

TOWARDS A BIOCENTRIC ATTITUDE IN ENVIRONMENTAL EDUCATION

Ulrika Johansson

Pedagogy AUO90 – Master Thesis

Linnéuniversitet, GO 2964, 2012-06-10

Supervisor: Glenn Sjöstrand

Examiner: Eva Fasth

ABSTRACT

The purpose of this study was to investigate young people's environmental attitudes in India. The study had a special focus on the factor of exposure to nature and nature degradation in environmental attitudes formation. Attitudes are of a great importance in education. The investigation was conducted using a qualitative method based on observations and in depth interviews. The subjects were selected from a village in northern India and from Delhi, which is the capital of India. The subjects from the village area were exposed to nature and nature degradation in their daily lives and were expected to have biocentric or eco-centric environmental attitudes (to view humans as part of nature). In addition, Indian traditions and religions were expected to be more preserved in this area compared to Delhi. Hinduism, which is the dominant religion in India, is considered biocentric. In contrast, the subjects from Delhi were not exposed to nature and nature degradation daily and were expected to have anthropocentric or late anthropocentric environmental attitudes (to view humans as separated from nature). Also, these subjects were greatly influenced by industrialization and western influences. Western religions and cultures are considered anthropocentric. The results indicated a difference in environmental attitudes between the subjects in the village area who were exposed to nature and nature degradation and the subjects in Delhi, who were not. The subjects in the village area tended to have a biocentric or eco-centric view on nature and the subjects from Delhi tended to have a late anthropocentric view. This thesis argues for a biocentric view in environmental education and suggests establishing a positive relationship to nature as a part of environmental education, mainly through outdoor environmental education.

TABLE OF CONTENTS

1. Introduction.....	4
1.1 The challenge to convey the state of the earth.....	4
1.2 Purpose of study.....	4
1.3 Hypothesis.....	5
2. Background.....	6
3. Theoretical perspectives on environmental attitude formation.....	8
3.1 Definition of the term attitude.....	8
3.1.1 Attitudes are learned.....	8
3.1.2 Attitudes are evaluations about an object.....	9
3.1.3 Attitudes are highly dynamic and changeable.....	9
3.1.4 Attitudes influence behavior.....	9
3.2 Definitions of environmental attitudes.....	10
3.2.1 Anthropocentric attitude.....	11
3.2.2 Late modern anthropocentrism.....	12
3.2.3 Biocentric attitude.....	12
3.2.4 Eco-centric attitude.....	13
3.3 Formation of environmental attitudes.....	14
3.4 Environmental attitudes throughout the history.....	14
3.4.1 Gathers and hunters.....	14
3.4.2 Cultivation food.....	15
3.4.3 The industrial revolution.....	16
3.4.4 The science of biology.....	17
3.4.5 The postmodern society.....	18
3.5 Formation of attitudes through religion.....	18
3.5.1 Western religions.....	18
3.5.2 Eastern religions.....	19
3.6 Formation of environmental attitudes through culture.....	20
3.7 Formation of environmental attitudes through location.....	21
3.8 Formation of environmental attitudes through education.....	22
3.9 Environmental attitudes in different age groups.....	24
3.10 Gender differences in environmental attitudes.....	24
3.11 Closing.....	25

4. Methods.....	26
4.1 Observations.....	26
4.2 Interview subjects.....	26
4.3 Location.....	27
4.4 Interview questions.....	27
4.5 Method-related problems.....	29
5. Results.....	31
5.1 India.....	31
5.1.1 India in general.....	31
5.1.2 Political system and economy.....	32
5.1.3 Environmental problems.....	32
5.1.4 Population.....	32
5.1.5 Indian Education system.....	32
5.1.6 Environmental education in India.....	32
5.1.7 Mass media.....	33
5.2 Observations.....	34
5.3 Interviews.....	36
5.3.1 Interviews conducted in Delhi.....	36
5.3.2 Interviews conducted in Dharamsala.....	38
6. Analysis.....	41
6.1 Religion, culture and environmental attitudes.....	41
6.2 Exposure to nature and nature degradation and environmental attitudes.....	41
6.3 Location and environmental attitudes.....	42
6.4 Education and environmental attitudes.....	43
6.5 Gender and environmental attitudes.....	43
7. Discussion.....	44
8. References.....	49
9. Summary.....	51

1. INTRODUCTION

1.1 The challenge to convey the state of the earth

Throughout the history, human civilizations have experienced many ups and downs in population size. Most of the downs had natural causes. However, some of the downs were due to excessive resource depletion caused by human activity. In some civilizations there have been resource depletion leading to mass deaths of people. These resource depletions have mostly been on a local level such as on islands (Ponting, 2007). Today, we're facing a global threat of resource depletion, mainly because of excessive use of fossil fuels due to human activity. By the end of the 20th century it was clear that the lifestyle of people living in industrial countries was not sustainable. The term sustainable is defined as the rate which a particular system is depleted in relation to the rate to which it restores itself. According to a global climate change report by the UN, 2007, several environmental threats must be considered globally in order to secure the survival of the planet (Ki-moon, 2007). However, to face these challenges, there is a need of environmental re-thinking where environmental education plays a great role. So far, environmentalists have done a great job to convey the state of the earth. A few decades ago, most people had a limited knowledge on human impacts on natural resources. Today, these facts are well known among most people around the world. However, according to a cross-cultural publication by Sarre, people are not convinced that they must change their attitudes and life-styles in order to secure a sustainable development. Sarre argues that most people still vote for the party that can offer the highest economic growth and offers a better living standard, which in many cases is in contrast to value nature. Environmental issues are not the first priority among people (Sarre, 1995). Therefore, effective environmental education must include a component of environmental attitude change.

1.1.1 Purpose of study

The purpose of this study is to investigate environmental attitude formation among young people in India with a focus on the factor of exposure to nature and nature degradation in attitude formation. The study will investigate differences in environmental attitudes among young people in rural areas (villages in Himalaya Pradesh, a district in northern India) compare to urban areas (Delhi, the capital of India). The young people in rural areas are exposed to nature daily and youths in urban areas are not exposed to nature in their daily life.

In order to investigate the factor of exposure to nature and nature degradation as a key factor in forming environmental attitudes, a section of theoretical perspectives on environmental attitude formation will also be presented.

1.1.2 Hypothesis

A difference in environmental attitudes was expected suggesting that young people in villages in Himalaya Pradesh have a biocentric or eco-centric view on nature (to view humans as part of nature) since they are exposed to both positive natural experiences and nature degradation. Also, Indian traditions are likely to be more conserved in rural areas compare to urban areas. For that reason, a strong care for nature, which is characteristic for Indian traditions were expected among young people in rural areas. In contrast, the subjects in Delhi might have developed an anthropocentric attitude (to view humans as separated from nature), mainly since they are not in direct contact with nature, but also since they are more exposed to western influences and industrialization. Also, all subjects were expected to be more concerned about the environmental problems that they could experience through their own senses. In rural areas, these problems would include litter in nature, deforestation, damaged trees and lack of clean drinking water. The subjects in urban areas were expected to be greatly concerned with pollution and health problems due to pollution.

2. BACKGROUND

In my profession as a science teacher in an urban area in Sweden, I have realized that many young people are very seldom in contact with nature. Also, they are very used to that most products and foods they eat are produced on a faraway distance. Therefore, I have realized that there might be a lack of knowledge on each product's life-cycle. For instance, many young students today do not think about that paper is produced by woods, plastics by oil and bacon derives from pigs. Also, our water-, heating- and electric systems are so complex that most students do not understand how it works. Since young people today are not in direct contact with nature and the impact humans do to nature there might be a very important link missing in environmental education. This missing link is a connection between human and nature and a deeper understanding about what impact we actually do to nature and the consequences of this impact. Since students do not observe the impact humans do to nature with their own eyes it is very difficult to comprehend and thus one of the greatest challenges in environmental education and pro-environmental attitude formation is to overcome this distance. This idea is also supported by Sandell in "Education for a sustainable environment" (Sandell, 2003) and will be discussed in the last section of this report.

I believe that environmental educations should include a component of establishing a relationship to nature. In Japanese the word for nature "shizen" has a different meaning than the word nature for westerners. It refers to a concept of human as integrated in nature. In the teaching guidelines for science there is actually a part called "love for nature" which suggests that science should also have a component of background philosophy of loving nature (Midori, 2003). However, the main mediator in establishing a relationship to nature is exposure to nature and nature degradation. Establishing a relationship to nature is a key factor in effective environmental education and environmental attitude change. This idea is also supported by the Environmental Deprivation Theory (EDT) (Boeve-de Pauw, 2010) which pinpoints exposure to environmental degradation as a key factor in developing pro-environmental attitudes. Also, natural positive experiences have been shown to contribute in this process (John, 1977). The EDT will be presented further in the section of theoretical perspectives on environmental attitudes in this report.

India was chosen as the location for this investigation. In some studies, India has been considered an important inspirational source for other countries in order to adopt a biocentric

attitude towards nature (Moran, 2006). India has a strong tradition of religions considered to be based on biocentric values such as Hinduism which is the dominant religion in India. Hinduism is characterized by its belief that all living creatures have equal rights to live and have moral relevance, which is the base in biocentrism (Sandell, 2003). This is in contrast to western religions, which consider humans superior to nature and that only humans have moral values. Also, India is a developing and fast-growing country. Some areas, especially big cities are greatly influenced by western industrial cultures. Therefore, a mix of cultures between east and west can be studied, which is very interesting while studying attitudes since attitudes are dynamic and highly flexible. Also, India is greatly segregated, which is a great advantage for a comparative study. The gap between industrialized areas and non-industrial areas in India is vast in many aspects. For instance, industrial areas are more affluent. Also, non-industrial areas are less influenced by international means and have kept Indian traditions to a greater extent. Since urban people are more affluent and influenced by western cultures, they also travel more abroad, which also make urban people more exposed to western influences.

This study is a minor field study (MFS) sponsored by SIDA (Swedish International Development Cooperation Agency). Minor field studies take place in developing countries and aim to increase the understanding of developing countries. Thus, in this investigation, the specific aim is to increase the understanding of environmental attitudes among young people in India. Both universities and SIDA can take part of this information. Since young people are the decision-takers of tomorrow it is of great value to investigate their attitudes. India is a fast-growing country, both population-wise and financially. Therefore, the decisions India will take about environmental issues are of great importance globally. Students who are obtaining the MFS scholarship receive financial aid to collect data to a field study in a developing country. They also attain a preparatory course prior to the field study to increase their understanding of the countries and ethical dilemmas they might encounter during the visit.

This report will first present a section with theoretical perspectives on environmental attitude formation. This section will include a presentation of the definition of the term attitude in general and environmental attitudes in particular. Also, the factors that are believed to contribute to environmental attitude formation will be presented based on secondary data. The investigation is a qualitative study based on secondary data investigations, observations and in depth interviews. The results will be analysed and discussed in the last sections of this report.

3. THEORETICAL PERSPECTIVES ON ENVIRONMENTAL ATTITUDE FORMATION

This section will give a theoretical perspective on environmental attitude formation. Firstly, the term attitude will be defined. Secondly, two main directions in environmental attitudes will be presented; modern anthropocentrism and biocentrism. Each of these directions has a subgroup, late anthropocentrism and eco-centrism, which will also be presented. The last part of this section will present secondary data on the factors that are believed to contribute to the process of environmental attitude formation.

3.1 Definition of the term attitude

The term attitude is commonly used in our daily lives. However, the term attitude is very complex and has many different definitions. According to researchers on the topic, the following factors are central in the definition of the term attitude.

3.1.1 Attitudes are learned

An attitude is learned through socialization, which includes parents, peers, schools, culture, religion and mass media. Children are not born with attitudes. An individual cannot have an attitude towards an object they have not encountered or received information about (Perloff, 2003). For instance if we did not know that the ocean existed we cannot have an attitude towards it. Some scholars would also add genetic components to the process of learning attitudes (Perloff, 2003). For instance, people who have genetic components to swim well are more likely to have a positive attitude towards the ocean. However, there is not sufficient evidence to support such a genetic component in the process of learning attitudes. The learning process can be mediated intellectually by receiving information or education about an object. For instance, we read about a tourist destination in a travel magazine and with that information we develop an attitude about a place that we have never been to. Attitudes can also be learned through feelings. If we travel to the tourist destination in the magazine we will experience a blend of emotions while we are there. We might feel passionate about the place or we might hate the place or we might even have mixed emotions about the place. These emotions will affect our attitude towards the resort.

3.1.2 Attitudes are evaluations about an object

The inputs we gather through socialization and information about an object give rise to emotions and thoughts. These emotions and thoughts make us evaluate the object. Thus, if we have an attitude towards an object it means that we have made an evaluation about it. We have categorized the object and made a judgement about it. We are no longer neutral towards the object (Perloff, 2003). For instance, we will evaluate the information we have received from the tourist destination in the above given example. The inputs we have are the information we received in the travel magazine and the emotions we had while we were there and also our thoughts about the place. These components will be our inputs while we are evaluating the place and thus, forming an attitude about it. In conclusion, attitudes are formed by socialisation, information we encounter and experiences we have. These sources of information give rise to emotions and thoughts, which affects our evaluation to a certain subject.

3.1.2 Attitudes are highly dynamic and changeable

Attitudes are highly dynamic and for that reason attitudes can also be changed. We can learn to have a different attitude. If we for instance felt passionate about the tourist resort we went to in the above given example and then went there again we might experience different emotions and also receive information that we did not like. In this case, we are likely to change attitude towards the destination. Attitude change in education can be mediated by information and experiences, which we respond to emotionally and make evaluations about.

3.1.3 Attitudes influence behaviour

Attitudes function as “guiding principles” in our lives. The phrase “practice what you preach” is commonly used or practised in many cultures. However, attitudes vary in their strengths. Some attitudes we have are more deeply felt and thus are more likely to influence behaviours. Others are more transient and might not influence our behaviours. However, according to the dissonance theory by Festinger, attitudes and behaviours do not go hand in hand if we have invested a lot of energy in a specific matter (Festinger, 1962). For instance, if we invest a lot of time, energy and even money in a religious sect and then find out that the leader of the sect cannot be trusted. It might be for instance that he or she has been seriously cheating with money and abusing people. Even if we know these facts and thus, change our attitude towards the sect, we might not be able to leave the sect since we have invested so much energy on it. Likewise, in environmental issues, we might have pro-environmental attitudes; however, if we

have invested a lot in a specific non-environmental friendly life-style, it might be difficult to change to a life-style that acts in line with our pro-environmental attitudes. This is of course a challenge in environmental education.

In conclusion, instead of talking about a single definition of the term attitude, the term “attitude system” can be used. This term would illustrate the complexity of attitudes. Socialization consists of many factors; parents, school, peers, society etc. and all these factors influence our attitude formation and might be contradicting and thus give rise to mixed emotions and evaluations. Also, attitude formation might be linked. For instance, if we have a positive attitude to the tourist destination in the above example, we might also have a positive attitude towards the flight company or the hotel we are staying at. In addition, we might have more positive attitudes to people we encounter during our stay. If we on the other hand meet someone we do not like at the hotel, we might not like the hotel as well. Thus, one attitude can influence a linked attitude. We might also have different attitudes depending on our present location. We might for instance be bothered by smoking in our home and be fine with smoking on a tourist destination. Also our mood might influence what attitude we have towards a subject at the present. Since attitudes act like “guiding principles” in our lives they can to some extent predict behaviour. Education plays an important role in the process of forming attitudes and therefore, environmental education is important in the process of environmental attitude formation and thus also to predict environmental behaviour. However, as mentioned above, according to Festinger, attitudes might not predict behaviour if we have invested energy in a contrary direction. Thus, the correlation between attitudes and behaviour is very complex. However, since attitudes influences behaviour to an extent, attitude change is likely to change behaviour and thus, adopting pro-environmental attitudes is likely to even change environmental behaviour. Therefore, attitudes are important in the process of reaching a sustainable development since it requires a change of people’s lifestyles.

3.2 Definitions of environmental attitudes

Environmental attitudes can be divided into different directions. These are most commonly referred to as anthropocentric and biocentric attitudes. In most studies, these terms are divided into subgroups, adding also eco-centric attitudes which is a direction within biocentrism and late modern anthropocentrism, which is a direction within anthropocentrism (Sandell, 2003).

3.2.1 Anthropocentric attitude

The word *anthropos* derives from Greek and means human. Anthropocentrism therefore means that humankind is the centre of all existence. The anthropocentric view most probably arose in the 1600s during the revolution of science. The anthropocentric view is therefore associated with modern time (from 1600s until now) and for that reason, the term modern anthropocentrism is used to describe the anthropocentrism that arose during that time. The founding idea within anthropocentrism is that humans are separated from nature. This view is referred to as dualistic in literature on the topic. Humans are the only living creatures that have moral relevance according to anthropocentrists. Nature has only an instrumental value, which means that nature is valued in relation to what it can bring to humans. For that reason, humans have the right to be superior of other living beings, control nature and use nature for their own interests. One of the arguments for this view is that according to the bible, humans are created as an image of God and for that reason are superior to nature. Also, according to Kant, who was a great philosopher during the age of enlightenment, only humans have the ability to act according to moral standards. A flower, for instance, cannot be expected to act morally. Similarly, animals cannot be expected to act morally. Therefore, only humans have moral relevance. For that reason, humans are free to use nature and its resources for their own interests. In addition, a commonly used description of anthropocentrism is the “mechanical view” on nature. Animals and plants are like soulless machines. If one part breaks, it can be repaired. In contrast, humans have souls. Anthropocentrism is characterized by a strong belief in science, technology, economic growth and the importance of material standards.

Environmental problems should be solved by developing technology that uses natural resources more efficiently. According to anthropocentrism, only people who live today are of importance. Further generations will be able to develop more advanced technology that will solve the environmental issues of tomorrow. However, no people today should be suffering because of environmental problems. According to anthropocentrism, there should be a fair distribution of resources. The main questions within anthropocentrism is that how can we know that only humans have moral relevance? What human character gives us the right to control nature? If this character gives us such a right, should also humans be ranked according to the level of this character? For instance, if the character that makes us have the right to be superior to nature is our intelligence, should people with a higher levels of intelligence be valued higher than a person with less intelligence? Also, what do we know about souls of animals and plants? How do we know that only humans have souls (Sandell, 2003)?

According to modern anthropocentrism, there is only one way of approaching the issue of the

relationship people have with nature. Modern anthropocentrism assumes that all people consider people separated from and in dominion of nature. During the past decades new directions within anthropocentrism have aroused. One of them is the late anthropocentrism, which also gives space for different ways of addressing the question about what relationship humans have with nature. For instance, the relationship we have towards nature might vary depending on which culture we belong to. Modern anthropocentrism does not open up for this type of differences.

3.2.2 Late modern anthropocentrism

Today there are different directions in anthropocentrism that derives from modern anthropocentrism. One of these is the late modern anthropocentrism, which arose during the past decades and differs in a few areas from modern anthropocentrism. This direction arose while it became clear that humans are using natural resources at an unsustainable level. In contrast to modern anthropocentrism, late modern anthropocentrism views humans as part of nature. However, nature should be used and valued according to human needs and interests. Also, nature should be taken care of in favour of human beings. Humans have the right to control nature and environmental problems should be solved by using technology. In contrast to modern anthropocentrism, it is not only people of today that have moral significance. Also, future generations have the right to live on the same conditions as humans today. The late modern anthropocentric attitude characterizes the Agenda 21 and the concept of sustainable development. The concept of sustainable development refers to sustainability within ecological, economic and social development and is commonly defined as a “development which meets the needs of the present without compromising the ability of future generations to meet their own needs”. The solution to environmental issues within the late modern anthropocentric direction lies also within technology. In addition, late modern anthropocentrism focuses less on material standard than the modern anthropocentrism and uses the term “life quality” instead of material standard. Late modern anthropocentrism is greatly associated with cultural development and is considered to be the base for the development of the industrial society (Sandell, 2003).

3.2.3 Biocentric attitude

Bios is the Greek word for life and biocentrism therefore means “to put life in centre”. Biocentrism arose in the romantic area in the late 1700s. Part of the reason to why biocentrism arose during this time was the science of ecology that studied human

populations as parts of ecosystems. In these studies attention was paid to human adaptability, both from a physiological, cultural and behavioural view. From this perspective, it became natural to view humans as part of nature (Moran, 2006). The founding idea in biocentrism is that humans are part of nature and that also other living beings have moral significance. Therefore, our actions in nature should not only be in favour of humans. In contrast to anthropocentrism, biocentrists believe that we do not possess any specific quality that allows us to assume an ethically superior position in the world (Sandell, 2003). However, there are many different opinions on what level of significance different species have. Some biocentrists categorize the moral significance according to the ability to feel suffering, a will to live and do goods on the earth. Others mean that all living organism are born with a common value and should be treated accordingly (Sandell, 2003).

3.2.4 *Eco-centric attitudes*

Today there is also a new direction in biocentrism called eco-centrism which has aroused during the past decades. Eco derives from the Greek word *oikos*, which is the word for house and thus, eco can be defined as one “wholeness” that we all are part of. This “wholeness” is dependent on its parts and each part is dependent on the “wholeness”. For instance, an eco-system such as a forest is dependent on its trees. The trees in turn are dependent on insects and the insects are dependent on the trees. Birds are dependent on insects as food supplies and thus, also indirectly dependent on the trees. We cannot take out any specific species from the forest without any consequences on all of the other species in the forest. Therefore, the main difference between biocentrism and eco-centrism is that eco-centrists mean that the whole ecosystem has a moral significance and we cannot talk about the value of only one single species. The values of living organisms must be in the context of a whole ecosystem (Sandell, 2003). Eco-centrists value the whole eco-system higher than its parts. The main question within eco-centrism is to what extent the “wholeness” of biological systems should be in prior to human interests. For instance, if we were thinking in eco-centric terms to an extreme, we would save distinct species prior to human beings. Most people would instinctively save human lives prior to animals. Also, since all living beings have moral relevance because they are part of an eco-system, to what level of extent should we respect different species? Should we for instance be vegetarians? But if we are vegetarians, still we are eating plants. Don't they have the same moral relevance? Should we only eat fallen fruits from trees and nuts? Is that type of diet realistic (Sandell, 2003)?

3.3 Formation of environmental attitudes

Attitudes are learned, both from the complex process of socialization as a child, but also through the society in adulthood. Thus, the factors that are contributing to what attitude we adopt towards nature is very complex and yet problematic to investigate. Firstly we need to look back at environmental history in order to understand the state of the earth today and the context we live in from global standpoint. Secondly, we need to look into attitudes towards nature in religions since religions have and are forming our society historically and today. Thirdly, we need to look on different culture structures such as if the culture is collective or individualistic since this is fundamental in our social context. We also need to look at factors that contribute to environmental attitude formation such as the level of education, what environment education we have encountered, location, which age group we belong to and what gender we have. In this section we will look at environmental attitude formation through the above given factors.

3.4 Environmental attitudes throughout the history

In order to understand environmental attitudes in our society today, we need to look back in history how these attitudes might have been formed. We will look at attitude formation from the hunters and gathers time, over 100 000 years ago until now.

3.4.1 Gathers and hunters time

People who lived during a period between approximately 100 000 years ago until 10 000 years ago are commonly referred to as the hunters and gathers. This term is based on a very likely conclusion that these people must have hunted and collected foods for a living. There is of course very little knowledge about these people. Most of the conclusions we draw are speculations based on for instance the way that some indigenous people live today and the knowledge they have inherited from their ancients (Sandell, 2003). However, it is very likely to assume that these people did modest impact on the environment, mainly since the population size during that time is estimated to be very low, approximately 1,5 million people. They most likely walked around in large groups to minimize the risk for food depletion. They were greatly dependent on nature in terms of seasons, food resources in different areas, water and fuel. Therefore, it might have been natural for humans to view themselves as a part of nature. On the other hand, since they were using tools and fire, they might have viewed

themselves to be superior to animals and plants. The use of fire might have had some impact on ecosystems, especially the grasslands and savannah, but the earth was most probably still able to restore itself by some redistribution of land. According to Moran, the hunters and gathers only spend about two to three hours a day on work. The rest of the day was spent on leisure activities such as enjoying the beautiful nature as walking from place to place and to socialize together. At times though, it was extremely tough to find food and shelter. Since one important source of information about hunters and gathers is mediated through indigenous people today, the relationship towards nature is likely to resemble theirs (Sandell, 2003). There are some common standpoints in indigenous people's culture and one of these is to honour nature as a God. Also, indigenous people do only eat animals if they need to. When they kill the animal they pray for the spirit of the animal. This view can be considered highly biocentric or eco-centric. Also the term "mother nature" is commonly used among indigenous people. "Mother Nature" is considered being the earth as a "spiritual mother" that supports our needs. "Mother earth" is included in many prayers. The use of prayers might have made people during the hunters and gathers time feel somewhat in control of nature, but also to feel that they were a part of something bigger (Moran. 2006). However, hunting and gathering could probably only support a limited amount of people. As population increased on earth, people had to find alternative strategies. Therefore, in addition to hunting and gathering, people started to cultivate food (Moran. 2006).

3.4.2 Cultivating food

The time when people started to grow crops and domesticate animals was of course a long process. It required many changes in people's lives to own their land. This change is estimated to have occurred approximately 10 000 years ago. The main advantage of cultivating food is that it can supply more people on the earth compared to hunting and gathering. Also, food supplies can be stored and harvest can be predicted to some degree. These advantages most likely offered a sense of control over food supplies. However, farming is more time-consuming and less convenient than hunting and gathering. Farming required extra work such as protecting food supplies and properties. People were still greatly dependent on nature in terms of seasons, weather, crop yield etc. The term "mother nature" is found in literature from this time (Sandell, 2003). Also it became very important to learn how to interpret the signs of nature. However, if the farmers during that time had a bioentric or anthropocentric view is difficult to find out. It might also vary globally. Some of the ancient scripts derives from 10 000 years ago such as the Veda scripts. These scripts could be interpreted as eco-centric or

biocentric and are based on observations of humans and nature. However, it is also possible that people had an anthropocentric view since they somewhat controlled nature by farming and growing crops. The Bible is interpreted as being highly anthropocentric. As population increased even more, intensification of farming took many forms. Water management was one of the first ways farmers increased crop yields. This was done through terracing and irrigation. Also the need for other professions than farming increased and people working with other tasks also needed food. Modernization of farming included changing crops mix and the use of chemicals to improve yield (Moran, 2006). Technological advances started during the 1400s, when transportation and communications played a crucial role (Mosley, 2010). However, the greatest advancements took place during the industrial revolution during the 1700s.

3.4.3 The industrial revolution

During the industrial revolution the productivity of producing foods and other items was increased tremendously. In only a few decades, crop yield was increased by the double. Productivity and economic growth are key terms during this era. In order to increase productivity humans started to categorise time and room. The terms working time, free time, bed-story time were founded during this time. Also, nature was divided into different parts such as harvest land, recreation land and gardens. These divisions needed efficient transportation and thus, the infrastructure became very important. During this time, the revolution of science also took place. This resulted in discoveries to use more chemicals to increase crops yields and also to burn fossil fuels to produce foods, items and for transportation. Also, advanced technology was developed to increase efficiency. By using chemicals, burning fossil fuel and by using advanced technology the dependence of nature decreased during the industrial revolution. It also resulted in other changes such as reorganization of labour, which in turn made many people decrease their bonding to nature (Moran, 2006). This decline in dependence of nature also most likely resulted in change of attitudes towards nature. This change in attitudes was particular for western countries since the industrial revolution started in west. The view people had on nature during the industrial revolution is believed to be highly anthropocentric with a huge belief in science and technology to solve environmental problems that might occur. However, non-industrial parts of the world during this time such as the eastern counties were characterized by biocentrism. Also, there was also a movement towards a biocentric view during this time also in western countries. Most likely this view derived as a contradiction to the extreme anthropocentrism.

Biocentrism might also be based on the evolution theory and the science of ecology that arose during this time. The evolution theory indicates that humans derive from the animal kingdom and the science of ecology includes humans in ecosystems where all living beings are greatly dependent on each other. Thus, according to the science of biology, there are several indicators that humans are part of nature and therefore would support a biocentric view on nature.

3.4.4. The science of biology

According to the fundamental theories in ecology, all living (biotic) and non-living (abiotic) matters are interrelated and dependent on each other. For instance, the sun gives light and energy to organisms such as plants and some bacteria that perform photosynthesis. This energy is transformed into carbohydrates and oxygen, which heterotrophic organisms such as humans and animals utilize. They turn carbohydrates into energy, water and carbon dioxide through respiration. The plants in turn use the carbon dioxide and thus, the circle is closed. In this case, plants, animals and humans are interrelated and greatly dependent on each other. In addition, all living beings are interrelated and dependent on each other by predation. Thus, nature is greatly dependent on all living and non-living beings where humans also play a role, which supports a biocentric view on nature (Ricklefs, 1999). In addition, according to the evolution theory, humans derive from the animal kingdom, which also suggests a biocentric attitude to nature. There are a few remarkable signs that support the evolution theory. All organisms share a remarkable proportion of DNA, which indicates that we have a common ancestor. Most likely, this ancestor was a primate billions of years ago. Also, the synthesis of proteins, and the use of fat and carbohydrates are similar in all living beings. The findings of fossils also indicate an evolutionary progress of species' adaptation to different environments. In addition, embryo development is very similar in most mammals, which also indicates a divergent evolution process and thus, supports a biocentric view of life (Ricklefs, 1999). The evolution theory was first rejected by the church and is still discussed among Christians. The argument against the evolution theory is the belief within Christianity that people do not come from the animal kingdom. The church was very strong during time when the evolution theory was formulated. However, the church started to lose power during the industrial revolution and instead the belief in science started to influence people's way of thinking. Today the evolution theory is accepted among most Christian people and also other scientific facts that first were rejected by the church such as the heliocentric world view.

3.4.5 The postmodern society

During the last decades, energy efficiency has improved, mainly due to modern technology. However, consumption behaviour has changed. The energy we save through more efficient technology might be eaten up by more consumption. For instance, today it is possible to watch TV on a computer, which would save energy since we only need one screen for two purposes. Instead of buying one TV screen and another computer screen we now only need to buy one screen. However, it is very likely that we buy two anyway and put them in different rooms. In this case we have not decreased our impact on nature. Furthermore, the living standard has increased dramatically during the 1970s when private use of cars became a break-through. Even though we today we have cars that burn fossil fuels more efficiently, more people on earth are using cars and also, many families have two cars. On the other hand, there is a strong movement to reach a sustainable development both in economic, social and ecological developments. These ideas took their first steps in 1992 on the Rio conference when the concept of “sustainable development” was founded. The modern anthropocentric environmental attitude that characterized the industrial revolution was modified and formulated as late modern anthropocentrism. The definition of sustainable development includes a perspective on future generation’s ability to utilize the earth’s resources and thus, late modern anthropocentrism includes this standpoint (Sandell, 2003).

3.5 Formation of attitudes through religion

Religions are and have formed our society throughout the time and thus, religions are important contributors in the socialization process and therefore influence our attitude formation towards nature. This section will look into environmental attitudes conveyed through western and eastern religions with a focus on Christianity and Hinduism.

3.5.1 Western religions

Western religions such as Christianity are commonly referred to as to have a traditional anthropocentric view on nature. According to the bible, humans are created as an image of God and therefore are in dominion to nature (Gen. 1: 27, 28). This is commonly interpreted as that human is superior to nature and thus separated from nature. However, animals have some rights to them. An individual should for instance assist an ox or an ass that has fallen and a bird has the right to rest in their nest with eggs. The eggs can be taken, but the mother must be free (Deut. 22: 4, 6-7). God is the creator of the world and is therefore responsible for his

creation. However, humans have also some moral responsibilities. According to the bible, it is wrong to worship nature since it is a creation of God. Instead the Creator, thus God, should be worshipped. The world exists in reality according to Christianity. Thus, it is a real place and not an illusion. However, the world is not as it really should be. This is due to that Adam and Eve ate the apple containing the knowledge of that both God and Evil exist, which had some bitter consequences for humanity. Moreover, a world of perfection is promised during the so called last days, where “the wolf and lamb should feed together, the lion shall eat straws like the ox” (Isa. 65: 25). Also, in Christianity, the main focus is on humanity and not on nature. One of the explanations to this could be that God entered human through Jesus and thus, human is divine and not animals and plants. Human nature is therefore more interesting than the animal kingdom, plants and nature itself. Christianity went through some revolutionary changes during the 1600s when the view on earth’s position in the universe changed from a geocentric view to a heliocentric. Before, a geocentric view was supported by the Christians since humans were believed to be the centre of the universe and therefore it made sense that the earth was positioned in the centre of the universe. However, during the 1600s Copernicus heliocentric view became dominant in the western countries. During the 1800s, the evolution theory of Darwin was rejected. Today most Christians look at the evolution theory as how God created humans. The evolution is not believed to be by accident. Rather God’s creation power is the main driving force in the process. During the last centuries there have also been some movements in Christianity towards animal rights and vegetarianism (Holm, 1994).

3.5.2 Eastern religions

The eastern religions on the other hand view nature as a living organism where human is a part and thus, the eastern religions have a traditional biocentric attitude towards nature. There are many different scripts in Hinduism and several directions. However, the fundamental thoughts are that all matters exist of atoms and these have different characters such as the five elements and the different senses and its characters. According to Hinduism, God is not different to the created objects. In Christianity, the universe has a birth and a death. In contrast, in Hinduism, there is no beginning or end. Instead, life is going through cycles of creation, maintenance and destruction and also the reincarnation process. Hinduism believes in the evolution theory, but has an expanded view. The evolution is not only physical, also love and compassion is developing throughout the time. The last era in the evolution is an era of “supermen” according to some scripts in Hinduism (Holm, 1994). One source of the

fundamentals in Hinduism stems from the Ayurveda, which is a script written over 10 000 years ago and is still flourishing in India. Ayurveda means “knowledge of life” and contains scripts about healthy living. In Ayurveda, the human body is explained by using terms from nature. Our solid parts in the body such as the skeleton and the muscle fibres are related to the element of earth. The fluid parts of the body is related to the body fluids such as blood and urea and the wind is the nervous system because of its rapid movements in signal transmission and the metabolism is related to fire because of its energy production. The elements also corresponds to human characteristics such as the element of earth being solid, grounded people, water being emotional, wind rapid and fire passionate and energetic people. In ayurvedic medicine, diseases are believed to be caused by imbalances of the elements within the body, mind and spirit and the cure to most diseases is mediated by natural medicines. Thus in Ayurveda nature and human are reflections of each other. By studying nature, human beings can be understood (Chopra, 1990).

3.6 Formation of environmental attitudes through culture

Each individual is formed by its cultural context. Therefore we need to look at culture as a main contributor while forming environmental attitudes. All cultures that exist today have addressed the issue of the relationship between humans and nature. Just as cultures have set rules for social interaction, cultures also frame our relationship to nature and the way we interact with the environment. Thus, environmental problems can only be fully understood through the filter of culture. Since there are so many different cultures on earth, the study on how the cultural influence environmental attitudes is very complex. However, if cultures are divided into collective cultures and individual cultures, we can assume some very likely distinctions. People in an individualistic culture tend to view themselves as individuals and emphasize the needs of individuals. In general, western cultures tend to be individualistic. In contrast, people in a collective culture view themselves as members of a group and usually consider the needs for the whole group in first place, rather than each individual separately (Schultz, 2002). Most Asian countries including India tend to be collectivists. In other words, people in collective cultures are more likely to work harder for a goal which favours the whole group. In contrast, people in individual cultures work harder for goals related to self-interests. Thus, people in collective cultures are assumed to work harder to reach a sustainable development since it is not only a self-interest matter, rather a goal that favours the whole

planet. In one cross-cultural study including over 20 countries some of the findings included that people from individual cultures such as in the US commonly had no interest in environmental issues as long as it did not directly affect them or that they could see the result of their actions. However, in collective cultures a different attitude was prevailing. People in these countries were more likely to engage themselves in social issues such as environmental issues even if it did not directly affect them (Schulz, 2002). In addition, industrial cultures, such as the western cultures are characterized by a modern world view, which mostly is referred to as the DPS (Dominant Social Paradigm). According to Koger in the book "Psychology of environmental problems" the DPS can be defined as follow: "nature is composed of inert, physical elements, which can and should be controlled by individual human beings seeking private economic gain whose work results in progress (mostly economic gain)" (Koger, 2010:38). However, a new shift in this view towards a NPS (New social Paradigm) is also prevailing in western industrialized countries. The main difference in the new social paradigm is that we must protect the earth from nature degradation and work for a sustainable development (Koger, 2010). The DSP is considered modern anthropocentric since the view of nature in DSP is mechanical and also since nature can and should be controlled by humans according to the DSP. On the other hand, the NSP is considered late modern anthropocentric since it includes an aspect of working for a sustainable development. Moreover, many studies have been investigating ingenious cultures. People in these cultures live in direct contact with nature and are greatly dependent on the natural environment. In these non-industrial cultures, the earth is viewed as a living organism, mostly referred to as "mother nature" or Gaia. "Mother Nature" and Gaia are often included in prayers and are deeply respected and honoured. Thus, people in these non-industrial cultures are likely to have adopted a biocentric or eco-centric attitude towards nature (Koger, 2010).

3.7 Formation of environmental attitudes through location

Another factor that influences environmental attitude formation is the surrounding in where we live and have been raised. If we look at research on differences in environmental attitudes between people who live in rural or urban areas, we will see a complexity. Several studies have concluded that residence in an urban area is generally associated with greater environmentalism in USA (John, 1977). However, a study of environmental concern, attitudes and action indicate that people in urban areas have a greater concern about the environment whereas people in rural areas indicate a greater responsibility to nature, especially people who

are economically dependent on nature (Berenguer, 2005). Some authors explain this by the fact that urban areas become more affluent, the population is less concerned about survival issues and have more time and energy to engage in pro-environmentalism (Boeve-de Pauw, 2010). Sociographic studies in correlation to environmental attitudes indicate a relationship with pro-environmentalism in the higher society classes. This is believed to be due to a higher level of education and could also explain the level of concern among urban people. Thus, when we look into comparison between urban and rural areas we must also take into account that there are different social structures between rural and urban people that might influence the process of environmental attitude formation. However, one link that seems to be quite persistent though is the correlation between exposure to nature degradation and environmental attitudes. This link is formulated in the Environmental Deprivation Theory (EDT) (Boeve-de Pauw, 2010). Environmental deprivation refers to an environment that is lacking of resources and thus, the term can also be interpreted as nature degradation. People, who are exposed to nature degradation such as lack of clean drinking water, forest degradation and eutrophication, develop pro-environmental attitudes towards nature. Also, people who are exposed to positive experiences in nature develop pro-environmental attitudes. According to the EDT, exposure to nature is one of the key factors in developing pro-environmental attitudes. People in urban areas are not in direct contact with nature degradation. According to Moran, “cities are symptomatic of human impact on nature. Urban areas have too many layers of information between the environment and the decision-takers. Decision-takers are not likely to experience direct environmental threats such as deforestation, river depletion and soil disruption. This might open up for misvaluations, self-interests and corruption” (Moran, 2006:68). . In rural areas, the decision-takers are closer to the environment, which might influence the decisions in a positive way (Moran, 2006). On the other hand, many big cities are greatly polluted, which is a direct health problem for many urban citizens and thus, might influence environmental attitude formation in a similar way as being exposed to nature degradation. Decision-takers in urban areas might therefore be concern about environmental problems such as pollution, which most likely affect their decisions.

3.8 Formation of environmental attitudes through education

Since attitudes are learned, education is very likely to contribute to the formation of environmental attitudes. According to Van Liere and Dunlap, education is the main contributor in the process of developing environmental attitudes. Several studies in the past

decades have found that higher levels of education have a positive effect on environmental attitudes (John, 1977). A person with a high level of education is likely to have a broad perspective on ideas and beliefs, which encourages an open-minded attitude towards environmentalism (Van Liere and Dunlap, 1980). According to a study in Korea during the early 90s, a connection between higher education and pro-environmental attitudes was found even though the subjects that were highly educated were not considered to have had strong relationships to nature (Yang-hee, 1993). However, in the same study it was also found that the stronger the subjects felt the harm of environmental problems, the more concerned they were about environmental issues and in this case it did not matter what level of education they had. Interestingly, in this study, people with higher education expressed more sceptics to that technology could be the solution to environmental problems. Also, in a study by Boeve-de Pauw, there is a link between student's performance in science and pro-environmental attitudes (Boeve-de Pauw, 2010). However, some studies have also shown the opposite. In a study about the effects of environmental attitude change after completing an environmental course, the result was that no significant attitude change took place. A lot of this could depend on the reason to why the students took the class. If the reason was to pass exams and to achieve their grades, the students might not take the knowledge into an appropriate cognitive structure and therefore an attitude change could not take place. Also, the quality of the course must also be taken into account (Yount, 1992). However, the correlation of expose to nature, both nature degradation and positive nature experiences have been studied and might be a key factor in pro-environmental attitude formation and in environmental education (Boeve-de Pauw, 2010). Outdoor education in nature has been investigated as a key factor in environmental education. A case study in Belize, which is a country in South America, indicates that students who attained an educational program for five days in the forest transferred environmental attitudes towards a positive direction. At first, some of the students were afraid of the forest. The students were encouraged to talk about their fears during the program and in the end of the program most of the fears had diminished. Most of the students also wanted to spend more time in the forest and expressed pro-environmental attitudes (Emmons, 1997). In addition, in a study in Malaysia an investigation about the effects on outdoor environmental education was conducted. The results of this study indicated that activities in natural surroundings enhance the relationship towards nature and increased the student's empathy to nature. According to the author, this might influence the participants to act environmental friendly (Taff, 2010). In conclusion, environmental education is most likely contributing to the process of environmental attitude formation since attitudes are learned. If

we are exposed to information about the environment we can respond to it, evaluate it and thus, form an attitude. However, it is also possible that the information passes us by and is not taken into a cognitive level. In that case, there might not be an attitude formation. Thus, the quality of the education must also be taken into account. Outdoor educations where students are exposed to nature and nature degradation have been found to contribute to pro-environmental attitudes.

3.9 Environmental attitudes in different age groups

In most studies in the past decades, younger people tend to hold more environmental beliefs than older. Younger people are believed to be less integrated in society and can more readily criticize industrial and governmental policies. An alternative explanation is that young people have grown up in an era when environmentalism is greatly discussed (McMillan 1995).

3.10 Gender differences in environmental attitudes

Research on gender-related differences in environmental attitudes and behaviours suggests that women tend to have a stronger care for nature (Boeve de paw, 2010). The difference in attitudes between the sexes was explained by that women tend to be more relationship-oriented than men, based on secondary data. According to a study by Schulz, one explanation for this difference is that females are conditioned to have a stronger “ethic of care” (Schulz, 1993). According to a study by Yang conducted in Korea in the early 90s, women in general were more concerned than men about environmental issues. However, men in this study seemed to be more concerned about air pollution and noise pollution whereas women were mostly concerned about pure drinking water, offensive smells and health-related problems. Most likely this difference is due to what men and women are being exposed to in their daily lives. According to a study on children’s attitudes to nature, there were no significant difference between boys and girls. This could also support the above given idea since children do not have duties in the same manners that adults have. In a cross-cultural study on young people’s attitudes towards the environment the author argues that the differences that occur in some studies are mainly caused by gender expectations in socialization. In this study, females are believed to “be socialized to be more expressive, to have a stronger ethic of care and to be more interdependent, compassionate, nurturing, cooperative and helpful in care-giving roles. Males are on the other hand socialized to be more interdependent and competitive” (Boeve-de

Pauw, 2010). In conclusion, in some studies there are differences in environmental attitudes between the sexes and this might have explanations such as different gender expectations, socialization, and also, that men and women are exposed to different duties in their daily lives. This might be particularly true in poor countries when duties between men and women are clearly defined.

3.11 Closing

The term attitude is defined as the evaluation we have towards a subjects based on socialization, experiences and information we encounter that give rise to emotions. Environmental attitudes can be divided into two main directions (anthropocentrism and biocentrism) with a subgroup each; late modern anthropocentrism and eco-centrism. In this investigation, environmental attitudes will be categorized in these four groups. Formation of environmental attitudes is a complex process including some main contributing factors such as the history of humans, religion, culture, location, education, which age group and gender we belong to. In this study, the factor of exposure to nature and nature degradation will be investigated using the above given theoretical perspectives on the subject such as the Environmental Degradation Theory (EDT). Also, since attitude systems are complex and sometimes linked, we also need to consider the other main contributing factors in attitude formation in this investigation.

4. METHODS

The investigation was mediated using a qualitative method based on observations and in-depth interviews. Also, secondary data on India was investigated in order to understand the social context and the environment of India. The secondary data will be presented in the first section of the results followed by the results of the observations and in depth interviews. This method section will provide method-related information such as information about the observations, the interview subjects, the locations where the interviews were conducted, the interview questions and method-related questions.

4.1 Observations

The observations took place during a period of eight weeks of travelling in northern India, both in rural areas such as the village areas in Himalaya Pradesh, a district in northwestern India and in urban areas such as the capita of India, Delhi. The purpose of the observations was to investigate Indian people's environmental attitudes in general, both adults' and youths' and the context which might have formed their attitudes.

4.2 Interview subjects

Location	Boys	girls	Religion	School
Dharamsala (rural area)	5	5	7 Hindus 3 Buddhists	governmental
Delhi (urban area)	8	8	16 Hindus	governmental

Youths between 15-17 years were selected from schools and randomly on the streets. This age-group was selected since young people tend to have more environmental beliefs than older according to previous research. Also, young people are believed to be less integrated in society and can more readily criticize industrial and governmental policies (McMillan, 1995). In addition, young people are the decision-takers of tomorrow. Furthermore, during this age, the students should have a decent amount of environmental knowledge since it is integrated in the Indian school syllabus. Both girls and boys were selected on an equal ratio. In total 10

youths from Dharamsala (rural area), five boys and five girls were interviewed. In Delhi (urban area) 16 youths were interviewed, eight boys and eight girls. Gender-related research on environmental attitudes has indicated a difference in environmental attitudes between the sexes. Women tend to have a stronger care for nature, which might be due to social conditions. Some studies also suggest that the attitude differences between the genders depend on that women and men are exposed to different duties during their daily life (Boeve-de Pauw, 2010). Since there might be a link between gender and environmental attitude formation, the gender of the subjects in this interview was noted. All students belonged to eastern religions such as Hinduism and Buddhism. These religions are considered to convey biocentrism and/or eco-centrism.

4.3 Location

The investigation was conducted in a village in northern India (Dharamsala), a rural area and in central Delhi, the capital of India, an urban area. These two different locations were selected based on the fact that the level of exposure to nature and nature degradations varied significantly between the locations. The subjects in Dharamsala are exposed to nature and nature degradation in their daily lives and students in Delhi are not in direct contact with nature in their everyday life. Instead they are exposed to a high level of pollution. Also, the students in Delhi are greatly influenced by industrialization and western influences.

4.4 Interview questions

In this investigation, the students were asked seven questions. These questions will be presented below:

1. Describe your family.

This question was asked in order to build a relationship with the student. The question was open to give general inputs on the socialization process.

2. What are your mother and father doing for a living?

The subjects' parents' professions were believed to play a significant role in what attitude the student had towards nature, assuming that a profession in direct contact with nature should support pro-environmental attitudes. This is based on that people who are economically dependent on nature indicate a greater responsibility to nature (Berenguer, 2005). Also, if the parents are affluent, they might be less concerned about survival issues and have more time

and energy to spend on environmentalism (Boeve-de Pauw, 2010). In addition, a correlation between higher social classed and pro-environmental attitudes have been found.

3. What do you know about pollution?

This question was asked to find out what knowledge the student had about pollution as an example of an environmental problem. The level of education plays a significant role in environmental attitudes formation and science performance has been shown to act in favour to pro-environmental attitude formation according to previous research. The students in Delhi are exposed to a high level of pollution in their daily lives. Therefore, the question was also asked to understand if exposure to an environmental problem acts in favour of pro-environmental attitudes. According to the Environmental Degradation Theory (EDT) this is very likely.

4. What do you know about recycling?

This question was also asked to find out what knowledge the student had about environmental problems, but instead the issue of recycling was raised. Recycling was chosen as the question since the students in the village area are exposed to litter in the forest in their everyday lives. Also, since the understanding of the importance of recycling includes an understanding of different products life cycles. To grasp this understanding might indicate that the student is likely to have adopted a biocentric or eco-centric environmental attitude.

5. What do you think that you could do to protect the environment?

This question was also asked in order to find out what knowledge the subject had about environmental problems and its solutions. Also, to find out if the knowledge was on a cognitive status. Furthermore, it was asked to understand if the student's action would go hand in hand with their attitudes. According to the dissonance theory this might not be the case since the student might have investigated a lot of energy on a life-style that is not in line with environmental friendly behaviour (Festinger, 1965).

6. What do you think the government should do?

This question was also asked in order to find out what knowledge the subject had about environmental problems and its solutions. In addition, this question was asked to find out if the student would bring the solutions to environmental problems on a global level and not just India. In other words, to find out if the students would look at solutions such as cooperating

with other countries. Furthermore, it was asked to find out if they had typical anthropocentric solutions such as investing in using technology to solve the problem. In addition, the question was asked to see if the student incorporated concepts such as sustainable development and economic growth in their answers.

7. *What scares you the most about environmental problems?*

This question was asked first as an open question to gain inputs on which environmental problem the subjects consider most important to solve. The last question was inspired by previous research where students had been told to write an essay about what scared them the most about environmental threats (Schulz, 2002). This investigation took place in the US and was conducted among younger children. This study gave a good picture on children's attitudes towards nature. In this investigation, four alternatives were given and the students were asked to put them in order starting with the one that scared them the most.

Alternative	Most likely attitude	Why?
a <i>human health problems</i>	Anthropocentric, late modern anthropocentric	This alternative would consider human health more important than the health of animals, plants and eco-systems. Thus, humans have higher moral significance than animals and plants
b <i>animals and plants might not survive</i>	Biocentric, eco-centric	This alternative would consider animals and plants to have moral significance.
c <i>it affects my family's business</i>	Anthropocentric, late modern anthropocentric.	This alternative would consider human interests more important than the survival of animals, plants and eco-systems.
d <i>Future generations might not be able to live</i>	Biocentric, eco-centric or late modern anthropocentric	This alternative would consider also future generation's survival and life-quality.

4.5 Method-related problems

The first interviews took place in a village school in Dharamsala in north-western India. It is very likely that only the students with good confidence and performance chose to participate. The students spoke English very well. However, they might not have been as open with me as

if they were speaking with a local. This problem was most likely solved as a local translator was used in Delhi. The interviews in Delhi were more easy-going. After they had opened up the conversation with the translator, they started to speak directly with me in English. However, in some cases it was difficult to understand the level of honesty in the answers, mainly since some of the subjects were likely to answer in a way to please me.

5. RESULTS

5.1 India

In order to understand the context of India the first part of this investigation included a secondary data study. The result of this investigation will be presented as below. Also, the investigation consisted of observations in both rural and urban areas. The results of these observations will be presented in the following section. The last part of the study was in-depths interviews conducted in a village area in north western India and in Delhi. The results of these interviews will be presented in the last section of this chapter.

5.1.1 India in general

Geographically, India can be divided into three districts; the Himalayas, the north Indian flat-land and the southern district. Most of the land area (57 %) is used for growing crops. The remaining part consists of forests, deserts, rural areas and pasture land areas. All ecosystems are represented in India and India has a rich biodiversity of animals and plants. Most of the Indians belong to four distinct groups of people. These are the Munda people, who are spread out in the country, the Dravidians, who came from northwest in prehistory, the Indo-Europeans, who immigrated from Europe and the smallest group, the Tibeto-Burmic people. India has around 300 languages and thousands of dialects. Around 30 % of the population has Hindi as their mother's tongue. However, English is still the official language due to disputes between the main languages in India. India has a long history of the cast system. Most likely, this system derived from when the Indo-Europeans entered the country. Their skin colour was brighter than the Indians. Therefore, they strived to maintain their "race" pure and for that reason, different casts were developed. Mainly, there are four different casts, the Brahmins (priests), kshatriyas (the warriors), vaishyas (crafts men) and the shudras (servants and working class). The people who don't belong to the cast system are officially called scheduled casts. There are also sub-casts, which have more practical importance. The cast system is forbidden in India, although it is still practised in many areas. Especially the Dravidians are vulnerable. The government is practising positive discrimination. For instance, people from lower casts are quoted to government positions. However, this is greatly debated. In the cities, the cast system is about to disappear and the middle class is growing rapidly. India does not have a main religion. All religions are represented in India. However, 80 % of the population belong to Hinduism and 14 % to Islam. Hinduism derives from the prehistory and has had

many external influences. Since so many people follow Hinduism, the religion is characterized by its great tolerance and acceptance. The Hindu belief system is defined by reincarnation and karma (action). There are thousands of Gods, with different meanings and purposes. Purification is central in Hinduism and is closely related to the cast system. India has a broad variety of culture expressions and is well known for the Bollywood film industry, Indian dances and classical Indian music (Landguiden, 2008).

5.1.2 Political system and economy

India became independent from Britain 1950. The political system is a parliamentary democracy. The Indian society is extremely unequal. The gap between people who have taken part of modernization and those who have not is vast. Approximately 35 % of the population have to struggle hard to survive. However, this percentage has decreased greatly since the 70s even though population size has increased. Indian industrial life has well developed nuclear power plants, weapon export and space machines. Approximately 60 % of the population is supported by growing crops and 55 % of the land area is being used. Most farming is used for self-support. The profitability is significantly higher for those who have access to artificial water suppliers and fertilizers. The green revolution has resulted in higher yields. However, today, the natural nutrition in the soil has decreased and some areas are unproductive (Landguiden, 2008).

5.1.3 Environmental problems

India is rich in natural recourses and has a tradition of conservation. However, still these are barely enough to support the huge population. India is the third biggest coal producer in the world. The quality is low and is mainly used in India and supports 65 % of the total energy use in India. Also, India has oil, but has to import 25 % of the oil they use. Natural gas has also a great importance in India. The energy need is rapidly increasing, which in turn cause electricity failures since the government is not able to keep up with the economic growth. Therefore, the energy sector is open to private investigators. India has 14 nuclear power plants. Alternative energy resources such as solar- and wind crafts are also under investigation (Landguiden, 2008). India is facing many serious environmental problems. These include biodiversity loss, air and water pollution, soil erosion and forest clearing. Nearly a third of India's rural lands are unproductive. However, a fast-growing population is the greatest challenge (Fien, 2002).

5.1.4 Population

The population of 1356000 people spread out on an area of 3288000 squarekilometer. However, the population size varies from 50 people per squarekilometer in the Himalayas to 900 people per squarekilometer in west Bengal in north east. The annual growth rate is around 1.7 %. Also, this number varies greatly between regions. In general, the growth rate is higher in the north. The growth rate is being controlled by family planning and has been reduced from 2, 2 % (Landguiden, 2008). However, the growth rate is not predicted to stabilize until 2060 when the population is estimated to be 1, 8 billion. This will put great pressure on natural resources, food and drinking water supply, ecosystems and bio-diversity (Fien, 2002).

5.1.5 Indian education system

There are significant differences in education level in India. It is obligatory to attend school between the ages of six to fourteen. However, child labour is a problematic hindrance even though it is banned. Most boys go to school and efforts are put in to include girls in the school system. The quality gap between public schools and private schools is significant. The education level in public school is generally low and private schools are costly. In year 2007, 65 % of the population was estimated to be able to read. This is an increase from 1991 when only 55 % could read. Also, the difference between women and male literacy has decreased (Landguiden, 2008).

5.1.6 Environmental education in India

Environmental education is integrated at all levels of education. Since environmental education has become central in the National Policy on Education (1986), all schools have an environmental perspective in their syllabuses. At the lower primary stage, Environmental Studies (EVS) are linked with natural and social science disciplines. At the upper primary and secondary stages, environmental education is included in natural science and other subjects such as civics, geography and languages. In addition, teachers have been educated in environmental education. Also, environmental education has been included in post-graduate research. The aim is to develop awareness, knowledge, attitudes and values and encouraging people to take active roles in environmentalism (Fien, 2002).

5.1.7 Mass media

A great amount of the public awareness about environmental issues has been communicated by mass media. The Supreme Court of India directed that media must distribute

environmental information in all regional and national languages, both by television and newspapers. In addition, India has more than 5000 environmental non-governmental organizations (NGOs). Some of them are working with environmental issues. These contribute with campaigns, workshops, training courses, political lobbying and mass action (Fien, 2002).

5.2 Observations

The result of the observation section of this investigation was conducted during eight weeks of traveling in northern India in both urban and rural areas. The result will be presented below.

There is trash in almost every corner of India. There are no trash bins available. People throw trash on the streets and in the forests. People from the lower casts (although the cast system is prohibited) sweep the streets every morning and burn the trash. Also, there are plenty of cows on the streets that eat the garbage including even plastics and metal cans. Recycling is very rare. Even on the train, people throw the trash out of the window no matter what the surrounding is. One well-educated and well-travelled man that I came across on the train told me “people still think that they are throwing banana leaves out of the windows”. The man was referring to the time when Indians used to eat on banana leaves. Now, Indians eat on plastic plates on the train and throw them out of the windows like they would consist of banana leaves. I, like many other westerners was wondering how the Indians can stand looking at all the trash. I asked this question to the same man during the same train journey as in the above given situation. He responded to me “if there is a field covered with trash and one single flower, the Indians would look at the flower and ignore the trash, whereas the westerners would focus on the trash and ignore the flower”. This attitude could be understood in general in India. In addition, the river Ganges, which is very sacred according to Hinduism, is greatly polluted and full of trash. Despite this, the Indians consider the river pure. Also the public concern for environmental problems has been low according to previous data. In 1992, India participated in the Gallup International Institute’s Health of the Planet Survey. In this survey, only 21 per cent of the Indian respondents rated environmental problems as the most important in their country (Fien, 2002). In Dharamsala, there were campaigns to encourage people to recycle. Along the waterfall in the village both the river and the path next to it was covered with trash. I participated in a project to clean up the trash by hand. It was mostly westerners who were participating in this project. Only a few Indians participated. The

Indians said that they found it very strange that westerners came here and cleaned up after them and did not see the importance of doing so. Furthermore, India is greatly polluted. The streets are crowded, especially in Delhi and on the highways. However, very seldom people were driving alone in their cars. Usually many people shared a vehicle. This was true even for motorbikes. There could be a small family on one single bike.

Most of the Indian people that I encountered during the observations were very religious and valued Indian traditions. There are temples in every corner, ranging from a tree with just a few candles and some religious items to giant prosperous temples for thousands of people. I stayed in one family that went to the temple every morning. Also, in the evening they did a ceremony, which took place near the lake in the family's hometown. They were giving "punas" (offerings to certain gods) and also singing "bhadjans" (mantra-songs). The members of the family were telling me about different Hindu gods. Every God in Hinduism has its own story. The family believed that these stories had taken place in real life. Also, shopkeepers on the streets were also including God in many aspects. For instance, if I paid more money for an item than they expected they would say either that they had a good karma or that "God sent you here to help me". They would also tell me that I will receive good luck with money in the future, thus my action would benefit my karma. The god Lakshmi is a female god who stands for wealth. They would also thank her for their luck. In addition, shopkeepers on the streets very often sell religious items. Also, if an Indian person were telling me about an accident that happened in their lives, they would include the aspect of God in the outcome of the accident. For instance, one boy I came across during my stay in Delhi told me about a car accident that happened in his family. All the family members survived, but his uncle damaged his back. The boy would tell me that "God chose to be kind to us and only one person was hurt". In many places, which are less exposed to tourists, Indian people wanted to take pictures of me. I was told that this was because I had white skin color and the Indians would say "white as God". Also, Indians want to have bright skin colors for the same reason. Africans, who have darker skin color than Indians are viewed as to be "less God" than people with brighter skin color. Also, according to Indian traditions and religions, the cow is holy. The streets are full of cows. The traffic stops when cows are passing the streets. The founding idea is that all cows should be free. Thus, cows should not have an owner. However, in big cities, some of the cows have owners. Normally, tourists are not told this fact. People who belong to very extreme directions of Hinduism such as the Sikhism sweep the streets before they walk. They do this in case they would step on an animal.

In conclusion, the environmental concern in India seemed to be very low. However, religious beliefs seemed to be very high.

5.3 Interviews

5.3.1 Interviews conducted in Delhi

The following subjects were interviewed in Delhi. Most of the subjects attended a governmental school in central Delhi.

Gender	Father's profession	Mother's profession	Environmental knowledge	Answer to question 7	
				1 st	2 nd
Boy	taxi driver	house wife	Familiar with pollution-related problems, but not with recycling	d (future generations survival)	a (human health problems)
Boy	Police man	house wife	Familiar with pollution-related problems, but not with recycling	d) (future generations survival)	a (human health problems)
Boy	Post officer	house wife	Familiar with pollution-related problems, but not with recycling	d (future generations survival)	a (human health problems)
Boy	Shop keeper	shop keeper	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Boy	Shop keeper	house wife	Familiar with pollution-related problems and recycling	d (future generations survival)	c (it might affect my family's business)
Boy	engineer	house wife	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Boy	engineer	house wife	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Boy	business man	Shop keeper	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Girl	business man	house wife	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Girl	engineer	house wife	Familiar with pollution-related	d (future generations	a (human health problems)

			problems and recycling	survival)	
Girl	business man	shop keeper	Familiar with pollution-related problems and recycling	d (future generations survival)	c (it might affect my family's business)
Girl	Shop keeper	Shop keeper	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Girl	tailor	House wife	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Girl	Taxi driver	House wife	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)
Girl	business man	House wife	Familiar with pollution-related problems and recycling	d (future generations survival)	c (it might affect my family's business)
Girl	business man	House wife	Familiar with pollution-related problems and recycling	d (future generations survival)	a (human health problems)

All students put answer “d” (future generations might not be able to live) in first place to the question “what scares you the most about environmental problems?” The second answer varied. However, most common was alternative “a” (human health problems). All students were familiar with pollution. The students had learned a list of different types of pollution. They also told me that the level of pollution in Delhi has decreased during the past years. The students expressed a lot of fears when they talked about pollution. “My uncle has a lung disease due to pollution”. He cannot breathe properly. Maybe we all will get lung diseases in the future”. In an investigation conducted by Fien about Indian youths’ environmental attitudes, the students also expressed a great concern for the local pollution. This study was conducted in Bangalore, which is a big city in the southern part of India (Fien, 2002). Also, the subjects in Delhi said that “a few years ago, very few people had cars. Now almost everyone family I know, have a car”. Most of the students were also familiar with the concept of recycling, but talked less about it. They said that there should be bins on the streets, but did not mention what should happen with the garbage. When it came to what they could do themselves to solve environmental problems the student expressed hopelessness. They all agreed on that taking the bus to school would be preferable, but said that it would take too much time and the busses are unpredictable. However, they told me that there is a great

underground system in Delhi even though it doesn't go to all places in Delhi. Some of the girls suggested growing more plants and arranging more green areas as a solution, but then, they said that it did not help if they grew some plants. There has to be plants all over Delhi to make a difference. They told me that it has to start on a governmental level. The girls thought that growing trees would be great. Not only to fixate carbon dioxide. Also, it would make people in Delhi feel closer to nature. They told me that many people in Delhi do not have the chance to go outside Delhi and experience nature. Some of the students had family houses in beautiful places in the mountain, which they highly appreciated. The students said that they felt sorry for the people who did not have the chance to visit such places. Also, they expressed a need to improve environmental education. They said that visiting the forest would be great to do in school. They proposed nature excursions. That way everyone would get a feeling for what it is like in the forest and why we should take care of nature. The students also expressed a lack of trust in the government. They said that corruption is the greatest challenge in India. Corruption is a problem even for environmental problems. They said that there must be rules that regulate pollution emissions. People cannot take responsibility themselves. For instance, there could be a law that everyone who can should use public transportation to work. Also, in a study conducted by Fien on young people in India's attitudes towards nature, the subjects considered garbage and lack of initiatives from the government than national and global problems as major problems. In addition, in the same study when the students were asked to explain the causes of the environmental problems, a significant majority (more than 60%) attributed it to human selfishness and greed. Other reasons were: poverty, corruption, lack of political will, leadership, urbanization and industrialization. They also expressed a strong concern about the country's growing population and its impact on the consumption of natural resources. The students showed low credibility on the government to solve the problem. Instead, they believed in individual attempts. However, more than 85 per cent of the students believed that it is possible to have both a prosperous economy and a healthy environment. Their contention was that development need not be at the expense of environment (Fien, 2002). In addition, the students in Delhi mentioned over-population and an increased consumption as major problem in India.

5.3.2 Interviews conducted in Dharamsala

The following subjects were interviewed in Dharamsala. Most of the students attended a governmental school in the village Bhagsun in a village area. However, three of the subjects came from Tibet and attend a school in a nearby school also in a village Dharamsala.

Gender	Father's profession	Mother's profession	Environmental knowledge	Answer to question 7	
				1 st answer	2 nd answer
boy	taxi driver	house wife	Familiar with both pollution and recycling	d (future generations survival)	c (it might affect my family's business)
boy	farmer	house wife	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
boy	teacher	house wife	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
boy	farmer	house wife	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
boy	farmer	house wife	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
girl	farmer	house wife	Familiar with both pollution and recycling	d (future generations survival)	a (human health problems)
girl	shop keeper	shop keeper	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
girl	tailor	beauty parlour	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
girl	farmer	house wife	Familiar with both pollution and recycling	d (future generations survival)	b (plants and animals might not be able to live)
girl	farmer	house wife	Familiar with both pollution and recycling	d (future generations' survival)	b (plants and animals might not be able to live)

Most of the student in Dharamsala had parents who were working as farmers and thus, the students were both exposed to nature in their daily lives and their families were also economically dependent on nature. All students put the alternative that future generation might not be able to live in first place as to answer question 7 (what scares you the most about environmental problems). In second place, most students put answer “b” (plants and animals might not survive). All students were familiar with the concept of recycling and pollution. They spoke more about recycling and recycling campaigns than pollution related problems. The students expressed dislike against tourists that come and visit the waterfall in the village and throw litter in nature. Also they said that it was not right that westerners come and clean up the litter. When we talked about solutions to environmental problems the student had learned a list of different things to do like to drive less car, recycle, use less electricity, and watch less television. The students did not know what the government could do. They did not talk about laws that could regulate environmental problems. The students expressed most fear

about forest degradation and lack of clean drinking water. Furthermore, one girl said that is so obvious that “God will punish us because we are not appreciating the gifts that we get from God. Nature should be considered a gift from God and we must treat it as such. Now we are not taking care of nature and we do not respect the beauty of it.”

I was also conducting interviews with three students from Tibet. They were Buddhists and went to a Buddhist school. They told me that in the environmental education in their schools, the teachers were using pictures on nature and nature degradation to convey environmental problems. For instance, the students were watching a picture with beautiful nature and expressed their emotions to the picture. Then, they were watching a picture from the same location, but with damages trees. The students also expressed the emotions this picture gave raise to. The students said that this was a very successful way of learning the consequences of environmental education. The students also said that in school, they were also learning meditation techniques that taught them how to handle their emotions. They said that without meditation it would be very difficult to grasp and cope with these consequences. The students said that the solutions to the problems must be on a global level. If one country alone change their habits, it is not enough. All countries must cooperate. They said cooperation is a challenge to humans. We are so used to competition. They said that they were already trying to think as much as they could about living in harmony with nature, but they said that they could watch less television and also, they were travelling a great deal, which affects nature. They also said that the government in India is very corrupt and cooperation therefore is difficult. They also made a correlation between human health and nature degradation. They said that humans do not take care of their bodies and not the nature also. According to the students this is a matter of self-respect and respect for nature. “If we respect our bodies we do not eat junk food and if we respect nature we do not destroy it”.

6. ANALYSIS

In this chapter, the above given results will be analysed according to the following factors that contribute to the formation of environmental attitudes; religion, culture, exposure to nature and nature degradation, location, education and gender.

6.1 Religion, culture and environmental attitudes

All students expressed fear that future generations might not be able to live due to environmental problems. All of the subjects, independent of location, parents' profession, gender and level of education put the alternative to consider future generations survival most important as to answer the question "what scares you the most about environmental problems?". This most likely indicates a strong tradition of Hinduism or Buddhism since reincarnation is one of the founding ideas in these religions. Also, it might indicate a strong belief in karma. According to the law of karma, all our actions will come back to us, both positive actions and negative. If we are acting in a way that harms future generations, this action will return to us. A belief in the law of karma could also be understood in the observation part of this investigation since the word karma was used daily among Indians. Also, the students' might have put this answer since they are a part of a collective culture and thus, not only themselves as individuals are considered important. Also, people in the future are important for the whole group. In addition, this result indicates that the students most probably have either late modern anthropocentric, biocentric or eco-centric environmental attitudes. Modern anthropocentrism can be excluded since one of the founding ideas in modern anthropocentrism is that only people of today are important.

6.2 Exposure to nature and nature degradation and environmental attitudes

The results indicate that there might be a link between exposure to nature and nature degradation and environmental attitudes. First, there was a difference in what alternative the student's put in second place to question 7 (what scares you the most about environmental problems?). Most likely the students put the answers that act in line with what they are exposed to in their daily lives. The students in Delhi put health problems to this, which most likely could be explained by the fact that they are exposed to high levels of pollution daily. Pollution can cause lung diseases, which might be fatal, which the subjects in Delhi also expressed fear towards. Most of the students in Dharamsala put the alternative that animals and plants might not be able to live in the future as the second alternative to answer the same

question. This could be explained by that many of the species are endangered in their nearby forest, for instance, tigers. Also, trees are damaged in the area. Some of these student's parents were farmers and thus, their families are directly dependent on nature, which also might be a contributing factor. In conclusion, since most of the student's in Dharamsala put the alternative that plants and animals might not survive, they have an eco-centric or a biocentric attitude towards nature. All living beings have moral values, not only humans. However, it is also possible that they put this answer because they assumed serious consequences also for humans if plants and animals died. In that case they would have late modern anthropocentric environmental attitudes. In Delhi, the students were likely to have a late modern anthropocentric attitude towards nature since they considered human health more important than the lives of plants and animals. Since both the students from Delhi and Dharamsala put the survival of future generations as most important, they must have had a late modern anthropocentric view rather than a modern anthropocentric view.

6.3 Location and environmental attitudes

It is very likely that the students in Dharamsala considered the survival of plants and trees important since they have had positive experiences in nature. According to previous research positive natural experiences support pro-environmental attitudes (Boeve de Paw, 2010). The students in Delhi asked me how many mobile phones I have. Most likely they asked this question because they look up to people who can afford excessive consumption. This might be interpreted as a sign of western influences mediated by tourists but also exposure to western television and commercials. According to the DSP (dominant social paradigm), western culture is characterized by a strong belief in that the economy should and must grow each year and so also our material living standard must increase. The students in Delhi attended governmental schools. However, some of the students had parents with professions that usually give high incomes such as engineers. The students in Delhi seemed to be more affluent than the students in Dharamsala. This might also be an indication of western influences. Since the students in Delhi considered human health more important than the survival of animals and plants they had a late modern anthropocentric view, which is contradicting to Indian traditions where biocentrism is central. The students might therefore have adopted a late modern anthropocentric environmental attitude due to western influences, which is characterized by anthropocentrism and DSP.

6.4 Education and environmental attitudes

The results indicate that there might be a link between exposure to a particular environmental problem and knowledge about this problem. This indication is based on that all students in Dharamsala had knowledge about recycling, but not all students in Delhi. This is most likely due to that the students in Dharamsala are exposed to a lot of litter in nature and also that there are recycling campaigns in the village. On the other hand, the students in Delhi had a great knowledge about pollution and its' effect on human health. The students in Dharamsala had more knowledge about solutions to environmental problems on an individual level. In contrast, the students in Delhi spoke more about what the government should do. This might be because the students in Delhi live closer to the government. Interestingly, some female students in Delhi suggested arranging more green areas in Delhi as an environmental educational approach. Also, they suggested going on more exhibitions to nature as part of the environmental education. These suggestions are supporting outdoor environmental education. According to a study conducted by Fien, the implementation of environmental concepts in school curriculum in India has been effectual. Children showed awareness of some environmental problems, understanding of basic concepts including environment, carbon cycle, natural resources, ecology, interdependency, greenhouse effect and ozone layer. Also, students understood possible actions they could take to protect the environment. However, the concepts which most students had not heard of included: precautionary principle, intergenerational equity, carrying capacity and sustainable development, which suggest these should be included in environmental text books (Fien, 2002). In this study, all students were familiar with pollution and its effects. However, not all students in Delhi were familiar with recycling.

6.5 Gender and environmental attitudes

A difference between girls and boys could be observed in the way they expressed their knowledge. Most of the boys had a theoretical understanding of both pollution and recycling. However, they did not come up with many solutions. The girls on the other hand had more solutions to the problems, which might indicate that they had been thinking about environmental issues and put their knowledge into a context. They also talked about how we use nature for our own goods without looking at it as God's beautiful creation.

DISCUSSION

In this chapter, the results will be discussed with a focus on the importance of establishing a positive relationship between humans and nature and its' importance in environmental education.

To the question “what scares you the most about environmental problems” all students, independent of location, exposure to nature and nature degradation, gender and level of education answered that future generations might not be able to live. This answer could be interpreted as that Indian traditions and religions are very deeply rooted in Indian youths. This conclusion can also be drawn from the observation in this study. India has plenty of temples, which people visit on a regular basis and also several annual religious festivals. The Indian traditions are characterized by a strong foundation of biocentrism where all living beings have moral values and are respected as such. Some of the districts in India are strictly vegetarians (pure vegetarians). Also, people who belong to Sikhism sweep the streets to rescue even small animals such as insects on the streets. In addition, Hinduism and Buddhism are characterized by a strong belief in reincarnation, which would stress the importance of future generation's survival. In conclusion, Indian traditions are deeply rooted and felt among people in India and most likely influence their attitudes towards nature in a biocentric direction. However, in Delhi, the students in this study might have adopted a late modern anthropocentric attitude towards nature. This could be explained by the fact that they are exposed to western cultures and industrialization. Western cultures and religions on the other hand are characterized by anthropocentrism, late modern anthropocentrism, DSP (dominant social paradigm) and NSP (new social paradigm). These western influences on the people in Delhi could be understood in the result of this study. The results of this study also indicates that biocentrism and eco-centrism are stronger in non-industrial areas in India such as in Dharamsala, which is less exposed to western influences and thus, have kept the Indian traditions and religions more intact.

According to Moran, the author of the book “People and nature” Indian traditions and religions underlie some very important and fundamental ideas in the process of establishing a positive relationship between humans and nature (Moran, 2006). In this investigation, a longing to nature could be understood among the students in Delhi. They suggested growing more trees, arranging green areas and going on forest exhibitions as part of the environmental

education is school. Also, they felt sorry for people in Delhi who did not have the chance to visit nature. This could be interpreted as that the students in Delhi wanted to establish a closer relationship to nature and even considered this important in environmental education. In other words, the students in Delhi were looking for positive nature experiences. This idea is in line with previous research on the topic which has indicated exposure to nature enhance student's relationship towards nature encourages environmentalism.

To establish a positive relationship towards nature is not only beneficial for environmentalism. Also, according to eco-psychologists, establishing a relationship to nature is very important for our psychological health. Many psychologists mean that addiction patterns can be explained by that we used to be closer to nature and today, there is a gap between humans and nature. These psychologists mean that we feel the urge to fill up this gap between ourselves and nature with substitutes such as excessive consumption, drugs, sex, foods and alcohol. Thus, these psychologists consider reconnecting to nature being a very important therapy to cure addiction patterns (Roszhak, 1995).

Further, according to Sandell, in the book "Environmental education" the distance between humans and nature is one of the biggest challenges to overcome in environmental education. Sandell uses the expression "out from the walls"-society and refers to that we get electricity, water, heating and ventilation by pressing a button on the wall. In other words, many people today do not know where electricity comes from and thus, there is a lack of understanding the whole process of how we use the earth's natural resources. In contrast, only a century ago, people could see with their own eyes where the water and heating came from and were able to understand the process behind. According to Sandell, the way of over-coming this distance to nature is to implement outdoor environmental education in the syllabuses. Literally, Sandell means that "we have to open up the doors" from the "out of the walls" society. This could be through excursions, which also the students in Delhi proposed (Sandell, 2003). Also, in my role as a science teacher I have understood that there is a lack of understanding of each product's lifecycle, which also could be explained by a similar effect as "out of the walls"-society, perhaps a "directly from the supermarket"-effect.

These two effects, the "out of the walls"-effect and the "directly from the supermarket"-effect might most likely be a result of an era with DSP (dominant social paradigm) and anthropocentrism, which is very typical for industrial countries. This paper suggests a shift

from the anthropocentric view and DSP which is prevailing in western countries towards biocentrism or eco-centrism and NSP in environmental education. This shift is important in environmental education in order to overcome the distance between humans and nature that is predominant among many people especially in industrial parts of the world. Biocentrism and eco-centrism are characterized by a deep respect for nature and all living beings. Such a respect must be encouraged in environmental education in order to establish a close relationship to nature and overcome the distance between humans and nature. Perhaps to integrate respect for nature as part of environmental education would be beneficial. In the teaching guidelines for science in Japan there is actually a part called “love for nature” which suggests that science should also have a component of background philosophy of loving nature (Midori, 2003). Japan traditions and religions are also characterized by a strong tradition of biocentrism.

However, there are some arguments in late modern anthropocentrism that might act in line with environmentalism. These arguments includes that humans are part of nature and also that we must secure the survival of future generations. However, if we want to establish a close relationship to nature, which seems to be a key factor in environmental education, we need to respect nature and view all living beings as to have moral value and significance. Late modern anthropocentrism do not consider animals and plants as to have moral significance. Therefore, in environmental education, this paper argues that biocentric or eco-centric attitudes towards nature should be encouraged.

Furthermore, one of the main questions within biocentrism and eco-centrism is that to what extent do animals and plants have significance? Do they have the same value as humans? Should we rescue animals prior to humans if it would benefit the ecosystem? Most indigenous cultures eat meat. However, every time they kill an animal they pray for the soul of the animal as to show respect. In the same way, they only eat meat if they need to. For me, this way of treating animals is to show respect for nature and all living beings. In my opinion, this is the type of respect many people of today are lacking, especially in western countries where anthropocentrism is dominant. If we adopted an attitude of respect towards nature, in a similar manner as the indigenous people it would not be significant which animals had the most moral value. All living beings would have the same value. However, they can be killed if necessary and if they are being killed they will be genuinely prayed for and thus, respected. Thus, the ingenious cultures most likely have some very important ideas in how to connect

and develop respect for nature, which is one of the founding ideas in biocentrism and eco-centrism and might be a key factor in how to connect with nature on a deeper level. To establish such a connection is very important also for our psychological health (according to eco-psychologists). Moran believes that we might see India as the leader of a new biocentric world. A lot of this will depend on how India develops during the following decades (Moran, 2007). The results of this investigation indicate that industrialized areas of India are greatly influenced by western thoughts. However, Eastern traditions and religions are influencing western cultures in many aspects as well. For instance, yoga and meditation is very popular in west. These techniques also include a specific life-style, which is associated with biocentrism. For instance, in yoga, vegetarianism is encouraged.

However, according to the results of this investigation, the environmental concern among Indian people is very low. This might seem very contradicting since Indians also are very religious and follow Indian traditions. In the paper “Bio-divinity and biodiversity: perspectives on religion and environmental conservation in India” by Tomalin, the author argues that even though Hinduism traditionally is viewed to be environmental friendly, Hindus do not take environmental friendly actions (Tomalin, 2004). Although the fundamental ideas that Hinduism is based upon is highly bioentric or eco-centric and is underlying some very important ideas in how to connect to nature, there is a difference in what actions people actually take. This difference is complex to investigate. It might be because India is a developing country and the economic sustainability is considered prior to ecological sustainability. It might also be because the middle class in India is growing very fast and for that reason people who used to be poor now can afford a more affluent lifestyle and might enjoy excessive materialism prior to environmental actions. It might also be like three of the subjects from Tibet and also according to eco-psychologist that “if we respect ourselves we will also respect nature”. Thus, there might be a psychological explanation to why people do not respect nature. People might lack self-respect and project this on the environment. Also, according to the dissonance theory by Festinger, our attitudes might not go hand in hand with our behaviour. If we have invested a lot of energy on a specific matter, we are less willing to change our behaviour even though our attitude is supporting such a change. In this case, people have for some time invested energy to increase their material living-standard and thus, when this seemed to act against pro-environmental attitudes it is very difficult and might take time to change. However, despite Indian people’s attitudes and behaviour, Indian traditions and religions contain some very important and fundamental ideas in how to establish a

relationship with nature and how to adopt a biocentric and eco-centric environmental view. Together with exposure to nature and nature degradation mediated mainly by outdoor education, establishing a respectful relationship between humans and nature by adopting a biocentric view inspired by eastern traditions might be a fundamental factor in environmental education globally.

7. REFERENCES

- Berenguer, J. 2005, Rural-Urban Differences in Environmental Concern, Attitudes, and Actions, *European Journal of Psychological Assessment*, Vol 21(2), 2005, 128-138.
- Boeve-de Pauw, J. 2010. A cross-national perspective on youth environmental attitudes, *Environmentalist*, 30:133-144.
- Chopra, D. 1990, *Perfect health*, New York: Harmony books.
- De Groot, J. I. M. & Steg, L. 2007. Value orientations to explain environmental attitudes and beliefs: How to measure egoistic, altruistic and biospheric value orientations.
- Emmons, K. M. 1997, Perceptions of the environment while exploring the outdoors: a case study in Belize, *Environmental Education research*, Vol. 3, No. 3.
- Festinger, L. 1962, *A theory of cognitive dissonance*, Stanford: Univ. press.
- Fien, J. 2002. *Young people and the environment - an Asia-Pacific perspective*, Dordrecht: Kluwers Academic Publishers.
- Holm, J. 1994, *Attitudes to nature*, London: Pinter Publishers Ltd.
- John, C. 1977, Measuring Environmental Attitudes of elementary school students, Children, Nature, and the Urban Environment, *Northeastern Forest Experiment Station*. 94-100
- Ki-moon, B. 2007, The international development agenda and the climate change challenge, *Committee for Development Policy*, United Nations.
- Koger, S. M. 2010, *The psychology of environmental problems*, New York: Psychology Press
- Landguiden, <https://www.landguiden.se/Lander/Asien/Indien>, Utrikespolitiska institutet, 2008
- McMillan, M. 1995, Social and demographic influences on environmental attitudes, *Southern rural psychology*, Vol 13, No. 1.
- Midori, A. 2003, Pro-environmental Attitudes and behaviours: an international comparison, *Human ecology Review*, vol 10.
- Moran, E. F. 2006, *People and nature- an introduction to human ecological relations*, Malden: Blackwell publishing.
- Mosley, S. 2010, *The Environment in world history*, London and New York: Routledge.
- Perloff, R. M. 2003, *Dynamics of persuasion - Communication and Attitudes in the 21st Century*, Lawrence Erlbaum Associates.
- Ponting, C. 2007, *A new green history of the world*, London: Vintage.

Ricklefs, R. E. 1999, *Ecology*, New York, W.H. Freeman.

Roszhak, T. 1995, *Ecopsychology- restoring the earth- healing the mind*, New York: Sierra Club books.

Sandell, K. 2003, *Miljödidaktik*, Lund: Studentlitteratur.

Sarre, P. 1995, Towards Global Environmental Values: Lessons from Western and Eastern experience, *Environmental Values* 4: 115-27, Cambridge: The White horse press.

Schultz, P. W. 2002, Environmental attitudes and behaviors across cultures, *Online readings in psychology and culture chapter 4*.

Taff, A. 2010, Residential Outdoor Education and Environmental Attitudes: An Examination in a Malaysian University, *Journal of outdoor education and Leadership*, Vol. 2, No. 3, pp. 198-216.

Tomalin, E. 2004, Bio-divinity and biodiversity: perspectives on religion and environmental conservation in India, *Numen*, vol. 51.

Van Liere, K., Dunlap, R. E. 1980, The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence, *Oxford Journals, Social sciences, Public opinion quarterly*, Vol 44, Issue 2, pp. 181-197.

Yang-hee, K. 1993, A study of environmental attitudes and behavior.

Yount, J. R., 1992, Factors Influencing Environmental Attitude: The Relationship between Environmental Attitude Defensibility and Cognitive Reasoning Level, *Journal of research in science teaching*, vol 29.

8. SUMMARY

The purpose of this study was to investigate the factor of exposure to nature and nature degradation in environmental attitude formation. Attitudes are learned and thus environmental education plays a great role in environmental attitude formation. Attitudes act as “guiding principles” in our lives and thus, attitudes influence behavior. Therefore, environmental attitudes can predict environmental behavior to some extent and are for that reason important in the process of reaching a sustainable development. Environmental attitudes can be divided into two main directions; anthropocentrism (to view humans as separated from nature) and biocentrism (to view humans as part of nature). There are also sub-groups within these directions, the late modern anthropocentrism and eco-centrism. This thesis argues for a biocentric attitude in environmental education. A section of theoretical perspective on environmental attitude formation was presented. The main factor that contributes to environmental attitude formation is firstly the history of humans. The social context is considered a great factor in environmental attitude formation and since our history influences the society today it plays a great role in environmental attitude formation. Also, religions today and historically form our society and thus contribute to environmental attitude formation. The eastern religions are considered biocentric and the western religions are considered anthropocentric. Also, the cultural contexts we live in contribute to the process of forming environmental attitudes. Since attitudes are learned, education plays a great role in environmental attitude formation. Outdoor environmental education has been successful in the process of forming pro-environmental attitudes. Also factors such as gender and age influence the process. This investigation has a focus on the factor of exposure to nature and nature degradation in environmental attitude formation. The study was conducted in India using a qualitative method based on observations and in depth interviews. The subjects were selected from a village area in northern India and from Delhi, the capital of India. The subjects from the village area were exposed to nature and nature degradation in their daily life and were expected to have a biocentric or eco-centric environmental attitude. In addition, Indian traditions and religion are preserved in this area. In contrast, the subjects from Delhi are not exposed to nature and nature degradation and were expected to have anthropocentric or late anthropocentric environmental attitudes. Also, these subjects were exposed to pollution in their everyday life and were also greatly influenced by industrialization and western influences. The results indicated a difference in environmental attitudes between the subjects in the village area who were exposed to nature and nature degradation and the subjects in

Delhi, who were not. The subjects in the village area tended to have a biocentric or eco-centric view on nature and the subjects from Delhi tended to have a late anthropocentric view. One of the greatest challenges in environmental education is the “distance” between humans and nature. This thesis argues for establishing a close relationship to nature in order to overcome this distance. Outdoor education, which includes exposure to nature and nature degradation, might be great factors in establishing such a relationship. Also, by adopting biocentric environmental attitudes, which are mediated by eastern traditions and religions, might be a part of this process.