jackson, 1998). Some changes can already be noticed: governments issue new laws, restricting destructive production, companies are improving their products and ways of manufacturing to be more environmentally friendly. On top of that, citizens are slowly changing their daily habits to live in harmony with nature.

In this chapter I will give an overview of ecovillages with a special attention to the origins of this concept, which in the last few years have been favourably and repeatedly covered by *The Times*, *BBC news*, *CNN* and *The Sunday Times*<sup>4</sup>, various national televisions and newspapers.

One of the most popular free online encyclopaedias, Wikipedia, defines ecovillages in the following way: “*ecovillages are intended to be socially, economically and ecologically sustainable intentional communities*”. It is a good definition when someone wants to have just a general idea of this concept; but it is obviously too broad and vague explanation to get the real picture of it, therefore we should take a look at more explicit definitions that were presented by many authors. The most often quoted definition of ecovillages comes from the 1991 article, entitled *The Eco-village Challenge*, which was written by Robert C. Gilman, the president of Context Institute:

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<sup>4</sup> Most of them can be found - <http://communitybuzz.ic.org/>

*„Human-scale, full-featured settlements in which human activities are harmlessly integrated into the natural world in a way that is supportive of healthy human development, and which can be successfully continued into the indefinite future“ (p. 1).*

Ironically, in the same year Gilman's report (1991) on ecovillages and sustainable communities showed that, even though many different communities existed all over the globe, there was no „full-scale ideal ecovillage“ yet. Although, as Kasper (2008) nicely noticed in his article: *“while an ecovillage may not meet the criteria of this definition, these criteria tend to determine an ecovillage's overall objectives”* (p. 13). I would like to agree with D. V. S. Kasper, as Gilman's idea about continuing development successfully for indefinite time sounds too general and is lacking a logical argumentation as the future and human needs at that time are unknown.

However, a more realistic explanation of this concept was suggested by Holick and Connelly: *“a community of up to several hundred people that meet the material, economic, social, emotional, cultural, and spiritual needs of its inhabitants whilst being in harmony with its natural environment”* (1999, p. 62). This definition among other facts laid great emphasis on the human's spiritual needs but, in general, most of the ecovillagers do not share the same religious beliefs and quite often have different ones than other community members. Therefore, I think spirituality should not be considered as one of the core stones of this concept.

I found Bang's description of an ecovillage as a living unit to be novel and genuinely creative: *„Ecovillages are living entities, which sprout, grow, develop, change and sometimes die off. Each one is a compromise between what is desirable and what actually happens in practice”* (Bang 2005, p.8).

This author looked at the ecovillages from a radically different perspective. Maybe it is not the best definition for the ecovillage as such but it definitely helps many people to get the message through and make practical use of it when designing their own communities.

Another author gave an upgraded but at the same time a bit too detailed description of the ecovillage that could be used as a definition. However, it was one of the few definitions where environmentally friendly technologies were also mentioned:

*“Ecovillages today are typically small communities with a tightly-knit social structure united by common ecological, social, or spiritual views. These communities may be urban or rural, high or low technologically, depending on circumstance and conviction. What they share is a deep respect for nature, with humans as an integral part of natural cycles. Ecovillages address social, environmental, and economic dimensions of sustainability in an integrated way, with human communities as part of, not apart from, balanced ecologies” (Bates 2003, p.4);*

On the contrary to the previous case, in some of the articles and books, authors are using too short and, I would say, too general descriptions of the ecovillages, which sometimes can be very fuzzy and difficult to grasp. Few examples of such definitions could be as following:

- *“Eco-village is a group of people who strive to live a sustainable, satisfying lifestyle in harmony with each other, all other living beings and the Earth” (Garden 2006, p. 1);*
- *“Intentional communities that aspire to create a more human and sustainable way of life” (Christian 2003, p. xvi).*

I believe that to make it easier for people to understand the meaning of the concepts, they have to be relatively short, but simple and straight to the point.

As it was mentioned above, the concept of ecovillage may include many different elements. However, in my thesis I have decided to use the definition of an ecovillage that I found in Christian's book: *“Communities building ecologically sustainable housing, grows much of its own organic food, recycles its waste products harmlessly, and, as much as possible, generate its own off-grid power” (2003, p. xvi).* I selected this definition because it emphasizes the same aspects of

the ecovillages that I find important, which is, community living in a rural area, using renewable energy sources, sustainable technologies and collectively growing their own food.

Now, as the definition of an ecovillage is selected a deeper look at the things that most of the ecovillages have in common should be taken. Idealistic ideas would be one of the main things that most of the communities are sharing together. Community's ideals usually arise from something its members see as lacking or missing in the wider culture (Christian, 2003), (Kasper, 2008). More and more people are looking for places to live outside big cities trying to find a safer, healthier and greener place for their families. According to the ecovillagers themselves, 'ecovillage' is a good example for the world "of what it means to live in harmony with nature in a sustainable and spiritually-satisfying way in a technologically-advanced society" (Garden, 2006). The number of such communities in the world is growing rapidly, all of them standing as demonstration projects for greener future (Miller, 2006). Every community is unique in its own way therefore the scope of their primary values is equally broad including ecology, equality, appropriate technology, self-sufficiency, right livelihood, creativity, fellowship, responsibility, and the pursuit of global peace (Kozeny, 1996), (Holick and Connelly, 1999).

These social units are mostly designed because of the needs and opportunities caused by (Gilman, 1991):

- *New ecological constraints* which comes from high level of population and new technological capabilities;
- *New techniques and technologies*, ranging from a better understanding of ecosystems to wider range of different communication forms; from efficient technologies for renewable energy source to new kinds of human organization;
- *New levels of consciousness and awareness*, which emphasize the importance of global cooperation and a broad alliance of different people united for the same utopian idea.

After all, it turned out to be quite a difficult task to find a good definition for an ecovillage, even though there are numerous options available. Christian's (2003) and Kasper's (2008) ideas could be related to the basic needs distinguished by the Gilman (1991) as they both emphasize new ideas, technologies and other things that communities notice missing in the mainstream society. Sometimes these needs happen to be the most important foundation for new communities, however, they may also happen to be the reasons why sometimes these communities look strange and are unacceptable for the outsiders. Great number of definitions includes shared religion as one of the important elements, but most of the ecovillages that I have read about and visited in Denmark are very open minded and tolerate different religions in their communities. Further on in my thesis, I decided to use definition suggested by Christian (2003), but I find it important to add the social aspect, friendly environment and good social relationships among the community members as well.

#### ***4.1 Roots of the Ecovillages - Global Ecovillage Network***

My literature review does not cover the question on whom and where designed the very first ecovillage, as the information does not seem to be available. Almost the same problem Jackson described in his article about Global Ecovillage Network: *"It is a difficult question because many of the current members of GEN were founded before this word existed. In the 1960's several spiritually based projects were initiated in different parts of the globe ... it may have been the impulse from the Indian philosopher and sage ... we will never know for sure"* (Jackson, 2004, p. 3-4). Albert Bates (2003), the person that did a lot for the ecovillage and intentional community movements, agreed with Jackson stating that, the origins of such social units were noticed in different countries at about the same time therefore the answer to the question of which ecovillage was the first one stays unknown.

As it can be found in literature, in the late 1970s and 1980s different projects, later named as ecovillages, were initially started in the United States, Germany and Denmark. Among the first ones, in 1979, an educational centre in North Carolina, USA was named an "eco-village". Before

that, this was a place with an experimental energy system, innovative buildings and organic gardens (Bates, 2003). At about the same time the first European attempted to build small villages based on ecological ideas that were stimulated by essential events happening in different countries at that time. In Germany ecovillages were started “during the political resistance against disposal of nuclear waste in the town of Gorleben” (Bates, p.1). Even though their camp was destroyed by the national police, the concept and spirit survived and lived on encouraging others for such experiments all around the country. Back then, people moved into small ecological communities to show the disapproval of decisions their government was making and the way of living they were promoting.

In current years, Denmark plays an important role in the field of ecovillages as well. In the late 1980s a group of active Danish citizens set up Gaia Trust with Gaia Villages and Gaia Technologies as the fundamental tools to be used to achieve their vision (Jackson, 1998). The main objectives that members of the Gaia Trust decided upon back in the 80s were preserved and did not change much until today (the Gaia Trust, 2008):

- **Protect** endangered species of fauna and flora, preserving historic and environmental interests;
- **Educate people** about traditional working methods and skills, inform them about the current issues related to biodiversity, energy conservation and waste minimisation;
- **Improve** society’s interest in protection of historical and environmental features.

In order to achieve these goals Gaia Villages initiated the creation of Global Ecovillage Network and only few years later formed the Danish Ecovillage Network. It gathered people from different eco-communities together to discuss further development of the ‘ecovillage’ concept, and after this meeting, a report about *Ecovillages and Sustainable Communities* was prepared by Diane and Robert Gilman. This report was one of the first reports about this subject and is very well known because of the definition of an ecovillage, introduced in this research work which is widely

used until today. Due to the hard work of the members in this network, in 2000 GEN obtained consultative status at the United Nations Economic and Social Council.

Since the very start of the Danish Ecovillage Network, ecologically minded people were actively promoting restoration and equilibrium of the four basic elements (earth, water, fire and air) in the systems of nature and human body (Jackson, 1998). However, the major problem with using these four components is that for some people “allocation of subject areas under the different elements is not clear or they come from a cultural background with a different concept around them” (Jackson, 1998, p. 3). For these reasons, a better explanation of the elements and features assigned to each of them should be prepared in order to prevent misunderstandings or misuse of the method.



## 5 Analysis of the Research: Visiting the Sustainable Communities

*“It’s not just about houses or water or any particular system.  
It has to be about how we think. The ultimate object of  
ecological design is the human mind.”  
(Orr 2004, p. 190)*

### 5.1 The Methodology of the Research and its Realization

In this chapter, the research design and methods, used in this thesis, will be explained in more detail. To find out, which of the characteristics, representing sustainable society, can be found in the Danish ecovillages, a qualitative research was carried out. Three eco-communities were chosen for the research according to:

- The type of the community;
- The housing used there;
- The main ideas that community was based on;
- Location;
- Sustainable actions taken there;
- Desire of the communards to help me.

Ecovillages were selected from the Danish Association of Sustainable Communities list which is available online<sup>5</sup> and contacted by phone or via e-mail depending on the contact information given. However, not all the communities that I have contacted were interested in my research and, as a result, the number of Danish ecovillages suitable for this study reduced to the following three: **Udgaarden**, **Staerhoj** and **Tinggaarden**. More detailed descriptions of each ecovillage will be given later on in this chapter.

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<sup>5</sup> The list can be accessed – <http://losnet.dk/English/faelleskeng.htm>

All three communities were visited and interviews were conducted face-to-face with the people living in these ecovillages. Questions for the interviews were prepared in advance and structured with open-ended questions in order to get respondents' personal opinion with no restraints imposed from my side. Also, indirect way of asking was very efficient and helped greatly to get more information about the topics that I was interested (Wimmer and Dominick 1997). All the questions that were prepared and used as the basis for the interviews can be found in the Appendix A. Focused interviews are core elements that this analysis is based on. However, it is important to note, that all respondents that I have talked to were active participants in their ecovillages for many years, therefore, there might be a risk that their answers concerning their communities are a bit overweighed and may sound too positive.

In total, three ecovillages were visited and 8 interviews were conducted. Respondents willing to help me, speaking English and available on the agreed time were selected by the contact person from each ecovillage. Nevertheless, due to their age, education and number of years spent in the community I would consider people in this group as typical residents perfectly suitable for representation of their communities. In order to get a picture of the interviewed group I will present some facts, however, more detailed information about the respondents is listed in the Table 5.1 presented on the next page:

- I have interviewed 4 women and 4 men; even though most of the time families constitute the ecovillages, there are many single parent families, which eventually makes the number of women living there slightly higher than men;
- 3 respondents were from Udgaarden, 2 from Staerhoj, and the last 3 from Tinggaarden community. Communards of these ecovillages are not actively participating in the Global Ecovillage Movement or Danish Ecovillage Movement and, as it can be seen in the Figure 5.2, are situated quite distantly from each other therefore they are not related in any way;

- The average age of the respondents – 48-49 years; the oldest respondent being 55 years old, the youngest – 40. Half of them were older than 50 years old. These numbers are more or less typical for most of the eco-communities in Denmark, as most of the ecovillages were started by young families in 1991-1992. However, their kids, now of the age from 7 to 17 years old, should be also taken into consideration when talking about the age diversity in these communities;
- Among the respondents there was a wide range of professions: museum conservator, project office manager, consultant, teacher, administrative officer, social worker, and caretaker, the only person having a full-time job inside the ecovillage that he lives.

Name of the respondent	Sex	Age	Years in the community	Name of the ecovillage	Profession
Anders	M	53	17	Udgaarden	consultant
Lone	F	51	18	Udgaarden	teacher
Kirsten	F	45	17	Udgaarden	social worker
Dorte L.	F	49	16	Staerhoj	administrative officer
Flemming	M	45	16	Staerhoj	project office manager
Sorren	M	52	26	Tinggaarden	caretaker
Simon	M	55	16	Tinggaarden	museum conservator
Dorte W. E.	F	40	2,5	Tinggaarden	human resource consultant

**Table 5.1 List of the respondents and statistical data**

## ***5.2 Background of the Ecovillages***

Oil crisis affected many European countries almost forty years ago. Around the same time environmental issues became a hot topic for numerous international debates. These events caused important modifications in the Danish energy strategy and radical changes in many research areas. Their ambitious future stimulated new governmental legislations, regulations and various innovations promoting renewable energy, pure air and water. Now Denmark is in the forefront in the use of renewable energy technologies and sustainable climate solutions being an example to other European Union countries. Danish expertise in green technologies attracts attention of many Renewable Energy companies from abroad. Sustainable technologies are widely implemented

inside the borders of the country but also a great number of them are exported to various parts of the world making environment friendly technologies one of the biggest exports from Denmark. Seeing that Denmark is such an advanced country with regards to environmental developments, I was very fortunate to have the opportunity to analyse cases in this country. As it was mentioned before, “Staerhoj“, “Udgaarden” and “Tinggaarden” are the ecovillages that I have selected as my case studies in Denmark. In order to have a general picture of the communities that have been participating in this research, statistical data (Table 5.2) and a brief description of each ecovillage is given below. To describe selected communities more systematically I will come back to the Wenger’s (2009) three main characteristics defining separate communities in their best way: 1) shared domain, 2) community and 3) practice.

	Staerhoj	Udgaarden	Tinggaarden
Age of the community (years)	18-19	17-18	25-31
Size	8 hectare	16 hectares	4 hectares
Number of residents/residences	16 families	16 families	~200 families
Cohousing	No	Yes	Yes
Area (rural/urban)	Rural	Rural	Rural
Income shared (yes/no/partial)	No	No	No
Decisions made (consensus/other)	Board	Consensus	Board + Consensus
Eating together	On Mondays	5 times per week	1-2 times per week
Food grown, %	-	75-80%	-
Ecohouses	Yes	Yes	Improving

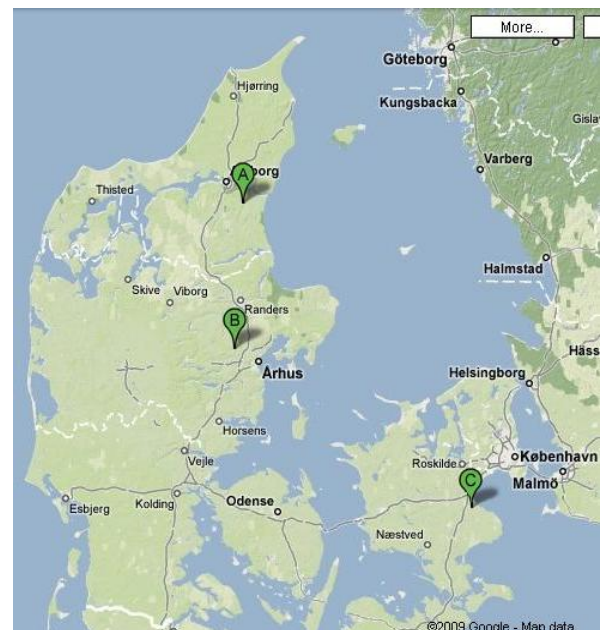


Figure 5.2 Location of the visited ecovillages: A – Staerhoj, B – Udgaarden, C - Tinggaarden

Table 5.2 Descriptive statistics of ecovillages in Denmark

### **5.2.1 Udgaarden**

**Shared domain:** Udgaarden ecovillage is situated only 14 kilometres away from the centre of Aarhus. In 1992 a group of people, sharing the same values and a strong will to live together, gathered together to start all the necessary procedures in order to build a community based on the common environmentally friendly ideas. During the 18 years existence of this ecovillage, some of the families changed, grown-up children have moved away, but the greatest part of the people that started this project still lives there. According to the ecovillagers themselves, it is one of the few ecovillages in Denmark that has an ecological farm and a lot of free land surrounding the area. This makes them well known in the local area and among other communities in the Danish Ecovillage Network.

**Community and practice:** In this case, I would like to discuss second and third characteristics of an ecovillage at the same time, as these two aspects are very closely related. Cooperative living in the countryside, strong social bonds between the families and family members, shared workload in the vegetable garden and farm are just few reasons motivating people to choose this way of living. Cooking in the shared kitchen and eating dinner together in the common house 5 times per week makes it cheap, easy and ecological, which is not always possible for an individual family when cooking separately. Besides, activities like this help the members exchange their knowledge, teach their kids and learn new skills and have great memories together. Most of the ecological meat and fresh vegetables (almost 80% of all the food they eat) that members of this community consume are produced in their own farm or bought in the ecological quality nearby. However, ecovillagers assure that they are not environmental movement fanatics or crazy people living in the woods emphasizing their ordinary lives which does not differ much from the traditional mainstream society way of living. As Anders modestly generalized: “we are just ordinary people living our ordinary lives” (interview 09 May 17). The elders have their regular

employment positions and children go to schools outside the ecovillage, they have electricity and wear traditional clothes.

Most importantly, the houses these people live in, friendly neighbourhood, common tools, sustainable technologies they are using, decision making by consensus and the main ideas that they all share would fit in a very well known slogan – ‘think globally, act locally’.

### **5.2.2 Staerhoj**

**Shared domain:** Staerhoj is another ecovillage in Denmark which is about 20km southeast of Aalborg city. It has been twenty years since a small group of scholars at Aalborg University came up with an idea to create an ecovillage. After numerous meetings necessary to solve all the organizational problems a community was formed and the ecovillage project started. In a year or two from that (in 1991-92) 16 families could eventually move into their newly built houses. Even though this ecovillage may not be exclusive by itself, people living in this community call it a paradise. Maybe they like great location of the place, beautiful surrounding, or comfortable houses, but that is not all. Way more important for these people is their neighbourhood and communal spirit.

**Practice:** In this ecovillage each family lives in a separate house with small garden in the backyard and the common house in the middle of the area. Even though this community owes much less land than Udgaarden, there is still a lot of green space left around the houses for those who would like to keep a horse or have a little vegetable garden. Ecovillagers are eating organic dinner once a week but they usually bring their own products for the meal therefore it is hard to tell how much organic food they eat every month. However, working collectively around the area, maintaining the place together and making decisions during the common meetings is a daily routine for these ecovillagers.

**Community:** Members of this community built ecologically sustainable houses in the most environmentally friendly way possible 20 years ago. They were always interested in the alternative solutions therefore various technological/technical experiments were implemented in the houses by the engineers living there and maybe some more will be in the future plans. Individual and collective efforts to maintain and improve their environment, low energy houses and future vision that they all share assure that this community is heading to the right direction.

### 5.2.3 Tinggaarden

**Shared domain:** Tinggaarden community is situated in Herfølge, in the south part of Koge. This place is quite well known in Denmark because of the special buildings constructed there. This ecovillage is a result of a competition of alternative settlements and dwellings organised by Danish Ministry of Housing. In 1978 the first inhabitants moved into the freshly built new houses. Due to its popularity, five years later, additional houses were built and the community expanded to 200 families living together by now.

**Practice:** Many people chose to live in this place because of close social relationships between the families and well organized self governing structure. The way their annual meetings are arranged allows everyone to be involved in the decision making and problem-solving, concerning different matters of the community. Also they have a board which is planning what and how should be done in the ecovillage (Simon interview 09 July 02). Besides, like in no other visited community, there are two people working full-time inside the ecovillage. They take care of the webpage, represent community in various conferences, meet the visitors, and do all the maintenance work required in the Tinggaarden.

**Community:** As it was shortly mentioned before, Tinggaarden is divided into two parts (Tinggaarden 1 and Tinggaarden 2), each of them consisting of 6 family groups with 12 - 17 apartments varying in size and composition. Almost 30 years ago, when these buildings were designed, sustainability was out of the topic. However, nowadays ecovillagers support environmentally friendly ideas and this year, on the 3<sup>rd</sup> of February, they received prestigious Alvar Alto prize which stated: *“The overarching principles applied by Vandkunsten to design were crystallized in the office’s early works – the best known being Tinggaarden, an innovative residential district near Koge”* (Tinggaarden, 2008). I believe that their practical skills together with the great enthusiasm that they all share will lead the community to significant technical innovations that will bring great public recognition to their ecovillage. And maybe someday nice



slogan created by the Tinggaarden community about their ecovillage - “It’s more as community than just a place to live” could be used in a larger scale.

### ***5.3 Sustainable Societies in Practice: Technologies and Innovations***

Achieving sustainable development requires interactive changes in culture, institutional structure and technology (Jansen, 2003). In this section sustainable technologies, which are implemented in the houses of analysed ecovillages, are examined. Technology is considered to be sustainable if it “uses less energy, fewer limited resources, do not deplete natural resources, do not directly or indirectly pollute the environment, and can be reused or recycled at the end of its useful life” (Yan & Stellios, 2006).

In Denmark all the new buildings have to be constructed according to the Danish Building Regulations. These regulations are there to ensure that newly built environment is harmless and can be used without causing risks to the safety of residents. Even though there are no special requirements or additional restrictions for the ecovillages, many barriers have to be crossed in order to start a new one. If ecovillage is planned to be in a rural area, changing the purpose of the land from agricultural to residential is one of the most common and time consuming concern in the whole ecovillage design process. As far as technology is concerned, various sustainable solutions, because of the environmental and economical reasons, are implemented in the houses.

Most of the residential buildings in the ecovillages display properties of the passive houses. As the concept may already suggest, a low energy house can be any type of a house which uses less energy than an ordinary house. New Danish building regulations were issued in January 2006 in order to decrease energy consumption. Among some other changes, two different classes of low energy buildings were introduced: Low Energy Class 1 allows 50% and Low Energy Class 2 allows 75% of the energy consumption compared to normal dwellings (Larsen, 2009). This includes total energy required for room heating, ventilation, hot water and cooling per square meter (m<sup>2</sup>). Besides, residential buildings, dormitories and hotels have to fulfil different requirements than offices,

schools or institutions. It is important to note that most of the countries have national standards and they vary greatly from country to country. According to Larsen (2009), low energy houses share the following characteristics:

- High level of insulation, which means making thicker walls of the building than usually in order to reduce heat loss;
- Energy efficient windows role in reducing heat loss and gaining solar heat is essential;
- Energy efficient heating system cut required amount of energy by half;
- Rainwater recycling significantly reduces waste of drinking water;
- Solar hot water heating.

All these features can be found in the ecohouses of the visited communities. According to the estimations in this area, there are about 15 000 passive houses around the world. The majority of them have been built in the Scandinavian countries and Germany (Rosenthal, 2008). Their popularity is widely spreading, although rapid changes in the renewable energy generation stimulated development of new types of houses, such as zero energy buildings or energy plus houses. Zero energy buildings produce as much energy as they consume, however, energy plus houses are even more advanced and, as the name may already indicate, generate more energy than it needs. All the energy in these houses is produced by using green technologies and renewable energy sources. However, in the following sections I will pay more attention to the environmentally friendly technologies that were implemented in most of the ecovillages 25-30 years ago and are still doing a great job rather than looking at the latest innovations which are still at the experimental level. I find it important to look at these technologies because their usage in the ecovillages played an important role and shaped shared values, objectives and future plans.

### 5.3.1 Rainwater Management

Growing population and humans' needs rapidly increase demand for the freshwater. Natural reserves of pure water are limited therefore numerous researches are being done in order to design alternative techniques for water management. Cost-effectiveness and environmental awareness encourage public interest in ecological engineering solutions to rain water, grey water<sup>6</sup> and wastewater<sup>7</sup> conservation and re-use. One of the simplest technologies used in the Udgaarden ecovillage was constructed for the rainwater management.

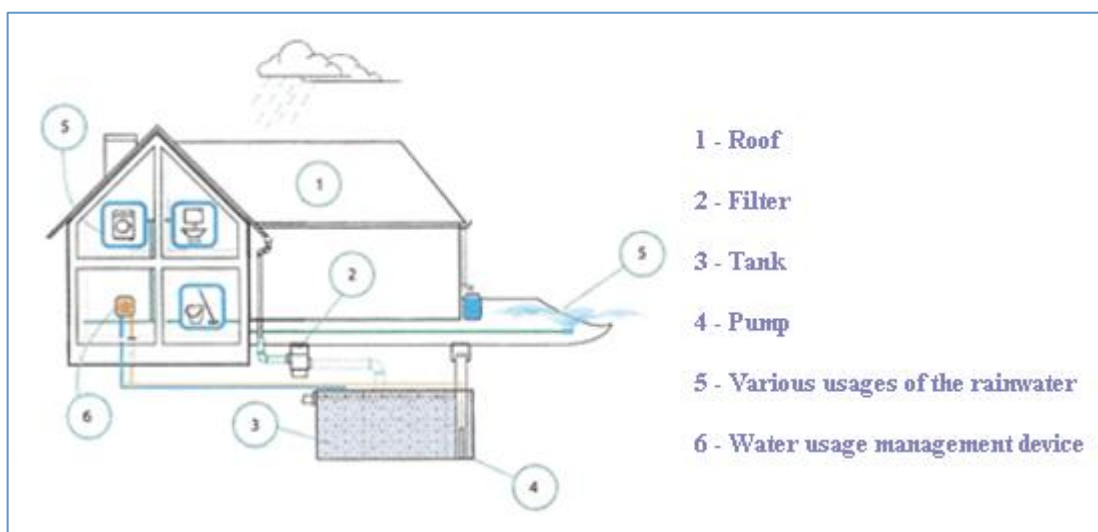


Figure 5.3 System of rainwater management

As it can be seen in the Figure 5.3, rainwater is collected from the roof of the house and transported to the huge tank placed under the ground. On the way to the tank, all the impurities are removed from the water by the filters. Inside the tank there is a pump which distributes the water on demand for various domestic purposes such as flushing toilets, washing clothes, watering a garden or washing a car. Also, there is a water management system device which is measuring levels and usage of the water. According to the visited ecovillagers, this user friendly system, that was implemented in their houses almost twenty years ago, is very reliable and works without causing

<sup>6</sup> When talking about *grey water* it is referred to wastewater from buildings excluding the fraction discharged from the toilet. This concept is used in the industrial, academic, governmental and public fields. (Dixon, 1999)

<sup>7</sup> *Wastewater* is all the water that has been used in the house for bathing, dish washing, toilet flushing, etc.

them any problems. Even though all sixteen houses in the community share single rainwater management system, they say that it is rather simple and easy to maintain. The success of rainwater re-use was noticed long time ago. Efficiency of these systems were studied to the great extend by Mustow et al. (1997) and Maunsell (2004). Based on Anders rough estimations, about 20% of the drinking water is saved in Udgaarden community just by using rain water management system. And it did not require enormous expenses or dramatic changes in their lifestyle. However, Ecovillagers notice that savings in this area highly depend on such factors as the size of the water tank, weather conditions and demand of the rainwater.

As rainwater management system is one of the cheapest sustainable technologies that are available for a relatively low cost, it is quite surprising that this technology is widely spread only among the ecovillagers and is rarely used by individual people in their private houses. Because of the comments and questions received from people living outside the community, interviewees distinguish the following ideas as the most common beliefs that keep people away from using rainwater management system (Anders, Lone, Kirsten, interviews 09 May 17-18):

- This system is difficult to implement in the already built house;
- Rainwater is not clean enough to be used for the laundry even after it is filtered;
- The system is rather expensive;
- Time-consuming maintenance is required;
- Highly technical knowledge is needed in order to use it.

Although it is true that it is much easier to build this system in the house while it is still in the process of construction, all the remaining assumptions, which were mentioned above, should be considered to be unreasonable as people, using rainwater management system in their houses, assured me that the system is highly beneficial, sustainable and user friendly.

### 5.3.2 Solar hot water heating

In European countries, most of the energy in the residential buildings is used for heating and cooling of the living spaces, hot water production, lighting, and electrical appliances (i.e. refrigerator, stove, washing machine and other household devices) (Balaras et al, 2005). A great number of technological solutions promoting sustainable energy production have been introduced lately so that rapidly growing energy needs could be met without exhausting nature. Besides, mass media, scientists, scholars and activists are also frequently providing information about the small changes energy consumers could make in their everyday lives in order to have positive impact on the energy saving.

When talking about the environmentally friendly technologies, great amount of energy needed for the water heating can be easily reduced by the solar hot water heating system (Dorte, interview 09 June 22). This type of water heating can be found in almost all the houses in the Udgaarden, in the common houses in Tinggaarden and few living houses in Staerhoj, however, several key problems related to the implementation and usage of this technology, discourage many people from using it.

Firstly, this system is highly depended on the weather conditions and location of the site. Solar panels have to be placed so that they would be exposed to the sun as long as possible (Anders, interview 09 May 17). In order to receive maximum solar radiation, these batteries should be directed at the Equator (Balaras et al, 2005). As it was mentioned before, weather conditions have a major impact on the solar radiation needed for the solar system. In Denmark there are about 120<sup>8</sup> days with precipitation per year. In this case, cloudy days should be also included, because at that time the level of radiation is rather low as well. This means that radiation available on the previously mentioned days might be insufficient to heat up the water till the required temperature, therefore, additional heating system has to be built as a backup. Obviously, this technology suits

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<sup>8</sup> 'Climate Normals for Denmark' Danish Meteorological Institute. It was retrieved on 2009 08 05. Figures labelled in Danish: First plot is the whole country; Nedbør = Precipitation, Nedbørdage = Precipitation days (>1 mm), (Dag/Middel/Nat) temp. = (Daytime/Average/Night time) temperature, Solskinstimer = Hours of sunshine.

weather conditions in the southern countries better, but Danish ecovillagers decided to adapt this system together with the wood-pellet burning system in their communities. As far as I understood, they are happy with their investment and the benefits these batteries provide.

Secondly, radiation of the sun is highest in the middle of the day, however, the demand for hot water at that time is very low or none at all, therefore boiler, a closed vessel used to heat up water, is needed. During a little tour around Udgaarden ecovillage, Anders explained that system implemented in the visited ecovillages is based on the thermosyphon method, which means that water is passively heated by solar energy. Heat energy coming from the sun is transferred directly to the anti-freeze solution which runs through the solar collectors. After that, heat energy is carried from the collectors to the boiler and transferred to the water. Depending on the size of the boiler, this system may take a lot of space in the house. In the case of ecovillages this problem was solved easily as great use can be made out of the basement in the common house, however, finding a place in the individual house when living outside the community might be quite a big issue.

Finally, many interested people are not using solar panels just because they cannot afford it due to the high initial costs of the system (Kirsten, interview 09 May 18). However, it can be considered in case of the community where expenses for such an investment are shared by all community members. Even though, solar system is an expensive investment, ecovillagers agree that it was worth the money and it has paid back during the time.

### **5.3.3 Wood-pellet burner**

Wood-pellet burner technology used in the central heating system in Udgaarden, Staerhoj and Tinggaarden communities is highly efficient, ecological technology and can be easily combined with the solar panel system discussed before. Wood-pellet burner is used to provide hot water to the central heating system for space heating and domestic hot water applications. It uses renewable, environmentally friendly and locally produced fuel (Simon, interview 09 July 02). Most often, these

heating systems are used in the individual houses or small group of dwellings therefore it was a big challenge for Tinggaarden community, which has 200 families, to make the final decision and invest 22 million Danish kroner in this alternative heating system (Simon, interview 09 July 02).

When I started a discussion about this heating system with the interviewees, Anders (interview 09 May 17), Flemming (interview 09 June 22), and Simon (interview 09 July 02) enumerated great benefits this technology provides: first of all, this system is highly efficient because up to 90% of the wooden pellet is burned while generating very low emissions. Also, compared with the previously used furnaces, maintenance required for these burners is considerably lower which saves a lot of energy and time for the community members supervising the system. Finally, cost-effectiveness plays a very important role.

Even though, ecovillagers can afford more expensive technologies than most of the people, they do want to invest the money properly. New technology, for example, to replace the existing but working inefficient one, is usually selected by community members who have at least superficial knowledge in this field with the help of professionals in these technologies. After that all the possible solutions are presented to the rest of community members, they are discussed and decision is made by general agreement which might sound easy but can be a very long and hard process for the ecovillagers.

#### **5.3.4 Experiments**

Numerous experiments based on different sustainable ideas had been carried out in the ecovillages. They are practical results of the close and creative connection between society and technology. Even though in the communities that I have visited not that many innovative technological ideas have been created, their interest and active involvement in the development of alternative technologies is exceptional. As I have mentioned earlier in this thesis, engagement in different cooperative activities inside the community can be extremely helpful for the ecovillagers.

While working together, every member of this social group can reflect on and construct community's image to what they all want. Imagination and engagement bond ecovillagers together, make their feeling of belonging stronger and contribute to the learning process in the community.

When the solar panels and heating system were implemented in the Udgaarden ecovillage, these technologies were rather new and their use was considered to be a risky and expensive experiment (Anders, interview 09 May 17). However, community members discussed the issue and took the risk. Also there were other successful initiatives undertaken cooperatively by a group of ecovillagers. As a result of one of them, they have an environmentally friendly cold room under the ground and a nice place to keep fruits and vegetables fresh longer. Another experiment ended up with a delightful sheep house that ecovillagers liked so much that even had an idea to make it a meditation place for the community members.

Around the same time, few engineers in Staerhoj community were experimenting with the waste water management. They wanted to take water from the shower and use it for the toilet flushing. It was a nice idea but it never succeeded because the small pumps in the system were always clogged by the soap from the shower water (Flemming, interview June 22). However, this experiment was widely known and results were published on the newspaper.

As a community, Tinggaarden did not experiment much with the technologies and invested the money only in the certified and time proven techniques. However, looking at a smaller scale there is a chance that individual environmentally friendly projects took place inside the ecovillage. People living in this community are open minded and willing to share their knowledge, expertise and experience concerning the innovations they use as well as try new alternative technologies in order to achieve their ultimate goal – sustainable living. And the same could be said about the residents from other ecovillages that I have visited as well.

All the experiments that I have just described are only few examples of various initiatives taking place in these communities. While thinking about their future plans, ecovillagers consider



new alternative but promising technologies such as the soil energy which is still in the phase of development (Anders, interview 09 May 17). Among other investments, ecovillagers are looking for the possibilities to get their electricity from renewable energy sources either building a windmill in their area or buying shares in a company that is producing wind energy (Lone, interview 09 May 17), or ways to improve rainwater management system in order to expand the diversity of its possible usage (Simon, interview 09 July 02). Maybe in the end some of the ideas turn out to be not as great as it was expected or not the best solution for the problem in concern but these activities help people to know each other better, share their experiences, ideas and gain new experience.

#### ***5.4 Philosophy of Life in the Sustainable Societies***

When talking about sustainability, it is very important to take a look at human interactions. I believe that today, in most of the developed countries, a feeling of belonging is getting harder to find. Therefore, many families, longing for pleasant environment to live, group together and build their own community. As it can be seen in the research done by Wenger (1998), social relations play a central role in the learning process. Community would not last long and learning would not take place if harmonious relationships among the community members would not exist.

In this section learning process related to sustainability and various factors that influence this process in the visited ecovillages will be analysed. Basic elements of Wenger's Communities of Practice (2002) model will be applied in order to approach Udgaarden, Staerhoj, and Tinggaarden communities from different perspectives. Identity, Meaning, Practice and Community are four building blocks that my qualitative research will be based on<sup>9</sup>. Most of the information presented in this section was obtained through the interviews with the ecovillagers or is my personal insights into this subject as a result of my limited empirical observations.

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<sup>9</sup> The same four elements are used in Wenger's (1998) model as well. In my analysis I use the model, which was presented in the Figure 2.3-2 on the p. 13 of this thesis.

### **Community – learning by belonging (1)**

I will start this analysis with the first element of the model which emphasizes the importance of the experience of belonging. I believe that a strong will to be a part of ecological community generates interest in the ecovillages of many people. Moving to live in Udgaarden, Staerhoj and Tinggaarden ecovillage was an individual choice of every person that I have talked to. They chose to live in these communities that are situated in the rural areas next to bigger cities, as it is a nice and safe place for the kids to grow. Probably this is one of the reasons why visited ecovillagers are mostly accommodated by young or middle-aged families. They all agree that one of the great benefits that such community provides are the mates that children and grown-ups can always find to play, work or eat with. However, for the teenagers life in the countryside gets too quiet and boring. According to Anders and Lone (interview 09 May 17), after finishing the school their children are planning to move away and start living on their own in the bigger cities.

As it was pictured in the Figure 2.3-2, one of the important aspects of the Community element is engagement of the community members in activities and meetings inside the ecovillage which is necessary for the learning process to take place. Even though there are no strict rules of what people should or should not do, most of the things in the ecovillages are arranged under common agreements, personal responsibility and common sense (Dorte, interview 09 June 22). In the Udgaarden community regulations and rules are mostly related to the finances and property rights. There is countless number of unwritten rules in their community that ecovillagers are unconsciously following in their daily lives, but according to one of the initiators of this ecovillage, many difficult meetings were arranged to discuss and agree on the main things in order to achieve the present situation (Lone, interview 09 May 17). Situation in the Staerhoj community is quite similar to the one that I have just described when talking about Udgaarden. On the contrary than might be expected, members of the Tinggaarden community have quite strict written rules that all new members are obliged to familiarize themselves with (Simon, interview 09 July 02). Even

though no fines or penalties are given for those that break the rules, for serious violations person responsible for the action might have to leave the community. However, this has never happened in any of my visited communities. Lone noted that people just leave their ecovillage without causing them any problem, when they realise that living in the community is not exactly what they want. And for these social groups “that is a very natural process” (Anders, interview 09 May 17). Written and unwritten rules are examples of alignment which in return assure equal possibilities and responsibilities for all the community members.

One of the great advantages that members of these ecovillagers have is the possibility to join an already existing committee in the community, such as heating system, agriculture or maintenance committee (Anders, interview 09 May 17), or create a new one, that clearly reflect his/her interests. This way, community members not only spend more time together, share their skills and knowledge, but at the same time bring more information about certain things from outside to the rest of the community. These processes inspire collective imagination which might be very helpful for the residents when image of the community is constructed.

These are just few reasons why people decide to group together, create communities, live together and cherish their ecovillages. More aspects concerning learning related to sustainability and ecovillages will be analysed further on in this section.

### **Identity – learning by becoming (2)**

When a group of people design an ecovillage together, that particular place becomes their home, their creation that they strongly identify themselves with. The design of each ecovillage “reflects community’s spiritual, social, and ecological lifestyle, making each design unique” (Bang, 2005, p. 120). When I asked my respondents ‘In what ways this community is different from others?’ most of them could quickly mention at least few things that separate their community from others. For example, Udgaarden have organic vegetable garden and little animal farm (Anders,

interview 09 May 17), Staerhoj community is more private than others (Flemming, interview June 22), Tinggaarden is very well-known for their unique design houses (Simon, interview July 2).

Bang (2005) nicely described an ecovillage as a living unit, which is always changing, developing and sometimes dying. It is an ongoing process because each member is constantly shaping and is being shaped in many ways. First of all, ecovillagers are shaped by the interaction with the society outside their ecovillage as most of them are studying and working in the bigger cities close by. Every person in the community is a small part of it therefore when its members gain new knowledge or get new experiences the community is changed considerably as well. I would say that it is a natural process, which ensures flow of information, ideas and expertise. As a result of this, new projects might be launched or already existing manners of getting things done improved. Frequent meetings and active participation of the community members are needed in order to make the best use of the new information. This brings us to the informal interaction among the community members, which may also be seen as a part of the ongoing learning process. Community meetings that are organized on the last Sunday of every month in Udgaarden (Kirsten, interview 09 May 18), 3-4 times per year in Staerhoj (Dorte L., interview 09 June 22) and once a year in Tinggaarden (Simon, interview 09 July 02) are arranged there in order to bring all the members together to share information, discuss existing problems, overview work done by different committees and other processes happening in the community<sup>10</sup>. In most cases, none of the important changes in the ecovillage is made without being discussed in the meeting first. There are numerous advantages of this system, but the most important issue is the time that it takes for an idea to be realized. So that great ideas would not be left unspoken, awareness, good organisation of the meetings and understanding of the members. The challenging part for many ecovillagers is to reflect on the contemporary community, their core values and primary goals in order to make long-term future plans (Lone, interview 09 May 17). As in the case of Udgaarden, a whole weekend was

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<sup>10</sup> Meetings in their communities were described in a detailed way by all interviewees. These characterizations of the meetings might be found in the Transcript of the interviews.

allocated for the community members to be together outside their ecovillage, share the ideas and discuss various possibilities in order to develop a common future vision (Kirsten, interview 09 May 18). I believe that it is a really great idea which helps these *living units* (Bang, 2005) to improve their weak points and stay full-blown communities.

Finding a balance between personal needs and further development of the community (Lone, interview 09 May 17), coming to the compromise during the meetings or making decisions that suits community's financial situation the best (Simon, interview 09 July 02) is a hard job to do, therefore, individual ideas of every member are mutually shaping and being shaped by the main objectives of the community. Even though many things are shared inside the ecovillages, there is an invisible but quite strict line between public and private that all the members know without them being written, for example, where someone's personal piece of land is and where common area starts even if there are no marks telling it (Kirsten, interview 09 May 18). Ecovillagers do not interfere in each other's personal life, but, nevertheless, they are very close and helpful to each other. They do teach and learn from one another whenever they spend time together and always remind their colleagues, in a nice and friendly way, if they notice that he/she is moving away from the values they all share. In most cases, it is related to the actions that could be made in a more sustainable way, i.e. saving energy and water, using ecological food products, etc. (Kirsten, interview 09 May 18).

### **Meaning – learning by experience (3)**

Like in any activity, giving a meaning to the community is of great importance. This is what brings people together, keeps them interested, actively involved and naturally concerned about the community's practical matters. If the meaning of it is lost, the group of people disperses and community dies.

The main ideas that ecovillages are based on vary greatly from ecovillage to ecovillage. However, there are few basic things that they all share, i.e. living in a sustainable way and creating a nice social environment to live in. Udgaarden community strongly emphasise the importance of “giving all people the opportunity of doing what they want in this community if it’s possible” (Anders, interview 09 May 17). This is closely related to being engaged in different practices that help people realize themselves and find a meaning of their own, for example:

- Hobbies; making some space for extracurricular activities, such as, children band to practice, keeping horses, gardening, or pottery making;
- Committees; provide community members equal opportunities to create a committee, or be actively involved in the already existing one;
- Projects; letting others realise their technological or artistic ideas in the common area if they do not put others to great inconveniences.

Anders (interview 09 May 17) explained, that earlier ideas had to wait for a long time before they could be realised just because some people refused to agree with the idea on principle. However, with time their members have learnt that asking yourself a simple question of ‘How important it is for me?’ can save a lot of time and energy that would be otherwise wasted for unnecessary disputes. Due to their remarkable tolerance and understanding of other needs, many successful initiatives have been undertaken by the community members. Few examples of such initiatives would be: sustainable storage room for the vegetables to be kept, local ecological food store, little sports club, a better household waste management system, etc. As ecovillages are not developing and functioning in a vacuum (Roberts, 2006), its members are constantly interacting with other people outside the community therefore every ecovillage is greatly influenced by outside environment. Among other things, ecovillagers are very interested in the development of environmentally friendly technologies and actively implement them in their communities. In order to make this possible, members of these social groups continuously collaborate and share their

knowledge with the experts and other ecovillagers (Dorte, 09 June 22). As these intentional communities can afford quite expensive technologies to be implemented in their environment, their cooperation and experience, especially with the experimental technologies, is of great importance for other ecovillages and the mainstream society.

Pleasant environment and close relationships among ecovillagers is another important aspect of the visited communities that has to be discussed. During the years people may have various personal problems like, difficulties at work, going through divorce, or serious illness, therefore, support and help offered by other community members might be extremely important for the person (Lone, interview 09 May 17). Even though in some communities members are more individual than others, all interviewed ecovillagers agree that people living in the communities that I have visited help each other a lot by looking after each other's kids, sharing their car, or doing some work around the house for them. In this always changing world, this small society gives a sense of stability for many ecovillagers' private lives (Kirsten, interview 09 May 17). I believe, that in most European countries, where living conditions are rather stressful and highly competitive, these communities could be promoted in order to reduce emotional instability and improve the quality of social relationships and environment that kids are growing in.

#### **Practice – learning by doing (4)**

The last element of the Wenger's model that will be applied to my research work is personal involvement with the group and active participation in various communal activities. Usually collective occupations are organized by the members of the community, sharing common vision and the same value system, in order to achieve their ultimate goal.

First of all, differently from the system used in the mainstream society, all the Udgaarden, Staerhoj and Tinggaarden ecovillages inhabitants that are interested in decision making, related to community matters, can participate in the community meetings that are organized in a consensus

way. This means that every person living in the ecovillage can participate in the meeting and is allowed to express their approval or disapproval for the suggested problem solution. However, the most important aspect of consensus agreement is that decision is not made until opinion of all community has settled in the same direction. Frequency of the meetings and their structure is different in every ecovillage that I have visited. Udgaarden community has regular meetings on the last Sunday every month where most of the members participate. Usually meetings take place about 2 hours giving enough time for all the matters on the agenda to be discussed in-depth. Anders (interview 09 May 17) notice, that with time their decision making mechanism is getting better. According to him, society could learn a lot from them in order to solve their problems without provoking conflicts. Staerhoj community uses slightly different structure than Udgaarden ecovillage. This community has a board of 5 people, which meets regularly and all the community members meet together with the board 3-4 times a year (Simon, interview 09 July 02). During those meetings important decisions are made also using consensus method. Tinggaarden community due to the number of people living in a community elect 5 members to the board which meets every month, represents the community and makes decisions for the community, regarding various daily matters (Simon, interview 09 July 02). However, the most important issues are discussed in a common meeting which takes place only once a year where all the interested inhabitants are welcomed to express their opinions, regarding the issues on agenda (Dorte, interview 09 July 02). Nevertheless, after all speakers express their opinion, the board is the one to make the final decision. Due to the size of the Tinggaarden community and the main principle of consensus, application of this model in their community should be time consuming and very hard to use. However, according to Dorte L.W. (interview 09 July 020), the size of their community is not a problem for the decision making because not many people come to the meetings.

Second of all, different committees exist inside the ecovillages. Usually, these groups of people take care of the practical things that need to be done in the ecovillage on a regular basis, for



example, cutting the grass, managing water and heating systems, cleaning the common house and many others. Other committees represent interests that certain group of people are interested in, for example, sustainable technologies, ecological farming, etc. These groups of people do not only help to get the important things done, but also provide an extra possibility for the community members to be involved in the common activities. In the Udgaarden and Staerhoj ecovillages most of the people belong to one or few committees. According to Lone (interview 09 May 17), whatever work members of their community are doing, they are doing it because they want to do it. Most of the families living in the Udgaarden community are there from the very first stage of this ecovillage design. As I have learnt during my short visit there, it was started with idealistic ideas and burning enthusiasm. Even though during the time the initial burst of enthusiasm for ecological farming passed, all the community members are doing their best in order to maintain their common vision (Anders, interview 09 May 17). All the tasks in the ecovillage are shared in a friendly way and nobody is forced to do anything if he/she does want to or does not have time to do. People are willing to participate in those activities because they feel responsibility to do something good for their community, their farm, their creation in general, but also because they enjoy what they do (Lone, interview 09 May 17). In Tinggaarden ecovillage, there is no farm to take care of and all the required maintenance work in the community is done by the workers that they hired. Social relationships among the families living there are closer to ones that can be found in the mainstream society than previously described communities. Dorte and Simon (interview 09 July 2) emphasized the importance of good atmosphere and harmonious relations with other community members.

Finally, common house is one of the essential places in every ecovillage. It is used for celebrations, meetings, extracurricular activities, but most importantly – human interaction on daily bases (Sonner, interview 09 July 02). In the Udgaarden, ecovillagers use the common house 5 days per week for the common dinner. It is their traditional custom that has existed in the community for almost 20 years. The main purpose of the common dinner is to provide inhabitants with the

environment for their informal communication, knowledge sharing and simple socialization. It is also highly influenced by the fact, that, different from Staerhoj and Tinggaarden ecovillages, in the Udgaarden community 80% of the food that is consumed by community members is grown in their own ecological farm (Anders, interview 09 May 17). Staerhoj community eats together once a week and (Dorte, interview 09 June 22) Tinggaarden community does it only once in two weeks (Sorren, interview 09 July 02). I believe that the more rarely ecovillagers meet in the common houses or take part in corporate activities the more distant relations they have and the harder it is for any type of learning to take place.

### **In comparison to the mainstream society**

During my literature review, I have found many articles projecting the traditional way of living negatively and giving utopian (from the first sight) arguments for the ecovillages. This stimulated my interest in these two opposing camps from the field – mainstream society and social groups living in the ecovillages. In few words, the main query is to identify and discuss the most important differences between these opponents. According to the data obtained through my research, the main aspects that encouraged my respondents to leave traditional society and move with their families to the ecovillages are (Anders, Lone, Kirsten, interviews 09 May 17-18): 1) new type ownership of the living place; 2) location (rural area); 3) collective way of living. These are just a few reasons why so many people move away from the cities to the communities in the countryside. Long-lived communards came up with much longer lists when we compared living in the traditional way and in the ecovillage. These are the aspects that they see missing in the mainstream society and believe that others could learn them from their ecovillages<sup>11</sup>:

- Communal daily activities (e.g., meeting daily, eating together);
- Good social environment (e.g., helping each other, sharing things and feelings);
- Having common economy;

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<sup>11</sup> These ideas were expressed by almost every respondent in one or another part of the interview

- Using sustainable technologies;
- Experimenting;
- Being a political consumer (i.e. thinking carefully about what products you buy, what food you eat, what materials you use);
- Others.

As most of the communards came from the mainstream society and still have working and studying positions there, ecovillages benefit and suffer from the new technological innovations, social structures and value systems in the mainstream society. Actually, sharing experience and learning from each other can be very productive between these two camps: technical skills and expertise on the one hand and ecovillagers' willingness to experiment on the other proved to give surprising results (Anders, interview 09 May 17).

Philosophy of ecovillages could be fully functioning in the mainstream society, but it is very important that politicians would contribute to promotion of this way of living (Dorte, interview 09 June 22). Mass media is already doing a great job in raising public awareness about ecological way of living; however, environmental legislation related to construction of new ecovillages would bring bigger changes in this field.

## 6 Conclusion

The main purpose of this research was to find out how ecovillages promote environmental sustainability as an example to the rest of the society. A qualitative approach was selected because it helps to get a better understanding of human behaviour and the reasons it is based on. The research itself is guided by relevant theory and Wenger's Community of Practice model (1991), which provided theoretical background for this work (Lamontagne, 2005). In this qualitative research, various aspects of the visited ecovillages were investigated and analysed from different perspectives while using Communities of Practice approach. First of all, it was used as a framework for the questions of the interviews. Later on, empirical data obtained during the interviews was organised according to the same model.

### 6.1 Findings

I have presented theoretical background of the ecovillages giving a short history of their international network and description of the main characteristics that intentional communities and sustainable society should have in order to answer the main research question. In the second part of this thesis there is an analysis of three Danish ecovillages that I have visited: Udgaarden, Staerhoj and Tinggaarden.

During the literature analysis, it turned out that various social groups, which could be considered as intentional communities or communities of practice, existed from the early days all over the globe, therefore, exact time and place of their origin cannot be found. Due to the great variety of ecovillages in size, core values, objectives and origins, there are many different good working definitions of 'ecovillage'. After literature review was done, I decided to use Christian's (2003) suggested definition further on in my research work: "*Communities building ecologically sustainable housing, grows much of its own organic food, [cherish their social environment],*

*recycles its waste products harmlessly, and, as much as possible, generate its own off-grid power”* (2003, p. xvi). When I was doing my research in the Danish ecovillages, I saw how important friendly environment and good relationships among the community members is. This influenced my decision to add the social part to the definition so that the chosen definition would accurately represent communities that I am analysing in this research. The modified definition contributes to the understanding of communities of purpose in our modern world and allows for further discussion of their global importance.

After definition for the ecovillage was designed, sustainability and sustainable society were discussed in order answer the first sub-question. According to the main principles for the sustainable living that were prepared by IUCN, UNEP and WWF in 1991, in order to be sustainable, social group has to: 1) respect and care for the community; 2) improve the quality of human life; 3) conserve the Earth’s vitality and diversity; 4) minimize the depletion of non-renewable resources; 5) keep within the Earth’s carrying capacity; 6) change personal attitudes and practices; 7) enable communities to care for their own environments; 8) provide a national framework for integrating development and conservation; 9) create a global alliance. UNEP Industry Environment (2003) suggested 5 steps strategy that could be taken to reduce environmental impact: reduce material wastage, increase usage of recycled waste, improve efficiency of the energy, make a wiser use of the water, and increase service life of the structures. I used these steps as a tool in my research, in order to evaluate if people in the selected communities are actually promoting sustainability. As a result, I found out that Udgaarden, Staerhoj and Tinggaarden are well informed about environmentally friendly technologies and various ways to achieve sustainability in their personal area and community as a whole. Two elements appeared to be of the greatest importance: social environment and technologies used. People living in these communities are constantly reducing their environmental impact while making use of environmentally friendly technologies and cherishing the social environment they live in. Separating the household waste,

making the best use of water and energy has already become a concept integrated into the communities' values and routines already. First of all, social relations and decision making, problem solving manner used in these communities are exceptional and worth consideration of people living outside these communities. This could change the unpleasant atmosphere in the neighbourhood, working area and other places into happy, friendly and hospitable environment. In today's individualistic, highly competitive and rapidly changing society, protective and welcoming place is desired by many people. On the other hand, special attention was drawn to the environmentally friendly technologies used in these communities as well. Most of the ecovillages are open for the visits and willing to share their knowledge and expertise with scholars, journalists, engineers, politics, and others.

In order to answer second and third sub-questions of this research work, interviews in the Udgaarden, Staerhoj and Tinggaarden ecovillages in Denmark were conducted and analysed. Primarily, various sustainable technologies and practices implemented in these communities were discussed in more detail. Most of the houses in the visited communities fulfil requirements of the passive houses. Due to the good isolation, energy saving windows and efficient heating system, amount of energy used there is considerably smaller than in an ordinary house. In addition to this, rainwater management system and solar panels used for the water heating contribute to the renewable energy promotion decreasing consumption of limited natural resources. Finally, in order to answer the last sub-question, short history of the roots and development of Global Ecovillage Network in Europe is presented. Taking Udgaarden, Staerhoj and Tinggaarden communities as study cases their background was presented in order to have a general picture of each ecovillage. After that, each ecovillage was analysed from different perspectives according to the Wenger's (1991) Communities of Practice approach in order to find out how knowledge sharing and learning related to sustainability take place in these communities. *Learning by belonging* emphasizes the importance of common agreements, personal responsibility and commitment to the welfare of the

community. In the visited communities everything is arranged so that people living there would feel welcomed in a safe, friendly and ecological environment. Common meetings are regularly, once every month in Udgaarden, few times a year in Staerhoj and only once a year in Tinggaarden, arranged in each community to discuss maintenance and further development of the ecovillages, letting everyone to contribute to the discussion. According to the respondents, during the very first years, there were more meetings and disagreements than now. In the course of time, they have learnt tolerance and understanding which helps to cope with the arising unpleasant situations. Very often, mutual support in these communities takes a lead to great initiatives and implementation of various project promoting sustainable ideas. *Learning by becoming* points out how members of the community identify themselves with the ecovillages they have designed. Every visited community was different and unique in its own way. Everyone living there shape and is constantly shaped by the community he/she lives in. Among the great benefits it provides, such as, flow of information, ideas and expertise, along comes the challenging part – reflecting on the personal life in the context of contemporary community, shared values and primary objectives (Lone, interview 09 May 19). *Learning by experience* shifts focus on the meaning that brings people together, keeps them interested and actively involved in the ecovillage. In Udgaarden it is closely related to organic farming and giving everyone an opportunity to be engaged in any activity that would help realize themselves, in Staerhoj – to live in a friendly environment and slowly heading to the idealistic sustainable society, in Tinggaarden - to have personal space, but live together with other people sharing the same core values. *Learning by doing* is one of the parts, where the most obvious knowledge sharing takes place in various forms. In the visited ecovillages it is of many forms, for example, the regular meetings, eating together in the common house, participating in common activities, being involved in one or another committee inside the ecovillage. Learning concerning sustainability in the Udgaarden, Staerhoj, or Tinggaarden takes place in formal and informal way every day. It may take many forms and might be done on purpose, for example, discussed during

the meetings or without even thinking about it, like living in the ecovillage or using environmentally friendly technologies in the house.

After all, the main research question still remains the principal focus of my research. In order to answer the question of how ecovillages promote environmental sustainability to its full extend, sub-questions were designed as a support. Answers obtained in this research gave a large-scale of factors that play an important role in the communities and contribute to the reduction of environmental impact. Looking at the results of the research I would like to conclude that mainstream society could learn a lot from the ecovillages and their high degree of expertise in the environmentally friendly living. If people from both social groups (ecovillages and traditional society) would hold a dialogue many small changes leading to great improvements in the social environment and efficient use of natural resources could be made.

## ***6.2 Limitations***

In order not to give a misleading idea about the results, I have to mention the problems that restrict this research work and its findings. First of all, analysis of the Danish ecovillages was mainly based on the face-to-face interviews conducted in the Udgaarden, Staerhoj and Tinggaarden ecovillage with the members of the communities therefore it is important to note that the picture of the communities might be described a bit more positively than the situation in the ecovillages actually is. Secondly, I have to consider the language and cultural differences that played an important role in this research work as English was not a mother tongue language for the respondents and me as well. Besides, most of the information related to the ecovillages in Denmark is written in Danish. This limited the scope and depth of my research. Finally, communities that I have visited were designed around twenty years ago. Even though, some improvements have been carried out since then, radical changes cannot be made. I am aware that new sustainable technologies regarding building and construction have been introduced lately however there are not that many of them that were put in practice yet.



### ***6.3 Further Research***

This study has shown that there are still many possible directions and areas for the future researches to be done in the field of ecovillages and ecohousing in particular. As it was found out, ecohouses are widely used in Denmark and other Scandinavian countries. Additional work is still necessary to find out the main reasons that influenced the trend of communal living and ecohousing in these countries.

Another interesting direction for future research is the role that ecovillages play in the national government. Taking ecovillages that are actively involved in the Global Ecovillage Network movement or Danish Ecovillage Network as study cases look at their initiatives and their involvement in the governmental decision making related to natural resources and sustainability.

All in all, this study suggests some basic foundations and directions to further research. Most importantly, we should keep on talking about ecological problems, ecovillages and various possible ways to spread the green ideas as it is one of the most pressing and relevant topics of today.

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## **Appendix A**

### **Questions used as a framework for the interviews**

#### **Community/ ecovillage**

1. How did it all start?
2. What are the restrictions to start an ecovillage?
3. Who and why decided to design a new ecovillage instead of joining already existing one?
4. In what ways this community is different from others?
5. What are the main ideas that your ecovillage is based on?
6. Do you have any unwritten rules in your community?
7. How expensive is it to be an ecovillager?
8. How is it organized?
9. How are decisions made?
10. What are the challenges that you have faced?
11. What are the benefits and downsides of living in the community?
12. What is the future vision of the community?

#### **Sustainability**

13. What is sustainability for you?
14. How sustainable lifestyle is achieved in your ecovillage?

#### **Technologies**

15. Do you have any ecohouses in your community?
16. Were you involved in constructing them?
17. What new technological innovations were implemented in your ecovillage? Is there anything you are planning to?
18. What are the benefits and costs of the technologies used?

19. How are the sustainable technologies or materials selected?
20. Can you see any difference between technologies used in your community and mainstream society?
21. Do you think ecovillages play a part in the technological innovations?

**Knowledge sharing**

22. How are people sharing their knowledge inside the community?
23. Is your community participating in conferences or workshops arranged by other ecovillages or Global Ecovillage Network?
24. What do you think mainstream society could learn from ecovillages?



## **Appendix B**

### **Udgaarden community**

*Interview with Anders conducted on May 17, 2009*

#### **How did it all start?**

- It started with some people who wanted to be together close to an ordinary farming. Not that they would be farmers, but they wanted to build a village or community close to a farm. And that's why it has started in 1991 I think and yeah.. or maybe they started up 1990. And we bought this area and built the houses in 1991-1992 and we found out different sorts of building materials that we wanted to use and to use rain water for example and such. That's the short version of how it started.
- The people that started they were inspired by other places and they had some meetings. We had not participated in that because we first came to this when it was started to be built/build or just before. So in the years of planning we didn't participate.
- We found this in the newspaper. They had an advertisement and we phoned and we went out to have a look at it and heard about the plans and said "go for it". We lived in Aarhus and we wanted to go to the countryside and then we found out that this would be a good solution for us and our children.

#### **What are the restrictions to start an ecovillage?**

- There are no special restrictions. Of course there are building restrictions how you have to build houses in a special way according to energy. To save energy in the houses, special sort of windows, isolating and such. But they are not special for ecovillages, that's for all houses.
- We have no special materials used for isolating and such. But the people that have tried to use other materials they have had to get them approved by the government to use them. There are very special regulations about how to build. Even if you finance it yourself, you cannot just build what you want. You have to use materials that are approved by government.

#### **If there was a material that you didn't want to use, did you consult with other communities about the alternative materials?**

- Yes, we did a little part of that, but in 1992 it was in its beginning... we didn't think about it that much. We have done it when we made the barn. We had a big fire in 1997 and then we used other materials for isolating. And they were approved. And they went through all this approval machine. You can't use materials that are easy to make fire and such. It has to be good material.

#### **Who and why decided to design a new ecovillage instead of joining already existing one?**

- We were not a community before we lived here. It was a small group of people living together in a small community and then they were gathering with other people who were interested in the same thing i.e. go to this country side. Our little family... we joined this to be a part of a new community. We could move into an already existing one, Hjortshoej for example, if we wanted but this was it. We liked this and we liked the place, it was very close to Aarhus and such. So we didn't have any discussions as

a group to join another. 25 people cannot join another so we just formed a group because all of us wanted to live like this. So we did that. Maybe some could want to join another group if they were of a special religion or something. This one was not a movement. Basically, living organically and sustainably.

**In what ways this community is different from others?**

- It's special because we have our farming. I don't know, maybe one or two in Denmark that has this form sort of houses and a common house and has got 16 hectares of land and has sheep and hens and cows and farming. That's special.

**If people are working outside the community, how do they find time to take care of the animals?**

- They do it when they are not at work. There are two women taking care of the cows. One is medical researcher doctor and she is working in Ikast, about 80 km from here and another is bio *analyser* and she is working in the region here too. She is working very early in the morning or late afternoon. And that's her hobby actually. We are not producing milk. We don't have to produce milk and get the milk every morning or every evening. It's only cows for meat. That's much easier.
- Some others have a basic about religion or about music or about special cultural events or something like that. We don't have anything of that. There are very different people living here. This is just ordinary people have their ordinary life with work and they are living here sharing the same vision about ecological food and such.

**What are the main ideas that your ecovillage is based on?**

- Mainly, it's growing your own vegetables and producing our own meat. Taking care of our waste in a good way, trying to recycle what can be recycled.
- It is not a written or a spoken common idea, but I think that when you live here you are very interested in giving all people the opportunity of doing what they want in this community if it's possible.

**Do you have any unwritten rules in your community?**

- We have, like in every other society, a lot of unspoken rules or unwritten rules.
- Written rules: Who is doing the cooking and doing the dishes and such. We have a very organized way of doing it. We are divided into 4 groups and every group has a week, from Monday to Friday. And that group is 6 persons and every person is cooking twice and doing dishes twice. And that's all. Everybody knows in what group they are participating. It has been organized this way since 1992 and it's every day since then. Mostly it's a very good food.
- Washing system. We have washing machines in the common house. You come up with your dirty clothes and there are three washing machines. One of them is finished but it's full of clothes from another one. You just take it out, put it in the bag, place there, and put your own in. Or if you are finished and there is one in the row, you take your own out and put the next one's in. So it's circulating. And you don't jump. Don't go in front. That would be a rule.
- It's organized who is taking care of what (talking about the animals). There are about 50 different things that you can be in charge of. Because if nobody is in charge it wouldn't be done maybe. It works very well I think. I'm one of the people that is making the structure and organizing it. And every year revising it. Or if I don't want to take care of something anymore I try to find out other people. You don't have to do anything. It's free and you choose and you do. What you are making in the common

here, you are making it because you want to do it. You don't have special duties that you have to take part. Only the food making. All communities have rules, written and unwritten.

### **Was there any situation when someone was just very lazy or just didn't feel like doing anything?**

- Yes, of course. People always have their reasons for not doing anything. Well... you don't live here if you don't want to participate. It's not easy to live here if not participating in anything. But that could be personal problems, divorces, small children or a lot of work. If you just got leader of something and you don't have any energy, you've got illness, serious illness or something like that then you don't do that much. And some people out here are making a lot and some are making very little but always you do it because you want to do it. It is not taking up on a meeting "You are not doing anything". Only if it was something you have promised to do. That's a problem, of course. If you promised to take care of the sheep and you are not doing it.

### **How does it work if someone decides to leave the community?**

- In Denmark we have a special way of owning. We didn't buy this house and we are not just renting it. It is in between. We buy the right to live here and we still rent it. It's a Danish way called *Endil*. I don't know if it can be found anywhere else. So we just sell it for people from outside. And there's no committee that would decide who is going to live here. I can sell to who I want. That's my problem because I have 3000DKK in this house. So I have to sell it. And we have a list of people that wants to live here. And they are spoken to first, of course. But if none of them wants to buy, I just put an advertisement in the newspaper. But the other people here are not allowed to judge who is going to live here. I just have to follow the waiting list. We have only very few examples of people moving out here not really wanting to live here because if you move up here it's because you like to live this way. Now we are 24 grown-ups and the 16 of us, nearly 2/3 are the same as in 1992.

### **How expensive is it to be an ecovillager?**

- It is not more expensive I think than in another community. Of course common eating Monday to Friday, washing machines, heating system makes it cheaper. We pay around 7500DKK (around 1000€/month) for the living in this house for a family. And that includes heating and water and insurance and saving money for rebuilding and internet. And then we pay around 600DKK (90€ approximately) for eating Monday to Friday in a month. And I think we could make it cheaper at home. But it is ecological food and you don't have to make food that much. We have rules for what we eat: one day with meat, one day with fish, one day vegetarian, and one day you can choose but that's often meat.

### **How is it organized?**

- We have a board of few people that are chosen to take care of all the administration or contact with the authorities and such and taking care of the development. But they don't have any special decision rights. And we don't have a chairman. We have meetings every last Sunday of the month. Sunday evening from 7:30p.m to 9:30p.m. And there we take our decisions. And then we have for end changing the main rules that this is founded... How to vote and such things we can change once in a year and the budget of course. It is all of us that are making the decisions. There is no board or a chairman that are making decisions, there is no a person that is going out from here and saying "I am representing..." That's not the way. It is very flat in structure.

### **Do you have some kind of a written document with main rules and ideas..?**

- No, not rules or ideas but the foundation about how it is financed and how we make decisions and if we want to sell how much money we can take. If I find the right buyer with this view can I then say "O, I want 100000€ for this". There are limits for such thing and they are written down, of course. But these are regulations that are partly governmental. They are not our private that we sat and found out. But the rules for how we cook and who is in charge of one thing or another we discuss that when we have our meetings.

### **What questions are discussed during the meetings?**

- News from groups, for example, the news from the committee, or board, and then what's up concerning the agriculture, the maintenance or the heating system. Does anyone have something to say about that? There are different groups. I could, for example, say... next month we do have to paint these places and I make a scheme of where to paint and we know who is going to do it. Such organizing stuff we would discuss. And we have had discussions about how much organic food we want to buy? Organic or ecological herbs are very expensive to buy, so do we want to spend our money on that or is it only milk and meat and flour and such. We make rules for that of course.
- I have this opinion, I'm against, but how important is it to me? That's another thing. If it is very important for that person to make this project and I am against it but it's not that important to me, I will let him do it because... don't stand in the way. I think we are quite good at it. To make decisions that everybody can benefit from. That's important.

### **Do you think that with time it's getting easier to solve that kind of problems?**

- Yes, we are good at it. We have long experience in doing it. And you know, I have to talk to this person that I disagree with. Next day I have to peel carrots or do the dishes with him so we have to not be friends but be ok with each other. We are kind to each other, we are not making conflicts. It would destroy the place if we make too many conflicts. So we try to find out a good way to solve the problems. If I want to start some sort of a beauty shop or I want to repair cars or something like that, if I'm not hurting anyone *while* doing it, I can do it.

### **What are the challenges that you have faced?**

- We have faced challenges in a way that we started out very ambitious in how much we wanted to grow of vegetables for example. I think the first few years we made 6tones of carrots and we are getting older, many of us are around 50 years now and maybe we have other priorities and we are not that young anymore and we don't want to use that much energy. So we are cutting down of how much vegetable or how many cows we have. We might be using more craft from outside to make repairs. We could make a lot of repairs here, there are many skilled persons here, but if you are an electrician and doing that for the work all day, you don't want to do that when you get back home. So we pay an electrician to come and do our things here. But that is not a challenge... we just adjusted to the reality.
- The challenge is to accept that we are in another place than we were. We are not that ambitious that we were. In 1992 we didn't have any summer cottages, nor did golfing or anything like that. We were here, on the free time we were working. And that is not that way anymore. We are more private now, but it's ok. That's a change.

- The challenge is maybe for other people who hasn't got it or doesn't want it to accept that some of them are more private, that we are moving in another direction than we were. We don't have any, or didn't have any large challenges in relation to government or something like that.

### **What are the benefits and downsides of living in the community?**

- Benefits: It's much easier and very often we have a lot of fun. It's nice just to go up there and have something to eat and then somebody to talk to. It's cheaper, easier and one of the main things is that it's very good for the children. There's always someone to take care and to look after the children. It's a very safe place for children to grow up. There are always other children to play with. They are not staying here. They go to kindergarten; they go to school in the city. There's a school bus for the kids.
- Downsides: Could be the privacy. The lack of privacy. The lack of just doing something without others acceptance because it can take some time. If I want to build a room over here, that would take a very long time and that would be my own I could just ask my authorities "Can I build this and this" and then I'll get an answer. So in that way... it is a very slow system.

### **What is sustainability for you?**

- The sustainability is about taking care, not leaving more garbage than you produce... You have to leave the earth for the children better than you got it.
- I think that sustainability is about taking care of each other. That's not normally what you think about sustainability but the way that people are taking care of each other and are producing good groups, that's very important to me, I think. And we are practicing that a lot.
- And more down to earth, we use rainwater and that is sustainability here too. We are using it for the toilets and for washing our clothes.

### **How does that system work?**

- It's just a system of itself. From the roof there are pipes down to a big tank with the 60m<sup>3</sup> of rain water and there is a pump and then there is another system of the pipes going from that pump to our toilets and to our washing machines. When we are running out of rainwater, then we just shift the system to the ordinary water. So there are two separate systems: from the tap there is ordinary water and special taps for watering the garden outside and for the toilets and for the washing machines there's another system. It's a very simple system but I think it is not wide spread.

### **How sustainable lifestyle is achieved in your ecovillage?**

- Sustainability is very good isolation of the houses. And we have that, but that's normal in Denmark. We have very strict rules about how new buildings have to be isolated.
- We have low energy windows letting the sun come in and heat up but not letting the warmth going out. So it's keeping the warmth. It can be so hot in there sometimes. But the new modern windows are low energy too.
- And we have this floor heating system. It is low energy so the loss of energy *per central* is lower as well. The water is only 30° and in the heater it would be maybe 50° or 60°. And we made that system from the very beginning.
- And then we have solar panels for heating the water. Mainly in summer time, but actually it works all the year round as a supply. And in summer time if there's not enough sun or we use a lot of hot water, it will be supplied by the electricity but only in winter time when our heating system is on because we

close the heating system in summer time. So we have very low cost in hot water in that way. But that is very wide spread in Denmark. That is not special. And in 1992 it was not special either.

**Do you have any ecohouses in your community?**

- The hot water and the rain water and our low energy heating and good isolation. And in our barn we do have another form of isolating material. We used paper up there for the isolation. And it's a wooden house which is not sustainable...

**What new technological innovations were implemented in your ecovillage? Is there anything you are planning to?**

- We had some serious problems with our heating system with the water. Solar panels broke down and we decided that when our heating system will be finished, maybe in 10 years when it is not working anymore, we would like to use the soil energy. You can put one km of pipes in the ground and then you can take out energy from the soil and that's very cheap energy. And we put up some heating system for the solar panels that can use that energy later if we want to choose that. It is very wide spread in Sweden, for example. There are two people taking care of the heater using a lot of energy up there, actually. And maybe they will not want to do that anymore. If we would have some company to do the maintenance of that heater it would be very expensive to have it. So we have to make some future safe solutions. And that is what I'm part of planning. So when we are 65 we don't have to use that much energy in staying here and living here.

**What are the benefits and costs of the technologies used?**

- Benefits: Of course, that it's very cheap. The heating system is cheap, using the sun to heat the water makes it extremely cheap and isolation of course...
- Costs: You have to have some people that can find out how to use it. There's a lot of technology involved and you have to take care of it. If somebody says that I will take care of this, and we had some experience about that, and they don't, it can be very expensive. If the heating system is not working and we are using the electricity for heating up our water instead of our heater up there it's very expensive. If it is not adjusted to be very precise and good, it can be very expensive. It is not necessarily a cost of using it but it has to be taken care of. It's a challenge more. You have to have some people to take care of it or it will be very expensive in the end.

**How are the sustainable technologies or materials selected?**

- They were selected in 1992 what was found at that time to be good solutions. We could have sun cells for making electricity out of the sun but this is just a very expensive technology. We have cost/benefit analysis of what is suitable for us. We have talked about this making electricity out of the sun but it is still a very expensive technology so we don't have that. I think that when it is achievable economically we will it. We would like to have it. We are not making sustainability using a lot of money to do it. Some other people would maybe say that it is more important to me to make sustainability and I would pay extra for it but we don't do that.

### **Can you see any difference between technologies used in your community and mainstream society?**

- I think that a lot of these alternative ways of heating that are coming up now are becoming more and more widespread in single houses because energy is becoming so expensive. The thing about using the rain water... That is not wide spread and I wonder why because water cost about 40-45DKK per 1m<sup>3</sup> and you could save a lot of money if you have a big roof. Of course we have so many roofs here; we have the barn too, so we have about 2000m<sup>2</sup> of roof. So we make a lot of water for each mm raining. But still it could be a good solution for many people. I think for many people having a farm or in the cities for all those roofs it would be a good idea. But I don't think that it's wide spread. It's a good idea if you build new houses. It's expensive if you have to implement it in old houses because you have to dig up everywhere and make new pipes and such.

### **Do you think ecovillages play a part in the technological innovations?**

- We can show the way and people can see of course that there's a good economy in it. We have this newsletter for people living like this, when you partly own it. And we had an article in that. Danish newspaper comes once in a month with a journalist coming here and asking how we are living here, what do we have for the heating system and such. And in that way it can be spread to other people what and how they can use it. But we are not making any reports to other people that they could use. We are not writing or telling about that much. We just use it. I think maybe many people would think it's a bit strange to wash your clothes in rain water. But it's not a problem. We have a filter so it's clean as everything else. Because they haven't tried it they wouldn't put it in their own house because it sounds too strange. The other systems that we have are wide spread in Denmark.

### **How are people sharing their knowledge inside the community?**

- We are not sharing knowledge for example with Hjortshoej. We are not talking to people from Hjortshoej as a society or as a community. Some of us know people living in Hjortshoej, one of the people that I work with lives in Hjortshoej. And when they started they were out here getting inspired but we don't have any formal meetings or sharing newsletters or something like that.

### **What do you think mainstream society could learn from ecovillages?**

- Rainwater management, if we are talking about the sustainability.

### **What do you see missing in the mainstream society?**

- One of the really good things about living here is that if you are arguing with someone or you are not very good friends or something like that you have to find your way of being good friends because you have to work together with the people and that's special I think. In many communities like this, built with 20-25 entities and the common house, the common house for many of them is used only for parties or for celebrations and not for the daily life. Because people tend to go to their private place and not sharing every day. There are a lot of places like that and I think one of the reasons why we still have our daily meal up there is because we have all the other things in common that we are taking care of in the community. I think the farm and the maintenance and those things... it's very important that people work together, have something to do together in the way finding terms, finding ways to be good to each other.

- People can feel very lonely here because if you are single and when you go home to your place you are alone. In the common room you are also not guaranteed that you won't be lonely. In that way we are not socially taking care of. Some of us know some of the others very close and are taking care of each other in that way because we have private relations around but not as a community. You can feel lonely if you just go back to your house and stay there. Of course there will be some people coming and talking to you and asking why you are not coming up to the common house but there's no guarantee for social living. One thing is that you have to go out from your apartment to participate. If you stay there, you can be lonely but if you go out of course you can have some small talking and maybe seeking some friends or some company but you have to be active yourself.
- Its people living as a family or single choosing to live like this and choosing to participate in the level that they want to participate. Some are very private that we don't talk that much with and some are very social that are always out there. You can participate on very different levels if you want to.

*Interview with Lone conducted on May 17, 2009*

**Why did you join this ecovillage instead of another already existing one?**

- We invented this place with my former husband and another woman who is living here and some others. Originally we were a group of people, who were living in a community, but we were living very close together in just one house and had one kitchen and each one had a bedroom. And I lived there with my husband and my children when they were quite small. And others were living there with their partners and families.
- We liked to live together but we had this idea about having more land and having animals and producing vegetable. So we started a very long process. We started talking to other people and friends "would you like to be in a project like this?" And we made a paper full of wishes - "We want to do this and this". And we gave it to a lot of people and we arranged some meetings and gradually we formed a group that was called the preparation group for ecovillage. That went on for quite some years before we actually started it. And the group was very big and some came in and some left it. It took us a long time to find a place to start this up because we wanted to have a farm with animals and land. Actually we were looking for a place to build houses and then we wanted to buy a farm nearby. But then we found out that we have to reverse the project – to find a farm first and see if it was possible to build houses nearby. Because we wanted to buy houses for 15 families, it was not possible just to make it anywhere, just near a lake or at the coast because you cannot make a new village in the middle of the country side. There are plans, legislations and laws where can you build and where can't build a village.
- We found this farm and bought it and had it for 2 years before we were allowed to *build* the houses. And all these years we made plans how we want to live, what do we want to do. We wanted to grow our own vegetables, we wanted to keep the animals and farm, and we wanted to organize these things like this and this. I chose to stay here, or chose not to leave because this is still a place that I have been creating and I like it very much. It took 5 or 6 years since the idea till actually start building it and now 17 years living there. It is a very long process. It's a big part of my life that I've spent on this.

**How is it different from other communities?**

- From just a normal cooperative (there are a lot of them in Denmark) we are different because we have the farm and we produce our own food. There are other places that they do the same thing and then we would probably be different from them in the way that we are organized. Some of them own their



houses and some of them would be cooperatives and some of them maybe have some kind of ideological background that you have to be this and this. Here we like sustainable energy and we like the idea of ecological products.

### **What are the main ideas that your ecovillage is based on?**

- If in few words, I would say ecology and sustainable energy and also a wish to work together or to produce things or to be part of a community that is making things together. If you don't want to work with other people it's difficult to stay here because we do things together. Not all the time and not every day, of course, but we love each other.

### **Are there any unwritten rules?**

- I don't think we have any written rules in that way. About the way we organize who owns what. We want to own the farm. All of us, but it is very difficult in Denmark to own a farm for more than one family or one person. So we made some kind of a company where we own parts of it and we put in some money in this company.
- But there is one rule – you have to take part in that. We have to own a part of the farm to stay here. But you don't have to be a member of a certain party or something. It's done because we think it's the right way. You won't live here for many years if you don't agree with these things because that's what keeps us together. Of course, some people have crises in their lives and they don't participate in very many things but all of us have to participate in cooking or cleaning the common house. There are only two persons who don't have to. It's the two women that are looking after the animals because during the winter every morning and every evening they have to take care of the cows and it's a big job. There are our expectations for the people who are moving in that they will participate. Maybe it's a bit stupid but I think it's also very nice because in that way you make people think about "do I really want to participate in all this work?" Of course, anyone for a period can say "I'm very busy now", "I have to make this and this" or "something happened in my life", "I need to rest so I can't do this and this" and everyone says "ok". But you always have to be responsible for yourself and obligated to tell others about your choices. If I stop doing things for a reason I have to announce it, because I just can't leave it there and not make it happen or if I do, people will come and ask me "hey, why don't you look after the hens?" Or "they look very sick, why don't you feed them?" That would be a catastrophe.
- If it is a necessary thing to be done, it is a thing to be done. When you stop doing it, someone else has to take it over. Or we need a discussion "do we still need to do this?" And it's always a very nice way of organizing things. For example, should we build a new room for the vegetables? If nobody wants to do it, we don't have any room for the vegetables. That's the end of that story. Sometimes things have to rest for some years because... "ok... there's no room for extra jobs or extra work" but very often someone says "No... Common we have to do this. Who wants to help me?" And if only one says "I would like to do it" very often there's another one who says "Ok, I will do it". We discuss these things in our meetings every month. Sometimes you can think Wow... They are always *picking* on me, why don't you do this, do you want to, or we need to do this and who wants to do... but nobody wants to... But after a while we sort of manage to make things happen. And I think as a human being it's a very nice thing that you have to take responsibility.
- For me it always ends off with reflections on my own life. What am I using? What am I doing with my time and my life? Am I spending it on coming home from my work and reading books and visiting friends and drinking beer or am I spending it producing vegetables or do I use it for helping a neighbour who needs a hand. I like this way of living. You have to think a little bit carefully about what

you can do to make it a better way of living and a better world to live in. It's a big thought and a big idea, but honestly... if I can produce nice vegetables by helping some of my neighbours I would like to do that. And if we could make for instance a new stable...

### **Do you think that your kids will want to live here?**

- I don't know. When they were children they never questioned. They just loved it and their friends loved to come because there were animals and always a lot of children to play with. There were many possibilities you couldn't have in a normal house.
- There are many of us who started the place, who moved in from the very beginning. They had small children when we started up and my children were one of the youngest. Some of the children have left years ago and my children are leaving now. We had a discussion not so long time ago... where are we going with this? Is it a place for old people like retiring home or do we want to build new houses to get new families? And some said „Yes, let's do that“ and another half said „No, we did that once now please we just want to stay“. Every once in a while we come back to these discussions. And I really like these discussions because it puts my own life in perspective. How do I want to live? Do I want to live comfortable now? I'm in the beginning of my 50s, my children are leaving my home, I can now live the rest of my life just looking after myself and maybe if I have some grandchildren. Or do I want to live in a place like this... Sometimes sit and eat my dinner with a lot of children screaming and shouting. And I always end up “yes, I want to do that, I want to live in this variety of ages and people” but to have it you have to do something because in 10 years some of us stop working and then half of us will be sitting here. And this is also a part of life. But we can't keep up the farm at the same level if there are just old people. And we also discussed this. In the beginning when we lived here we made so many vegetables and we had more animals and we were building and wow... we were working all the time. We were so busy and we loved it and it was nice and funny. Now we have fewer cows, there is a different set of rules, we don't have room for so many cows as we used to have and we make fewer vegetables and we made a vegetable garden closer to the house. But it's ok, it's just a cycle of life.
- There are no written rules here but we just sort of do things because we think 'Ok... it has to be done, we have to help him'. If we don't have time, we just don't help him. That's ok. And I don't have very much time right now but I'll help another day and I will help at the next party... It's the way we do things. No written rules but some kind of obligation. I think you can call it an obligation but it's not the right word because we don't do things that we don't want to do.

### **How expensive is it to be an ecovillager?**

- I don't think it's expensive. I think it's cheap because we do things together and we own things together. I can make projects and if I can't afford it on my own I can ask who wants to help me. For example, I share the car with Kirsten. I could do that all over the world with my neighbour or my family, or whatever but it's one of the things. It's nice and comfortable and we don't need a car all the time, we can drive together sometimes, we can share it. The food expenses are cheap because we cook together. It's not always very cheap to buy ecological products but when we make it together and eat together over there – it's very cheap. We buy stuff together in big amounts and have some kind of reduction in the price because we buy so many things. Tools for repairing, saw, hammers and all other kinds of tools for building and fixing cars. We buy in common and that makes our lives much cheaper.

### **What are the challenges that you have faced?**

- The challenge is that I have to think about my life all the time: why am I living here? What am I doing with my life here if this is not what I want to do? Why I work in the vegetable garden for two hours every day in the summer if I don't like it? Why am I attending these meetings and talking about *pro ecological* buildings if it is not what I really want. If I just lived on my own in a house I would have not these knockings on the door 'Hello, what do you think about this? Should we go this way or this way?' I would have to decide things myself all the time or with my family or whatever. But now I do it with 25 other people and there are more discussions and reflections and that's a challenge for me.
- And it's a challenge to have a balance in my life where I am taking care of my family. Also, for example, I always shared things with people. I shared my economy in the first community I lived; I shared my rooms, my things, everything. And now I'm in a position where I have my daughter still living with me and now for the first time in my life I have to take care of myself. And now I just want to stay in these rooms for a while enjoying it. I have a lot of rooms and space. I still want to live in a community and do things with people but also I need to have a little space around myself.
- To find the right balance to participate and to make my own projects. I can feel that when the balance is not right I'm not happy and then I don't do things on my own. For example, I used to paint and do a lot of sports. If I don't do these things because I'm doing too much for the community. Which is also nice sometimes but for me it's important that I would also have my own life outside the ecovillage. If I would only live out here and I don't also participate in the world outside this place, I won't bring anything back. Everything in the end will be very small and little and I don't like the idea of that.

### **What are the downsides of living in the community?**

- It's all the arguments about the things, the length of the projects sometimes. If you have an idea we just have to have two meetings before we can decide. One meeting where you suggest it and then for a month people can think about it and talk about it and then we can decide if everyone agrees that we are ready to decide and bla bla. Sometimes things take a lot of time. And you can't just colour your house purple if that's what you want. The houses have been looking like this all the time in this blue colour, maybe someone suggested to paint it yellow or red and we would have a discussion about it. Discussions are made at the meetings and not during the dinner. Maybe informally they will discuss or the small things – yes, of course. If something has to be heard you write it in the book. But discussions and decisions regarding the community or anyone else except you are always made in the meetings. Sometimes it is a too long process and community gets too much. That's the downside of it I think. And it can be very depressing sometimes.

### **What is the future vision of the community?**

- We had two meetings this winter that took whole Sunday afternoons instead of just Sunday evenings to have time to discuss where we want to go. And last year we took a weekend away from here with no children just the grownups and babies to discuss what do we want to do with this place; what visions do we have, what ideas, what are our plans, what do we think about this place and a lot of ideas came up. Then it was like „oh, Ok. Now we made this, when do we start? Not today, not tomorrow. So during those two Sunday afternoons we discussed about what have happened. And some said “we have to do something. We ended up being old and not being able to work. In few years if we didn't have any more young families with children to move in...” Or do we want to live here only old people or also young people and for instance who wants to live in the big flats and who wants to

live in the small flats. Do we want to keep the farming part of our projects; do we want to keep the animals that need a lot of care? Could we repair our houses in a way that they would get more ecological and stuff like that?

- There were many visions during those weekends, people wanted to do funny projects but none of them has developed yet. Maybe they will. One of the ideas discussed was if we should buy/build 5 new houses on the field nearby and let young people move in there or some of the old ones could move over there and some new ones could live here. We have to expand to be able to maintain the main idea namely work together and have vegetables and have farming. I think it's on its way.
- I like the idea of the meetings. Sometimes when you have to attend them you think that oh... it's for the whole weekend and you don't feel like going, but every time I left a meeting I felt enriched, or like someone gave something to me because I've been sharing and taking part in and listened to people explaining their dreams. Sometimes people might be angry saying that it's too much and you never or we never or I don't like. And you're like Oh... I've never thought about it but common maybe we can find a solution. I think sometimes that we keep ourselves young or we are making sure that we don't just sit in our houses drinking red wine and nice dinners and travel to the south in the winter. We keep ourselves on the track always on the progress. It's always up and down up and down.
- The healthy thing would be "Ok... I have to suggest something", but sometimes people just get so fed up with this place or this way of living and don't want to do anything anymore. However, the nice thing about this place is that sometimes people say "Hey, what's happening in your life now? You haven't been here for a while." "Oh.. I'm so fed up with this place" "Well... alright, do you want to move or what's happening here?" People have left this place because suddenly they couldn't live here anymore and that's ok, it's a process. And if it's too much for you, you have to leave or otherwise you will just keep spreading bad energy. And every time I leave my house or open my door I get something back and it's nice.

#### **What is sustainability for you?**

- I cannot say that for me sustainability is living the way I'm living because I could do much more. Sustainability is to use the energy sources in the best way. I mean, to think in details about your life. Sometimes for you it's the best thing to take the car because you will save some time and that time you can invest in the vegetables at home and work in the fields or planting plants. But if I take my bike it takes me an hour to get back home and then I'm tired and I'm fed up. I haven't used any petrol but I don't have the time and the energy to work in the field and produce vegetables.
- For me sustainability is not only an attitude but it's an attitude and the choice you have. To be careful about the resources that we have in life and to use them in the wise way.

#### **What do you think is still missing in your life that you could say that you live sustainably?**

- One day I would like to live in a house that is producing its own energy. I just read an article in a magazine about it and I think that it would be fantastic. And I think we could do a lot of things here with our buildings and the way we heat our buildings and with the water that we use. When we built the houses they were quite modern at that time. And also this is what we were able to do at that time with the amount of money we had. We could do more with the solar energy and wind energy and we could develop it if we would want it. Keep discussing how we could save more electricity and keep discussing about what is right and what is wrong. There are a lot of details in my little life how I could save more energy, water and stuff like that, but it is not always the right thing to do because if I'm getting less happy by doing things just because I want to save energy there wouldn't be the right

balance. For me sustainability is also a question of the right balance. To live a rich life but also in a nice way. So that I would not feel guilty when I take the car every day to job for three weeks if I'm very busy. When I get home I'm happy because I don't use a lot of time for transportation and I have more time for doing things that are more important.

#### **How sustainable lifestyle is achieved in your ecovillage?**

- It's hard to say because I think we could do much more than we do. For the washing machines and the toilets we are using rainwater, which is not good for drinking. I like it but we are depended on the amount of rain. And we have solar energy. We produce our own food. We separate our garbage into different categories. We are exchanging clothes and other things in the community. We are sharing many things/tools instead of each of us buying the same things. We just buy one and share it. In my apartment here, I have very low electricity bill because I have the lights, the computer and a fridge. I don't have a washing machine or a freezer. I just have a box in the freezer in the common room. When we moved in here, the electricity company actually came out, visited us here and said no way you don't use any electricity in here.
- For some time we discussed that we could have some windmills but this area is not perfect for the windmills. Or we could buy shares in windmills somewhere and they would produce our energy for this place. You can buy shares through your electricity company, or you can buy your electricity in a company that is producing wind energy. It is not very difficult and we can do it if we want to.

#### **Can you see any difference between technologies used in your community and mainstream society?**

- Oh yes I can. All these things that we've just discussed. You can have them in any kind of a family house, you can have solar panels on the roof or the system to collect the rain water and use it. But no one really does it. I think that it's quite simple and for sure technology now is much better than when we installed this system but it's very strange that people don't do that anymore. Maybe even if it's not a high technology it would still be an investment for a family. I think that solar energy is still in progress here and that people can save money is a very good initiator for these processes.

#### **How are people sharing their knowledge inside the community?**

- With other communities we don't do very many things together these years but in the beginning when we lived here we took part in the ecovillages community, an organization in Denmark. And there was another kind of a network where people meet once a year or twice a year to discuss their ideas and to make projects together. We took part in this in the beginning but I think the ones that were mostly taking part in it have left and no one else wanted to take part in it, but there is a magazine that we are still having. It is 3 or 4 times a year with the latest news from the communities in the network.
- Recently there have been nice programs on the Danish television about the ecovillages, especially one place not so far from Aarhus up north where they made a big village with people really trying to do things as radical as possible to use any kind of sustainable energy, they made houses out of all kinds of funny materials, experimenting a lot and it's very nice place. And on Danish television you follow the development of this village, follow these people that are building their own houses, using strange kind of technologies for building while using as little water as possible and I think it has been very useful that it was on television on the prime time. Of course some of those people living there have long beards and different clothes and others might say that they look like hippies but still they can see that things are working and they can live there in that village. They can live not for free of course but they

don't have to work as much as other people because they live very cheaply and it's working. It's a trend in these years.

- There's a lot of talk about sustainable energy in Denmark. And to do things the right way and it's been for the last many years. I don't think we do much in Denmark, I think we could do much more, but maybe we do much more than they do in other places. Maybe it's because some parts of Europe are still in the progress of at least being able to establish some kind of democratic way of living and Denmark has different kind of political conditions. There were piece and development and things like that in this country so we, compared to many the other countries, are quite rich. Maybe in poor countries there is more sustainable energy but that's because of the poverty, because they don't have money for other things than using sun or the wind.

*Interview with Kirsten conducted on May 18, 2009*

**What are the main ideas that your ecovillage is based on?**

- I think the main idea is ecological farming and some kind of sustainability. In the beginning there was an idea that we should grow meat and vegetables for ourselves but very soon it became very clear that nobody wants to grow potatoes for the whole year because it's a lot of work and it's much cheaper to buy organically grown potatoes by some of the neighbours that grow them industrially. So nowadays we produce more vegetables that are very nice to have fresh or which are very expensive to buy in organic quality.
- We wanted a good place to live, have this community to eat together 5 days a week and we have many common activities like taking care of the animals and other kind of jobs related to this place.
- Also it's not a religious place that you would have to have those ideas to stay here and live in that way because everyone knows that will change with time when you will have kids, or when kids will grow up and leave and you also have other influences. For example for the food that we eat together in the common house we have a kind of rule that we should try to make the food organic. And that was a very big issue 15-20 years ago. In my opinion it's not that revolutionary anymore. Our vegetables and our meat are primarily organically grown but if you want organically grown vanilla for your dessert it will be very expensive. So sometimes we say that it's good enough to have the traditional one. In the summer time and autumn most of the vegetables are our own and at this time of the year (middle May) the old vegetables are used and new are not ready yet therefore now we buy most of the vegetables but we buy them in organic quality. The meat is primarily our one and we have fish once a week but we do not buy organically grown because it's difficult. Sometimes we buy chicken but they are also not organically grown. Well sometimes they are, but most of the time it's very expensive. So we don't eat much chicken here, we eat a lot of beef. Many people tell us that you can taste that we have a very good meat here, because it's grown slowly. Our cows are slotted when they are 1.5 years old and the meat that you can find in a shop is around 8 months. We sell some of the meet as well. We are used to a very good meat. Around 20-25% of the food that we eat, we buy. We had pigs before but there came very difficult rules to have organic pigs therefore we buy organic pork from someone who has a lot of organic pigs. From the vegetables around 60-70% is our own.

### **Do you have any unwritten rules in your community?**

- Yeah, we have so many unwritten rules. That's an interesting thing about living here. For example, there are not many changes in the population and most of the people are staying here for many years. But when new people come here, they are very surprised that we do things that way and they want to do it in another way and we are getting very surprised 'Oh... you can do it that way, that's interesting'. And that means we have many unwritten rules. For example with the garden... you can go few steps further to your neighbours garden and that's ok, but people who have gardens on the other side of the house, they cannot go to sit in my garden before they ask me. Also another unwritten rule is that when you cut your grass you cut also what is near yours. And if a neighbour cut my grass for 3 months maybe it's my turn to cut their grass. But also maybe they cut my grass and I do some other things for them. That's something we don't always talk about but just do. We have that feeling what's fair.
- For example, we have our washing machines in the common house and if 3 machines are still washing and there is a kind of a queue and you can put a little sign on your laundry 'I'm in a queue, please put my laundry into the machine when it's free'. Also I don't look at my neighbour's laundry and I just put it in. If I see that they use a whole machine and wash only one pair of trousers maybe I will put a note "Ghm... that is not that sustainable". And there's a rule not to mix your laundry with the neighbour's because then we cannot find out what belongs to whom.
- It's difficult to see all the unwritten rules because we do not think about them. We have a very special line between what is private and what is common. Another thing is that we can walk into each other's houses. But I know that for some people it's very important that I knock on the door and I wait and if they don't say 'Come in' I don't get in.
- When we have meetings once a month where we decide upon different issues, the rule number one is don't talk too much, or don't make problems from something that is not a big problem because there are so many different opinions on all kind of issues so just do something about it if it's very important to you or else let the people do it who are interested in doing the specific thing.
- Most of the people here have ideas in some field. For some people it's very important how our common house looks like and for some people our economic system is very important, some others are very interested in how we should grow our vegetables. That you have to take as a positive thing because I'm happy that I don't have to worry about the common house and they are happy that I'm taking care of the vegetables. You get more from it.

### **What is the good side of living in the community?**

- I often say that there are playmates for the children and there are also playmates for the adults. There are many possibilities that I would not have if I was living in my room. And you are never alone. Every evening around 6-7 o'clock you can go to the common house maybe not to have deep discussions every day but you can meet some people and share your ideas about something if you want to.

### **What are the challenges that you have faced?**

- Well, there are several. One of the challenges is that in the beginning it was very idealistic about sustainability, making everything yourself, making it a cheap place to live. But in the last 5-10 years many people who were young grew older and many of them got much richer and now many people think oh... we don't want to do it ourselves, we just want to pay someone professional to do the work. And that makes some differences because not all of us became richer. Many people want to have summer houses or have a boat or some want to travel a lot so they don't have so much energy to put in this place. And another challenge is that many of us are alone and that means that we have not that

many hands to do things. And another challenge that we cannot do anything about it but the problem is that we are all of the same age. We have one younger family and one young single father who has a little child. But I would prefer more young people moving in before we all get too old. If we will get much older it will be difficult for young families to move in because I think it would be very boring for them. But we have different opinions. Many people think that they want to get old together because they've lived together for many years and they want to continue with that and they don't need to have children around.

#### **What are the downsides of living in the community?**

- If you have a marriage you will see that sometimes people get fixed in their roles, they get fixed in the way they were used to do things. Same thing happens here in the community just many more people than in a marriage. And there will come no new people in here then we will just continue doing things the way we have always done. We started with organic farming and it was a very big issue 15-20 years ago. For me a bigger issue today is global solidarity or more international political things or political questions in Denmark.
- The good thing is that you get impressions from many sides and you have close relations with many people working in different areas. But I think we are a little bit traditional in our own ways and some people have an idea that it is impossible to change anything here, because they want to change something but it's too hard to change because there are too many people keeping it the same way as it was before.

#### **What is the future vision of the community?**

- Some years ago we had a Future laboratory. We had a weekend together and we tried to find out what do we want for this place and we created a lot of energy. At that time no one wanted to have something written down but I think now there are some people interested in writing down the future visions. But what came out of this weekend was that for a very big part of people living here the social part was very important. We want to have food party together, we want to eat our meals in the common house together and we want to have good relations. And it was very important to keep organic farming, to keep the production of meat and vegetables but on another hand many people said "oh... I'm getting old and my back hurts, I don't want to work that much in the vegetables field and I don't like to work with the cows but I would like them to be there". So there was a difference there. We discussed about building new houses for new families but it is very difficult because of the law. But some people want to make this community a little bit bigger also because there are many single mom and single dad families here. So if we would get more partners we would have more hands to do the work, but I think it's very difficult to get it through because of the laws.

#### **What is sustainability for you?**

- The narrow biological way is of course that you don't take more out of the earth than you can give back. Therefore, we don't use fertilizers. That's one part of it. And you try to use rainwater; try to use some materials for the heating but not oil.
- And then there's also a social part of it. For example with the fair trade products. If we live very biologically sustainably here but the rest of the world is starving. You also have to be a part of the society of the world we live in. For me it's also very strange, that this community is totally white because in Denmark there are many people from other countries. We had one Norwegian living here, but else we are very Danish. It's very strange and I think it's not very sustainable but that's the way it



is. To keep it sustainably you also have to be open to the society and to take responsibility for political and global issues.

**Are you sharing knowledge with other communities?**

- Very little because no one wants to have that job. Just wants to live and have a good time here. It would be a good way to get new ideas, but nobody wants to improve anything because they think that it's good enough. People can come and see how we do things here, but we don't care how other communities do things. And I don't have energy or time for that. Also I don't think that we see ourselves as a part of a movement. "Oh here we live and we are going to show the world how it is possible to live in a community and sustainable". It's not our idea. Our idea is that we want to live in a good place. I want to live in a good place with my children. I don't have those ideas that I have to continue developing something for the rest of the world. But I think in the beginning the idea was to show other ways to live and we are just doing it for our personal reasons.

**Can you see any difference between the technologies used in your community and the mainstream society?**

- As I said before, I see many differences in the way we relate to each other and that's to me a more important part and a very good part. But about the technologies... In the mainstream society or anywhere economy matters a lot. If you live in a normal house and you have to change your heating system maybe you would choose solar heating or some kind of oven that you can use different materials because you have to change it anyway and it's the same here. When we have to change something, we look at what is the best for us to do now. But of course we are more people to share the expenses and therefore we have a little bit more possibilities to make some things sustainable. And of course we live much cheaper because I couldn't live the same way if I would have my own washing machine, drier and all that kind of tools. We live much cheaper and that gives us a bit more possibilities to introduce new technologies.

**Is it expensive to live sustainably (to implement all the sustainable technologies)?**

- You need to make special installations for solar panels and that's really expensive but as I said, if you are going to change it anyway I'm not sure if that would be much more expensive. But of course it is a little bit more expensive. I think we have more economical possibilities to use sustainable technologies. And we also have interest to do it if it's not too expensive. The sustainable technologies have been developing a lot since we built our houses. At that time there were very few solar energy installations in the country. It was something new and we were experimenting and the heating system in these buildings was kind of experiment too. And now people who are working in that field know much more about it.
- Also with the paints for the houses. We could have ecological paints that are made as sustainable as possible but we don't use them because they are not so good and you have to paint the houses every year and we don't want to do that. Therefore, we use some kind of traditional paints but for example when we clean the houses before the painting there's not that much work to do if there are no chemicals, so we do that. It's always a compromise between how expensive it is, how much work it requires and of course we want to do it as sustainable as possible but we are not religious about it if it's too expensive. It's not sustainable to my opinion if we make a community where we have the best and the most sustainable technologies but only the richest people can afford to live here.

**What do you think your community could learn from the mainstream society or they could learn from you?**

- For me primary thing is a way to live together because many people get divorced and many have difficulties to live in a traditional family way. This kind of living would be a solution for many problems. Of course it might give some problems too. For example, if you want to decide upon everything yourself and to have your own garden and your own borders and everything. It's difficult but on the other hand it gives you a lot of possibilities while living this way. I think the social part of this for the most Danish people is more interesting than the technological part. And most of the people that are coming here they say „Oh, it must be wonderful to live like this“. And we say „Yeah! It is, move in“. But they say „No, we are not sure probably it's not something for us.“ But I think people now in Denmark and probably in many other countries are very busy with their work and their career and people change the place they work very often so you don't have those long relations. People move away very far from their family and they don't have those close relations. And I think this way of living could be an answer to many of the problems of that situation. And I don't think we can turn the time back. I think in the past twenty years too many couples got divorced and they don't give them a chance but still it is the way the life is and needs change in all our lives. Not like in the old days when people started one career and then they just continued that career for the rest of their lives. We are not living the same way anymore. And this kind of society gives kind of stability in our private lives. That's the most important thing to me.
- Of course we are taking part and we are experimenting with those new technologies, and we are taking part as well as other communities and some private families that are idealistic and can afford taking part in this development. But in this field we are just one of the participants. There are many more participants. But our community is a very good example of how we own the place and how we maintain it with our rules. This is what we are good at.

## **Staerhoj community**

*Interview with Dorte conducted on June 22, 2009*

### **How did it all start?**

- It started in 1990 with a small group of people who were interested in living together and to whom it was very important to sustainably, to have a common house, to have own garden and a little piece of land for horses, goats, chickens or other animals. 5 people from the university knew each other already and they wrote about this ecovillage idea and all their thoughts about living here in the newspaper. Then we found out that something is going on in Staerhoj and we were interested in moving up there.

### **How long did it take since you've read it on the newspaper till you moved in to your house?**

- One year and a half. And we had many meetings before that because there were many things that we had to decide together. For example, how big should the houses be and etc... Actually there were not many families that were participating in the meetings but didn't move in to the ecovillage in the end. Only few families like that... but then new families came. Then we bought this piece of land (14km<sup>2</sup>). One thing was very important – the houses had to be as sustainable as possible but also we didn't want houses from clay or something. It had to be like a real house. And the windows in the houses are sustainable. Also the usage of the rain water. There are 5 families that are sharing two washing machines in the common house and we are using rainwater for that.

### **When building these houses. Compared to other places, was it more expensive?**

- We don't own our house, we have some shares in this community and it's different than when you own your house. When you want to move out, you can sell your share.

### **Did you have any problems whist starting the ecovillage?**

- There were many problems. One of the problems was the neighbour farmer who wanted to buy this land and he thought that it is a very good land and it's bad to build houses on it. Also it was not easy to create the community, but we had some supporters in the village. I was not one of the people who were making all the arrangements but I think they communicated with other ecovillages about how to solve the problems. There was an engineering company who made the technological solutions for us, but it is 20 years now as we started it here and technologies improved a lot. Eating together every Monday, you just have to leave a note in the common house on the board if your family is going to have dinner. But our policy is that if you don't want to – it's ok.

### **Who and why decided to create an ecovillage not to join already existing one?**

- Because there was no anything like this at the time when we started. It was very new to think about sustainability in Denmark. So we were very famous at the beginning but now it is more normal I think.

### **Why did you decide to start living in the ecovillage?**

- It was very important in the beginning of 1990s. We didn't want to stay in the city. We wanted to move out to the countryside and this was a very nice place. I think that **this ecovillage is special because** we have grown it ourselves so we have made it all together. It's not just one person who has

built the houses and sold them. It is a big and hard work to find each other and to have all these discussions and to find out how these all houses should look like.

**What are the main ideas that your ecovillage is based on?**

- It was sustainability and the community living together and having possibility to do some activities together. And it is also very important that the place is in the countryside and it's a very nice place and very quiet. Playing football, badminton and other games in the little town next to the ecovillage.

**Do you have any written/unwritten rules in your community?**

- Yeah, we have written rules here. Everyone has a book with the rules in each house. There are rules about the community, usage of the common house, maintenance of the houses that we live in. We agreed all together upon these rules. 3-4 times per year we have meetings. And once a year we elect 5 people to the board. Those people are managing everything in the community.

**How expensive is it to live in here?**

- It depends on the size of your house and your garden. When we moved in it was very cheap compared to others.

**How is the community organized?**

- We have committees that are responsible for the common house, heating system, roads and gardening. During the meetings we are discussing all together and then we vote. But the last decision is taken by the board therefore they have to listen very carefully during the meetings. The board is changing every second year.

**Are there any challenges and benefits of living in a community?**

- I think we came to a period when we know each other very well and it's just an everyday life. In the beginning it was very hard and we had a lot of discussions about everything. We were eating 3 times per week together. It was very chaotic with all the small kids running and screaming therefore we reduced the number of dinners together to once a week. And also we are eating together once in a month on Friday. We have our own houses, gardens and we are really very individual, but we are helping each other a lot with children or if you go on a holiday we look after the animals if you had and etc. There is retired family and young family but most of the people living here are in their 40s. Benefits are that we have a lot of things in common, help each other and eat together. It's like a family.

**Are there any downsides of living in here?**

- I don't think so. It's just like it should be. The garden is really big and requires a lot of time. Sometimes the bus is driving around empty and politicians are cutting down the number of the buses passing our ecovillage. And it's a big problem because children and elderly people are depended on the buses. We have to elect politicians that would say "no matter how much it will cost, we want to make the system of the buses work". It's a problem for the communities living outside the cities.

**What is sustainability for you?**

- I think that it's a lot of things. We have chosen these houses here and I think it's a right way to sustainability. It's not perfect but it's ok. It's our contribution to the right way of living. Sustainability is

something that you do every day. What choices you make when you buy food, clothes and other products. We exchange clothes with other neighbours, wash the clothes in the rainwater. Also we use solar panels to heat the water and we use heating system which is environment friendly.

- Sustainability is also driving a bicycle. We do many things but we can always do more. For example, to reduce the time spent in the shower to 5min., to dry clothes outside instead of a dryer. Of course it is necessary sometimes in winter, especially if you have kids that are playing sports and get dirty very often.
- Sustainability is something very big, but it's also something very close to each of us. My primary contribution to it is in my everyday life. You should think about what you buy what materials you are choosing, what food you are eating and so on. I think there are a lot of choices to be made in everyday life.

#### **Do you think it's getting cheaper to live ecologically and sustainably?**

- Yeah, I think it is getting cheaper. It has taken many years to produce ecological cars and clothes but now you can buy ecological clothes (H&M, Jackpot). They are a little bit more expensive than others. In Denmark we also have a company called Matas where you can buy products for the skin. So after you use the products you can bring the empty bottles back to the company.
- I think that you can find cheap products with Anglamark because they are promoting sustainability. Other ecological non food products you can buy for almost the same price as other products. In Denmark we have a 'political consumer'. That's a person who makes these choices every time he/she goes shopping. It means that as a consumer you have power to choose environment friendly lifestyle or if you want support the ordinary lifestyle. I think that political consumer made it possible to grow a lot of things in an ecological way and in Denmark we have a big share of ecological products and that is because someone is buying these products and is willing to pay for them even if sometimes ecological products are more expensive. It's not because politicians said that these are very good products or something.
- Milk, butter, cheese, meat and bread and other food products are always more expensive if they are ecological. Sometimes it's a double price. It's really expensive if you want to buy everything organic. But it's getting cheaper all the time because more and more people are buying it. In Denmark ecological food farmers have 10-15% share of the market and it's very good. It's getting better because you can get more and more organic food products.

#### **What do you think mainstream society could learn from your community?**

- I think that a lot of people want to live like we do here. But I think it's not mainstream to live like this. But there are many things that would encourage them to live like this. But I think politicians should promote this way of living because it is a little bit difficult to start a community like this and most of the people when they decide to move, they want it to be right now or in a month or two. And it's really hard to do it in this way. There is a lot of paperwork.

**Do you know if there are any restrictions to start an ecovillage?**

- Yes, there are a lot of restrictions. I mean, before you can actually set up a project like this and implement it you have to have a lot of approvals from the council and so on. I'm not so much into that but I'm sure that there are a lot of restrictions and it was very hard for us to be allowed to build this one. Also because it's not close to the city but in a rural area and that's one of the major obstacles because typically areas close to the city are reserved for building the houses but in the countryside you are not allowed to build something like this.
- You are only allowed to build a house in a country side if there has been an old house, so you can demolish it and build a new one in the same place but in the middle of the field you are not allowed to build a house or at least it takes years of negotiation with the authorities. But it doesn't depend on a type of the house that you want to build. The same goes for all the houses.

**Were you involved in the construction of the houses?**

- Well... not in the early beginning when was the idea created, but I was there when we started to look at the more specific materials for the houses and so on. But I was not a part of the actual ideology and building strategy.

**Why did you decide to move into the ecovillage?**

- Well, both me and my wife, we grew up in the country side. At the time when this project came up we lived in the city centre in Aalborg. We were having plans that we want to move to the country side, perhaps to buy a small farm that we could restore. But then this project came up and it fitted more or less all our requirements, i.e. it is in the country side and there is space for the animals and so on and then as a big advantage was that it is a new house and we didn't need a lot of energy to maintain it and so on. I've heard about it through some friends that were part of the project at that time but in the end they decided not to move here but a lot of people knew about this project and I guess primarily through contacts at the university. There was a lot of network.

**In what ways do you think this community is different from others?**

- I don't know many other communities. I know a few in small cities around here and I think that we look a lot like some of these societies but in some aspects we are also a bit different. I know some societies that have much more in common, for example, they have dinner together every day when we have it only once a week. I guess we are more private than at least some of the communities that I know. But then again I guess we have many things in common, we do maintenance together and we have our dinner together on Monday evenings.

**Have you faced any challenges here?**

- Of course there are challenges here but the advantages are much stronger. I guess when you move to a place like this you have to realize that you will have to agree with other people about some of the things. And of course sometimes you can think that it is annoying but after you've been here for many years and accepted that, then that's only a premise for living here. And very often it is a very good process when we have to agree on something. Then we challenge each other on ideas and so on. In the first two - three years we had a lot of meetings in our common house where we discussed all sorts of things. Now that kind of problems arises only few times a year. We have meetings every second

month, where people are invited and then we have the board which meets regularly and takes all the decisions. We have general assembly once a year when we elect our board. But we do not discuss deep matters very often.

#### **What are the benefits of living here?**

- When you move out here in the country side with your children it's very advantageous that there are many other children close by and you don't have to drive to find playmates for them and so on. And it's quite isolated from the traffic so it's also a safe place for the kids. Also looking at the economic side, I don't think that we could achieve a house with all these facilities and apart from our own house we have this common house and all the space around our house. We couldn't have had that with a new house on our own land as cheap as here. And we are living here for 20 years so it's hard to sum up all the advantages. Also I've never lived in my own house in a normal area.

#### **What new technological innovations were implemented in your ecovillage? Is there anything you are planning to?**

- I don't think there any concrete plans right now but we are discussing from time to time about putting up solar cells on the roofs to make electricity. At the moment we have only solar panels on the roof of the common house for water heating. That could be an investment but that technology is a little bit too expensive at the time.
- I think we have discussed for many years if we are going to invest in the windmills. Some of the people living here have shares in the windmills around in the area. And that's the way these windmills are financed. In principle these people get electricity for that, but if there's more electricity than they used they sell it and the result is that they get money. But all the system of the financing these windmills is quite complicated. But the rules in that area are changing all the time because it's the major industry in Denmark.

#### **What is sustainability for you?**

- I'd like to think that we are not using too many resources, at least not more than is necessary to have a reasonably comfortable life. For instance, we have only one car and that's like a principle and not like I cannot afford it and of course I could easily use another car but I use public transportation whenever possible. But the resource consumption is one thing. Another thing is to live in a local community and in some ways to be involved in this community.
- Sustainable technologies: I think, for instance, our heating system here... where we make quite large investments to have a common heating supply for our houses is a good decision. The alternative would be that every house would have to make their own decision on how they want their house to be heated and I guess that it could be cheaper but energy wise while using the common heating system there are more possibilities to optimise it.

#### **What are the benefits and costs of the technologies used in the community?**

- When we built these houses 20 years ago, they were more energy saving than what was a standard at that time. And today the standard for building houses has taken over and there are many more restrictions or more energy saving than when we were building these houses. Also heating system, solar panels, water savings system. There was another idea to take water from the shower and use it for toilet flushing. It was an experiment but it never succeeded primarily because soap in the shower water clogged the small pumps. Heating system is a big investment. We are saving a lot of money

every year to be able to replace it when it will be needed. But also maintaining... We replaced the boilers few years ago, but actually the boilers that we used to have before were very time consuming.

**How are sustainable technologies or materials selected?**

- If take the heating system, when we have had the replacement few years ago the selection was based on criteria regarding maintainability i.e. how much time the responsible person will have to use. Also the economic aspect. And we collected some experiences with these systems because as I've told you before, the previous system was very time consuming and not very reliable. The selection was made by those who knows something about it and that is the person responsible for our heating system and few other engineers who had experience with those kinds of systems.

**Do you think ecovillages play an important role in technological innovations?**

- No, I think they don't. Typically there is no money to invest into innovations and another thing is that in Denmark there are a lot of small companies/factories that are doing small size innovations. And that doesn't leave room for small communities like us to be engaged. So we just use what others have invented. If we will take a field of energy saving. You don't have to live in an ecovillage to be interested in it because energy is so expensive. Everybody is interested in energy saving. Of course if we would engage in buying thing on common bases here perhaps we could affect the local shop to have more ecological goods.

**Are there any technologies used in the community that are not used in the mainstream society?**

- The heating system where we have 3 boilers and we provide heating for a small number of houses. That is uncommon. If you make this kind of system you either have to supply heating for a large number of houses or if you have fewer houses then you make installations in each house and then you'll make natural gas or electricity heating system.

**What do you think mainstream society could learn from your community?**

- I guess what they could learn from us, is how to take decisions together and make some common choices about how they want things to work. The democratic process when we have to make a decision is interesting but also a good thing is that we know very well how each of us is thinking about different things and we do not decide something without asking everybody here. And I know people who moved away from here partly because you cannot decide on your own. That of course can be considered as a downside.



## **Tinggaarden community**

*Interview with Sonner conducted on July 02, 2009*

### **How did it all start?**

- The first part of Tinsgaarden and it was built in 1978 and it consists of 6 groups of houses with about 15-20 apartments in each. Each group of houses is built around a common house. Every second week we eat together. There is a common washing machine which is included in the rent so we don't have to spend extra money on it.
- Common activities: there's a midsummer bonfire, New Year s Eve, party in the end of August called *Harvest* feast.
- There are 6 smaller common houses and 1 big one. It is quite often used during the winter but during the summer nobody wants to stay inside.
- There is also another person employed to clean the big common house.

### **Do you have many things that you are sharing together? Like tools...**

- Yeah... in every group we have a grass cutting machine for the little lawns.
- I work here full time. So does my partner. Working in the ecovillage for 16 years, living - 26 years.
- Cars are not allowed in here. You are allowed to drive in only if you have something heavy to bring to the house but you can't park your car in here. There are special places to leave the cars. Most of the families have at least one car in the family. There's a little street dividing the Tinsgaarden 1 (older) and Tinsgaarden 2 (5 years younger) that habitants call as a cultural gap. Tinsgaarden 2 is considered to be a little bit more ordinary. Both are of about the same size.
- Probably about 10% of people move out every year. But mostly it's people from Tinsgaarden 2. And most of the people moving into Tinsgaarden 1 are moving in from Tinsgaarden 2 because apartments and the environment there is better. There's no board that would decide who should move in to the community. The family that is leaving decides that. It's actually only a matter of how long you've been waiting for the apartment. There's a long waiting list. The average amount of calls received for a free apartment is 20-25 requests.

*They are collecting rainwater for the garden watering purposes. Every person living there has an opportunity to have a small garden to grow some vegetables.*

*Interview with Simon conducted on July 02, 2009*

### **How did it all start?**

- It started around 1977. There was a group of architects from Copenhagen called Vandkunsten. They had new ideas of building houses for people which combined low buildings with the closed buildings. Also with the social part combined where you have a common house where you are supposed to eat every day. It started pretty good but people got tired of it and now we do it only every 4<sup>th</sup> night or so. But we still do it. And it keeps the spirit of the group, makes people talk.
- I think it all started because the county wanted to develop this area and they wanted to do something special so they made an architect contest and Vandkunsten won it by designing this, the later famous

Tinsgaarden. Then it was combined with a group of people who wanted to live here. Vandkunsten discussed with them what they wanted and how they want to live and this is what came out of it.

### **In what ways this community is different from others?**

- We have a lot of independence in the way we do things. We have a structure where we have a board where we decide what we want to do and plan how to do. Also we have an administrator who collects the rent. We don't do that. It's called **DAB** (Dansk Almennyttigt Boligselskab). They take care of collecting the rent and paying Tom and Sonner who takes care of all the practical things in the Tinsgaarden. And then we have a board where we decide how we want to do things.

### **How decisions are made?**

- We have two meetings every year where we make big decisions where everybody is supposed to come. Members of the board meet every 1.5 month. Board elections are every two years.
- We have a lot of working groups. We have a group for a small vegetable garden, and then we have an eating group. You can join that group and eat with other people from the area. They do that two times a week in one of the two big common houses. We have different kinds of festivals during the year and we have a group that takes care of them. Tom and Sonner are taking care of the heating system and all the maintenance work. And if there's something that they cannot do then they just pick up a phone and call someone who knows more about it. People are actively participating in these working groups because it's a good way to learn more about people and especially if you're new comer. We live in family groups; we have 16 family groups in Tinsgaarden and there are about 16 families living in each group.

### **How many families changed since you live in here?**

- I moved in here in 1994. It's easier to say who is still here. Probably only 3 families.. There were many changes before but in the recent years it's become pretty stable. For instance, 5-7 years ago there could be around 80 families moving. Maybe not moving out from Tinsgaarden but changing places. And lately it was almost none. It's because we could see the problem that it was quite expensive because when people moved out it costed money for Tinsgaarden to renovate the apartments and so on. So we decided that something has to be done about it and we started to advertise this place and tell more about who we were and said that "It's not just a place to stay, it's a way of living". And it grasped people and in the last 3 years it's sort of stable now. Maybe it's also because of the crises people don't buy houses that much. And the waiting list is increasing now. It's the longest for many many years. Now there are about 700 or so.

### **What are the main ideas that the ecovillage is based on?**

- Well, I think there's a strong social aspect to be close to each other, talk to each other and do things together. For example we paint the houses together once a year. And people are actually not so active. In the last few years our group is the only one that has done it. But we can earn some money for the group so we think this is a pretty good idea. Then we can buy new furniture or whatever for the common house. Houses are painted, people are happy and then they can spend the money for whatever they want to buy for the group. In the recent time we are thinking more green for the whole area. When these houses were built they were thinking about sustainability but the technologies were not very good at that time. Heating system always broke down and was very time and money

consuming. When alarm rang people had to get up in the middle of the night and go see what happened. But now we have a very good system that works very well. It's the one that uses small wooden pills. It's very big because it's for the whole community (about 200 families). It's pretty new... we've got it maybe 3 years ago. It works better, cheaper and doesn't brake all the time. In the future we want to have solar panels. We have brainstorming group which works all the time coming up with new ideas.

#### **What sustainable technologies are already implemented in the community?**

- Well, we have wooden pill furnace, we have 4 big containers to store rainwater for the small gardens. There's also a plan that each common house should have a container too. And all people who want could be connected as well. We have discussed possibility to use the rainwater for flushing the toilets. It's harder to implement the system in already built house but it's possible.

#### **Do you share knowledge with other communities?**

- Yeah, Tom and Sonner do. They have connections with others. They've won a prize last winter for thinking green. Also we get a magazine but it's only inside DAB.

#### **Do you have any unwritten rules?**

- We have official document with the rules like you can have only one dog or whatever. They are on the internet.

#### **How decisions are made in here?**

- Well, the big decisions are made during the big meetings that we have two times a year. For example, if we decide to renovate all the kitchens we can't decide just to do it, we have to announce it at this meeting and people have to vote if they want to do it or not. It's also a financial thing. And the smaller decisions we can make at the board. We have a plan which goes for 10 years where we can put in what we want to do in the coming 10 years. It's combined with the budget. And the board is revising it from time to time. If we decide to have these solar panels or something like that, we have to put this into the 10 years schedule in order to have money to do it. We did the same with the heating system because it was about 22millions so we had to plan it well. We are pretty good at planning therefore in the past years we didn't have a raise in the cost of living. And we are proud of it too.

#### **What are the challenges that you've faced in here?**

- I think the big changes like a new heating system which involves economy. It is a big decision. All the preparation and thinking of how to do the finance and bringing it to the common meeting. If you prepare yourself it's not a big issue. But if you are not well prepared and you don't have good arguments, then it's difficult. Therefore you need a lot of planning. I don't think it's difficult to make changes in here. The hottest thing is television, like change of channels. Whenever we have meeting about things like that a lot of people come. TV is very important for people.
- 5-10% of the people come to the meetings. And it also depends on the issues discussed during the meetings. If the meeting is about television, TV, new kitchens in the common houses, then many people are coming. I've got to the board because I wanted to make some changes, like get a new

kitchen for the common house and get rid of the solar panels there were very old and inefficient. I found out that it's pretty interesting and now it's about 10 years as I'm in the board.

#### **What are the benefits and drawbacks of living in a community?**

- Benefits first. You have a social community where you have different things combined together, a common platform.
- Drawbacks... you live in a rented house. When you buy a house it's just like having money in the bank. You save over the years. And you own the house and here you don't own anything, you just pay rent every month. But that's the way it is when you live like this. You think about it once in a while. Maybe you think that you're pretty stupid living here, not having your own house, savings for old days or whatever but there are a lot of benefits here too. I think there are more benefits than drawbacks and that's why I live here.

#### **Why did you decide to live here?**

- In the first place we just needed a place to stay. We knew some people living here and we visited them quite often. We liked the idea of this place and the surroundings. It's a good place for the children. When we moved in here we had small children, they grew up here.

#### **What is sustainability for you?**

- I think it's the energy aspect and the social aspect. We always think of it as only energy and environment but I also think that there's a social size of it.

#### **How are the materials or technologies selected? For example, the new heating system.**

- I think it was a question of price and energy output. You have to find the financial balance.

#### **Do you think ecovillages play a part in technological innovations?**

- I think that they have an influence because they take decisions and they do things. They make things happen. Once you do it, you influence not only ecovillage but society as a whole. In some ways we are maybe pretty traditional because we implement already known technologies. We are not experimenting that way but compared to other communities we could be considered as quite experimental. But it's not the hardcore.

#### **What do you think mainstream society could learn from you?**

- Maybe the most central think of Tinsgaarden is the social aspect. The way people communicate and act together. How to decide for themselves and to do things. They can change directions pretty easily if they decide to. If we are working towards a greener society, it's not something that just happens, it's because we decided to do that. Everybody has influence and all ideas are looked upon.

**Why did you decide to join this community?**

- For many years we've been talking with our friends how we would like to live together, like buying a farm. But we never had success with it. I don't know why. Finally we've decided to move to this place instead because they have this community as we wanted. I knew quite a lot of people living in this community for many years. My brother lived here when he was young and we have a lot of friends who live here. So we knew the place and quite some people before we decided to move in.

**In what ways this community is different from others?**

- At least compared with the other places in Koge, even if you live in a rented apartment you have a lot of possibilities to take decisions about how is this place going to be like, making new rules. Also we have this *Felix Huse*, we live in the groups and we have a common house where we have birthdays or parties. And in this group where we live every 3-4 days we meet and cook together. Like 2 families are cooking for the rest of the families of the group and next time it changes. We share washing machine, a freezer and some other things.

**What are the main ideas that this ecovillage is based on?**

- It's a place to live if you like to rent your house. But still you have something to do with the people that you live together. It's more as community than just a place to live. It's a big place. Of course there are people who live here for some years and then move but also there is a very big part that lives here for many years, like 20 years or so. And they like to live here.

**How expensive is it to live in here?**

- We have like 100m<sup>2</sup> and we pay close to 8000DKK per month, including TV, washing machine, heating and water. Electricity we pay separately. Compared to other places in Koge, the prices are more or less the same everywhere. But I think we have some benefits that they don't have in normal renting houses. Other places do not have the common house that you can use.

**What are the benefits and downsides of living here?**

- The common house we can use for free. There are also two bigger houses that you can use if you are making a big party, also you can use it if you want to play table tennis and many other purposes. The houses are mostly used for parties and not so much for the daily life. I have a friend who is taking an education as instructor in Pilates. And to practice for her exam she was making Pilates classes all winter every Saturday. And a lot of women from this community were going there. So some people use it but not everybody. Not as much as they could.

**What are the challenges that you face while living here?**

- For me at least I guess it's on a more personal level because there's not a lot of privacy. Sometimes I would like to have a bigger garden where I could stay without everyone seeing what I'm doing there. But I knew this before I've moved in. I think we have once or twice a year a big meeting where we look at the budget and make decisions. And there are many people who are not coming to those meetings

and are not involved in the decision making. And that was one of the ideas about this place. So I think it's also a challenge for the place. Maybe also the space... Sometimes I need more space. Maybe not the space inside the house but I would like to have more space for our equipment. I think architects didn't think about it, that you live in a place like this you need some more space for all your things. I think architects who have been building the house had very good thoughts and with the rooms it's working very well but there are few things that we would like to change so of course to change them is a challenge. For us it's very important that we have the freedom that it gives when you live like this. Because we don't have to think about fixing the house and spending money on it. We like to travel a lot. So for us it's a big freedom to live like this. If something happens we tell Tom and Sonner to come and fix the thing. So for us it's ok if some things are not perfect as we would like them to be but there are other things that are more important for us. So we live with how it is.

**What is sustainability for you?**

- It's very important for me. When this part was built they had solar panels here but now they are old and not sustainable at all. But I would like to get some new ones. Because I think that it's very important to use less energy. And our heating system. I think it's good to know that our heating system is not running on oil. We buy as much ecological food products and vegetables as we can. It's important for me and I think about how much water I use and remember to turn off the lights and try to educate my children.

**Can you see any differences between technologies used in your community and mainstream society?**

- How we are heating our houses I think... But I think the freezers that we share we could buy new ones that are more environmentally friendly because ours are very old and use a lot of energy. But television, equipment, computers and other things are more or less the same as in other people's houses. There are quite many divorced parents with their children here. It's a very nice place to live if you are alone with your children. Because you can have some help from your neighbours and other people living around you. There are many playmates for the children.

**Do you think ecovillages play a part in the technological innovations?**

- Yeah, I think so. Maybe because these kinds of communities are very open to new ideas and like to think about ecology. Also I know few other communities in Jutland and they have some very good thoughts about how to clean waste water. I think more things could be done here... But there are people who are not interested in this. They live here because they didn't have a place to live and *Commune* said that they can live here. They didn't choose. And it's possible to live here without participating. But I think it's a shame not to participate. But our group (C) works together very well. And we are the only group who is painting their houses themselves. But we like it and we think that it's a very good way to be together.

**Do you think that the size of Tinsgaarden makes it more difficult to make decisions?**

- No I don't think so... At the big meetings twice a year it's not a problem to make a decision because not a lot of people show up so the people who are there make the decisions. So it's like all the power to the active ones. And of course we are very dependent on the people like Simon who likes to sit in this board and do all the things that need to be done. If one day they will decide that they don't want to do this anymore it would be a very big problem.