BRATISLAVA INTERNATIONAL SCHOOL OF LIBERAL ARTS

ISSUES OF SUSTAINABILITY IN A SOCIAL AND POLITICAL CONTEXT

BAKALÁRSKA PRÁCA

BRATISLAVA, 2010

Veronika Kubik

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BRATISLAVA, 2010 **Veronika Kubik**

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…….

Veronika Kubik

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Issues of Sustainability in a Social and Political Context

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Abstrakt

Udržateľnosť je považovaná za stále veľmi kontroverznú tému, ktorá nedosiahla žiadny konsenzus medzi všetkými zainteresovanými stranami. Tento problém je potrebné riešiť zásadne a musí byť adresovaný ako priorita pre spoločnosti a politiky krajín.

V tejto práci budú spomenuté iba niektoré z dôvodov vzhľadom na to, že sa jedná o veľmi širokú tému, s ktorou súvisia mnohé faktory, a preto nie je priestor ísť do hĺbky každého jedného z nich. Namiesto toho sa sa bude práca sústrediť na niekoľko delení(divízií) založených na ekonomických prostriedkoch , ktoré sú rozdelené do troch kategórií : rozvojové (post-industriálne) krajiny , rozvojové (priemyselné) a rozvinuté (obchodné) krajiny. Každý jeden z týchto sektorov bude podrobený analýze, prečo zmeny k udržatelnejšiemu spôsobu života čelia mnohým výzvam.

Prvá kapitola sa zameria na post-industriálne a priemyselné ekonomiky, ako sú Madagaskar a Čína. Kapitola ponúkne opis a analýzu

toho, prečo sa takéto krajiny zdráhajú a nie sú ochotné zmeniť svoj životný štýl na taký, aký je od nich vyžadovaný.

Väčší dôraz bude kladený na rozvinuté krajiny, najmä na Kanadu, ktoré figurujú primárne najvyššie v rebríčku spotreby a znečisťovania, a zároveň disponujú najväčšími rozhodnutiami, čo sa trvalo udržateľného rozvoja týka. Štúdia sa zameria na Tar Sands (dechtové piesky) v provincii Alberta a ekologizáciu hospodárstva v Britskej Kolumbii.

Záverečná kapitola sa zameria na niekoľko možných riešení, ktorých zámerom je motivovať spoločnosti, aby prešli na dlhodobo udržateľné formy žitia, pozerajúc na už predtým vykonané štúdie a politiky zavedené rôznymi krajinami. Analýzou výsledkov sa v práci naskytne predstava o tom, ako môžu iné krajiny konať, rovnako ako môžu ľudia niečo zmeniť vo svojom každodennom živote.

Práve prostredníctvom týchto capitol sa autorka bude snažiť poskytnúť pohľad na to, prečo je dosiahnutie cieľa trvalo udržateľného životného štýlu považované v rôznych kútoch sveta za rozdielny problém, a ako môže byť tento cieľ dosiahnutý na príklade iných krajín.

Abstract

Sustainability is still a very controversial subject, one which has reached no consensual agreement from all sides that it must be addressed with the upmost importance, at the top of the urgent to-do list for politicians and society.

Some of the reasons will be discussed in this thesis but as it is a very broad subject with many different factors there is no time to go in-depth into any one. Instead there will be a division made based on economic means into three different categories: under developed (post-industrial), developing (industrial), and developed (commercial) countries. Each of these sectors will be looked at briefly giving an analysis of why changes to a more sustainable way of life face so many challenges.

The first chapter will focus on post-industrial and industrial economies such as Madagascar and China. The chapter will give some description and analysis as to why countries such as these are more reluctant to change from their lifestyles to the ones being demanded of them.

More focus will be given to developed countries, particularly Canada as a case study, as they are primarily the highest in consumption and pollution rates while having the largest say in sustainable development. The case study will focus on Alberta's Tar Sands and British Columbia's ever-greening economy.

The final chapter will focus on some possible solutions to help motivate society to move to a sustainable form of living by looking at studies previously conducted and policies put into place by different countries. Iss focus will be on the economy with the underlying factor that it is decided by the social and political aspects of the people within the given economy. Analyzing the outcomes will give an idea of how countries can act as well as how people can make a difference in their daily lives when it comes to consumption.

It is through there chapters that insight will hopefully be given on why reaching the goal of a sustainable lifestyle is such a different challenge in different corners of the globe and how the world can be shared without over-burdening the already fragile planet.

Foreword

There is no topic as of late that has caught the attention of the author so vigorously as the topic of sustainability. Having entered into writing this thesis with the concrete idea that it was to be about the environment in some form or another though, sustainability was perhaps not the first topic of option.

Yet, as the thesis began to form and more books, articles, journals, and repots were read on the topic the more the concept of sustainability began to make clear sense that it is a fundamental part of the new age of environmental awareness.

Table of Contents

Introduction

The concept of sustainability is not a relatively new topic of conversation but it has gained speed in the past few years as a major topic of interest. From large companies trying to find more "green" ways of doing business to the average consumer being told to buy local, switch to energy saving bulbs, take transit, and many more simple modifications sustainability has gained recognition in all forms of life.

It could be said that it's about time. Right now there are 6.8 billion people on the planet and by 2050 UN projects anywhere from 8 to 10 billion people will inhabit the world. With current rates of growth and consumption rates the planet can simply not sustain the human population. At current rates of populations, "…we consume 1.4 Earths' worth of resources per year." (National Geographic, 2009) That isn't to say that different groups do not consume the same amount. If everyone consumed like Indians only .4 of the planet would be needed to sustain the human race; Argentines 1.2; British 3.1; Americans 5.4. (National Geographic, 2009) There is a desperate need to find a way to coexist with nature as now, "75% of the world's population live in countries where consumption levels are outpacing environmental renewal rates." (National Geographic, 2009)

It is perhaps with this new awareness that the "greener" way of life is being advertised and the need to change the norm of endless consumption, the new forms of technology, and sustainable solutions

hard-presses politicians and companies to appease the growing demand. The new agenda and high on the list of concern for politicians running for office in developed countries is a new policy that will lower CO2 emissions, bring jobs, and satisfy the constituency. It could be seen all through the elections for a new American president one year ago and through COP15, which put countries in the hot seat to make a new binding agreement. Though the initial goal was not reached it was the first step to a new political change.

The next step has to be taken now, and quickly. Brining to light the desperate need for a change in consumption pattern in the world is only the beginning. Consumers, producers, and governments have to begin to work together to make the changes necessary. Although sustainability may not seem so urgent as cutting CO2 levels these two aspects are inevitably linked. The industrial revolution brought the world trapped sunlight (coal, oil, etc.) which made humans far more productive than ever before in history. The progress was so fast though and the economy so booming that little thought went into the effects that it could one day have on the planet and in turn, the people. Sustainable solutions are an attempt to find a way that can let humankind and the planet grow simultaneously.

Chapter 1: The Growing World

Sustainability, for all the momentum it has gained lately still faces many global challenges whether economically, socially, or politically. Economics is bound to play a large role in the process of bringing countries and companies to change their habits of production but what about social and political aspects? The world has different reactions to the concept of change and although there is a general consensus that a change is needed it is harder to habour the idea in one country than in another. There are ways to divide the world into different categories whether by north and south, east and west, race, religion, etc. In this thesis the division will be made through the economics of a country being rural (based mainly on agriculture), developing (based on mainly factories or production of goods), and developed (based mainly on commercialism). By breaking down the contemporary world into three parts based on their economic means of support it is possible to access why some places react faster to sustainable progress while others do not.

Since the division is made based on economics the focus on issues of sustainability will be on the political and social aspects. There are many factors that fall under the social factor of division such as population growth, distribution of wealth, race, religion or ethical conflict that can contribute to the inability to change the values of people. As

stated in the *Third Transition* by Novacek (2001), "the way of life of society is influenced by at least four factors:

- The value orientation of the inhabitants;
- The economic system;
- The political system;
- The legal system;

Possibly the most important is the mentality (value orientation) of the people as in a stable democratic country this is how policies are formed and implemented. The importance of a country being democratic is clear because of the fact that politicians are voted based on the interest of what the people want. Democracy holds many different composite terms such as 'cosmopolitan democracy', 'normative democracy', 'ecological democracy' or 'Earth democracy' (Klaus Bosselmann, 2008)but it most importantly has to be, "…based on commonly accepted principles such as freedom, equity, justice, and also sustainability." (Klaus Bosselmann, 2008) In war states contrary to a democratic state (with the exception of the US) about 30% of the budget goes towards armaments. "Tropical forests will be ruthlessly cleared, the raw materials plundered and exported just to gain foreign currency to buy the most advanced military systems." (Novacek, 2001, p.35). This can make it so that there is more of a monetary gain from the destruction of nature rather then the preservation of it. There is a need to improve the quality of life and the equality of people in order to bring about a democratic state that can focus on challenges other than military defense.

The problem is that even in a democratic state it can take a long period of time to influence people into changing their habits. Humans are creatures are habit and once they are brought into a life of consumerism and comfort and convenience it is difficult to tell a whole society to break that and look for a way to conserve. This can be seen clearly in a country like India where as the middle class grows they look for the same comforts that can be seen on the North American continent in nice cars, luxurious houses, and all the conveniences of modern life. This has developed countries in turmoil as they fear the amount of pollution since the economic development moves faster than the technology to make it cleaner or even carbon neutral.

Changing the orientation of people is not easy since their way of lifestyle is a sure fire way to provide for themselves at least minimally. It may also help to divide the value orientation of people towards nature in order to see how a society may view the environment around them:

- Anthropocentric view (man is superior to living beings and nature)
- Biocentric view (it assumes the equality of all living beings)
- Theocentric view (it assumes the existence of God- the Creator, man is the custodian of entrusted gifts) (Novacek, 2001, p. 66)

1.1: Slash and Burn

To begin the focus of this topic the countries that rely heavily upon agriculture as a means to support their lifestyle will be looked at first. Generally, countries that use destructive methods of farming as a main source of income are poor and do what can be considered necessary in order to survive. Techniques such as one that is known as "slash and burn" is common in common practice by small farmers in the jungles of South America. By cutting down a small patch of land and burning it nutrients are released and crops can be grown but it leaves the land when not dealt with modestly behind it inhospitable for animals and vegetation. It is not to say that the techniques used are in fact useful as a whole and benefitting to society. A study done by the Centre for Functional and Evolutionary Ecology headed by Ana Rodrigues (Stickland, 2010, p. 38) found that towns that clear-cut forests were no better off than those who didn't. "…Amazonian towns in the midst of a deforestation binge initially see higher life expectancies, literacy rates, and incomes. But once the local forest is gone, income from timber typically dries up… the current development strategy is a lose-lose-lose situation." When a forest is initially cut down it releases nutrients into the soil (slah-and-burn) which is then used for crop land and cattle ranching. Yet, within a few years of the forest being cut down farmers and ranchers move and the process continues. What needs to be found is an alternate solution to the typical methods being used by clear cutting communities or independent farmers.

A country that puts a stark reminder on what agriculture can do to a land would be Madagascar as very little of its remaining forests are left

in-tact. (Cooper & Gupta, 2007) Madagascar is the fifth- poorest country in the world (WWF) with most of its inhabitants living below the poverty line, where what land can be used for farming is. The irony that can be found in this when it comes to issues of climate change (why the need for sustainable solutions has become so urgent) countries like Madagascar contribute next to nothing in CO2 levels unlike their developing country counterparts yet "they are the most vulnerable to climate change because of their dependence on agriculture and fisheries" (Glenn C. Jerome, 2009, p. 13)

To change the value orientation of the people in such areas would mean the bringing of a form of industry such as tourism to help support a different sort of lifestyle. Preservation of the forests are now under way because of this new industry and because there is a real fear that soon all of Madagascar's plants and species will all but disappear. Already, "Since the arrival of humans 2,000 years ago, Madagascar has lost more than 90% of its original forest cover and many of its endemic species."(WWF). If the sort of practice that has been used over the past generations continues there may be nothing left for future generations to enjoy.

Madagascar is not the only country that faces issues of high rates of deforestation and destruction of natural habitat. The Amazon Rainforest, the "lungs of the Earth" also faces continuous assault by loggers (whether legal or not) and poachers. The Amazon is bordered by nine different countries, all of which can take advantage from the rainforests abundance

of animals and wood. It cannot be said however that these countries do not take some precautions over the use of the rainforest as Brazil has set up an armed police force (IBAMA) whose only objective is to stop illegal poachers and loggers from destroying forest.

Though once again destructive techniques of farming and poaching are used in such areas by the local inhabitants and it is difficult for them to change their lifestyle unless they are given another means to support themselves. This can fall under the first item in the global manifesto by the Happy Planet Index that calls for the eradication of extreme poverty and hunger, "…increasing material wealth in (so-called) developed countries does not lead to greater happiness, and that extreme poverty systematically undermines people's opportunities to build good lives for themselves and their families." (The New Economics Foundation, 2009) There needs to become a global awareness that abject poverty needs to be lifted and that sharing the wealth can help spur along the tides for a more sustainable way of living.

Countries that base their lively hood mainly on the kind of destructive farming or poaching as a means of living in the couple countries that were mentioned above have very little reason to warrant change. They produce so little of the overall CO2 emissions compared to that of developing or developed countries that a change in their lifestyle

may not seem necessary but rather those countries that are more wealthy need to make the largest change.

Part 1.2: China's Needs

Politics and social phenomenon's in developing countries are difficult to change at best. With countries like India and China which are the focus of much economic growth the need to protect the environment takes a back seat. The Chinese government has recognized it has a problem when it comes to pollution as, "only 1% of China's 600 million city dwellers breathe air considered safe in Europe" (Glenn C. Jerome, 2009, p. 13)

As proven during COP15 China is resilient to drastic forms of policy implementation and change. Problems ensued around COP15 between developed countries and the developing as amounts of money that should be allocated for technology in developing countries were demanded to raise; this while emission cuts were dropped. It is easy to put blame on developed countries for not meeting the demands of those more underprivileged but China not only rejected targets for itself but for other countries as well. (Lynas, 2009) Intervention from the outside can only go so far as a nation has a right to its sovereignty and can begin to question the motives of other countries. With China growing at an accelerated rate it is becoming the undisputed superpower of the world and limiting its growing capacity is simply not in its interest. Sustainable technologies such as wind, solar, and wave power have their faults and

are slow in development so old tried and tested sources of energy such as coal are still in high usage. While coal is easy to use and extract it is a dirty source of power that pollutes easily if not controlled properly. To put it into future reference China is suspected to reach its peak of CO2 emissions by 2030 and has already surpassed the United States back in 2007 in claiming the title for highest CO2 emissions. In 2005 CO2 levels reached so high in Beijing people were told to stay inside. (Fuller, 2007) "As Asian countries develop rapidly, the trends in consumption are set up by their fast-growing cities…[that] appear comparable to cities in developed countries as far as carbon emissions and resource consumption are concerned." (Le Blanc, 2010, p. 2)

Besides pollution being a large problem there is also the high levels of consumption of China just about everything whether it is for traditional medicine or a meal and while the government realizes there is a problem it is difficult to enforce a change. When food such as Shark Fin Soup used to be reserved for nobility there was a relatively little consumption but now it is a common delicacy creating a massive problem in over-fishing. According to IUCN red list over 385 species in China are considered threatened the key threats being, "habitat loss, fragmentation, and degradation because of human activities such as logging or mineral exploitation," as well as, "Wildlife trade and the illegal hunting of species such as musk deer and bears, whose body parts are used in traditional Chinese medicines" (WWF). Trying to change the habits of such a traditional culture and large population is no easy goal, and in-fact is

what is needed in order to help sustain the environment. Once again it can be seen how the value-orientation of the people plays a large role in how sustainability is handled.

The option to modernize in the form of "green economics" is now a possibility though, one that should be taken into deep consideration as there is the still the possibility to change the policies and politics, to promote greener forms of transportation, and to change consumer habits. (Le Blanc, 2010, p. 2) During the times of economic and industrial growth in now developed countries the forms of sustainable technology were limited but as the new industry grows these options are open. "As Asian countries develop rapidly, the trends in consumption are set up by their fast-growing cities…[that] appear comparable to cities in developed countries as far as carbon emissions and resource consumption are concerned" (Le Blanc, 2010, p. 2)China has seen such large economic growth but as it is still in the process there is still the capability to invest in far more cleaner technology than being used currently. There has to be an initiative to spur on this change, one that can perhaps be given by developed countries who willingly make a change and provide developing countries with the capacity to do so.

A realization that has to be made is that the natural environment is not enclosed by borders drawn on a map. What happens in countries like Madagascar and China or in regions like the Amazon rainforest effect other areas of the world. Globalization has made countries and its people more inter-dependant on each other than ever before. With this co-

dependency it has also brought around the problem of exploitation not only of the environment but also of the people, workers who manufacture goods in sweatshops that are initially shipped over to developed countries to sell for the cheap labour. With this sort of practice at hand it is little wonder why developing countries hold a reluctance towards changing their economic standing to one that requires less dependence on exported goods that come with a high humane price.

Splitting the world into economic standpoints gives a clearer view of why issues of sustainability may not be so well heard of in countries more based on rural agriculture and why developing countries may be reluctant to make such a leap. Under developed countries contribute so little in CO2 emissions but they suffer the most, and in poverty stricken countries every penny counts and the environment can wait. Developing countries are now doing what developed countries did in the past, their making lives better and while circumstances have changed (from longer life expectancy to technology) it is not as if one can turn around and tell them to stop, as that would be equivalent to saying we had our chance, now you can't have yours.

Chapter 2: Canada's Divided Path

The importance of the issues affecting under-developed and developing countries are cases that should not be passed over as being trivial. There are reasons for it whether they be social, economic, or political and should be dealt with in a way that can bring prosperity and sustainability lest they develop as have now developed countries with little care for the environment.

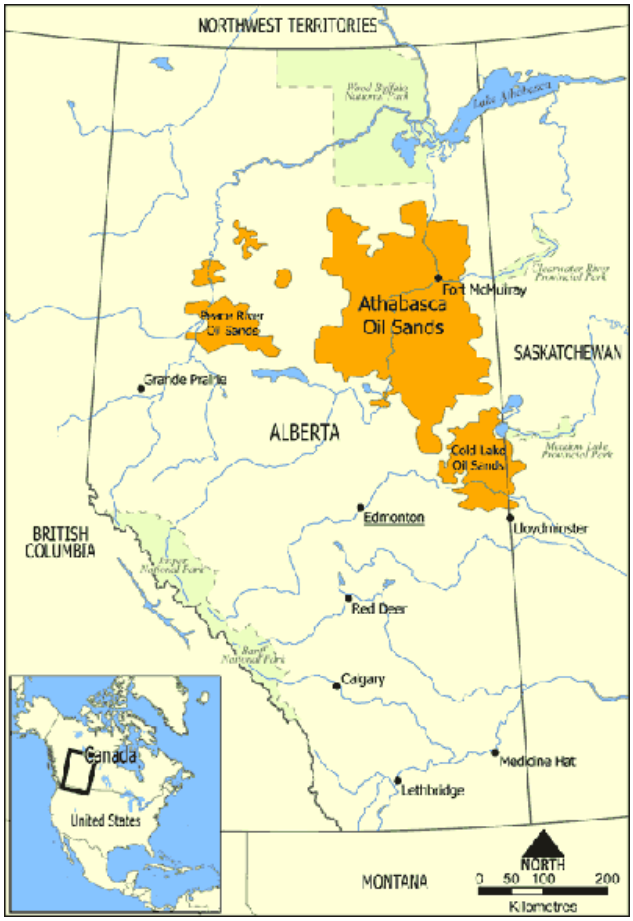
It is now though, that the developed countries are the ones making the most commotion over the impact people are having on the environment. In these countries politicians are lobbying for greater sustainable solutions and large commercial companies such as IBM and ESSO that are putting weight on new forms of technology that will lead to a greener future. Reason points to the recent increase of interest in global warming and what possible affects it will have on humanity's future. Changing climate leads to alterations of currents, changing weather conditions, costal flooding, desertification, etc., the list goes on. With these changes people begin to worry about the water supply (due to rising acidity and melting glaciers where a significant amount of drinking water comes from) as well as the shortage of food. Climate change is still a debatable topic, but for this thesis that debate will be looked into no further than what has been mentioned on the basis that it is occurring.

It is with this reason that countries are beginning to have more concern for the future and the state of the Earth as it is today. This chapter will focus on the problems that can face a developed country by using Canada as a case study. Although Canada is usually not the first country to come into thought where sustainability is concerned many problems face this country with its vast geographical and ever-changing landscape and people. It is because this vast differentiation that problems can arise within the social and political sphere.

Part 2.1: Alberta

A clear example of this can be the differentiating interests between provinces like Alberta and British Columbia. Alberta, a western province in Canada is the holder of the largest oil sands in the world, "…underlying about 140,000 square kilometers of boreal forest." (Tenembaum, 2009) The problem lies with the fact that these are oil sands apposed to more common methods of drilling as used in Saudi Arabia. Oil sands extract what is known as bitumen and, "extracting and processing bitumen creates an extremely large environmental footprint. Two tons of earth must be excavated and up to three barrels of fresh water are required to produce just one barrel of synthetic oil from bitumen. Extracting and processing the bitumen generates on average three times as many heat-trapping greenhouse gas emissions as a barrel of conventional oil." (WWF) Methods like this are in more use as conventional methods are beginning run dry.

The oil fields of Alberta are recent hot topics as they are receiving a lot of interest from magazines such as National Geographic- which printed 20 pages relating to those very fields – to NGOs such as Greenpeace which recently released the movie Petropolis about these very sands. Unfortunately, it is an uphill battle in order to change or slow down the progress because of the undeniable profit that comes from them. Much of the controversy that comes from the oil sands is about tailing ponds; these are toxic pools where everything but the bitumen that has been extracted is dumped (this includes such chemicals as arsenic, mercury, PAHs, and other toxins found in the bitumen) (Tenembaum, 2009). It is the chemicals from these toxic ponds that opponents of the oil sands feel are endangering the people and wildlife of the surrounding area. For the people who rely on the Athabasca River for their water and food supply there is a high concern about whether or not it is safe anymore to be used. "Aboriginal people have reported large increases in cancer rates…" (Aboriginal Rights) with findings of lung cancer in women 3.5 times higher in women. There has also been, "…elevated prevalence rates of diabetes, hypertension, renal failure and lupus…these diseases have been linked with one or more of the toxics commonly found in tailings pond water." (Tenembaum, 2009) Although there are structures in place to help catch leakage from the tailing ponds estimate made by the Environmental Defence of 11 million litres of waste still manage to makes its way into the environment every day.



Map of oil sands in Alberta and Saskatchewan (provided by Semp Inc., 2008)

The amount of pollution being leaked into the environment as well the rise in cancer rates has the residents refusing to drink the water from the Athabasca River. Fish coming from the river and lake Athabasca have high levels of mercury in their system and Lake Athabasca has tested positive for arsenic, mercury, and PAHs that are a threat for both people and wildlife.

Yes, in economic terms this is wonderful news for Canada but as fast as the oil fields are growing the opposite can be said for the environmental care. As the oil fields are beginning to be proven to be

hazardous on the environment they are also bringing prosperity to the once forgotten town of Fort McMurray. Two companies, Suncor and Syncrude have been operating since 1978 and Shell opened up a $1-billion oil-sands operation which employed between 600 to 700 people between 1998 and 2002 with the construction of the plant. (Albuquerque Journal, 1997)

The oil sands also do well for Canada on a whole when taken in economic terms. There is an estimated 175 billion recoverable barrels of oil and has reached 1.3 millions of barrels a day making more than 1% of global oil production- reported the Canadian Association of Petroleum Producers- with an estimated 2.3 million barrels per day by 2015. (Tenembaum, 2009) For the Canadian economy that is anything but destruction. Canada is now, in support with the oil fields, the largest supplier of oil to the United States of America with 19% being imported there. (Kunzig, 2009)

Problems related to environmental issues comes with a question of whether, "… we are going to get serious about alternative energy, or are we going to go down the unconventional-oil track?" (Kunzig, 2009) A common fear among environmentalists is that this is just the beginning of different ways to begin extracting crude oil, next maybe from oil shale or coal. Another issue that would be raised when pertaining to the oil sands would be what sort of message this sends to underdeveloped or developing countries that are feeling the burden of changing their habits. The oil sands may not produce significant amounts of carbon on a global

scale but they still receive much skepticism that makes it difficult for Canada to enforce any sort of policy onto a developing world. As published in the Journal of Industrial Ecology "…the rich must not only help the many billions of poor to emerge from poverty but also to set a better example that will encourage the latter to seek more sustainable consumption paths." (Munasinghe, 2010, p. 5)

Part 2.2: British Columbia goes Green

It's not all bad news for Canada's environment and the fight for sustainability. Alberta's neighbour, British Columbia, is Canada's leading province in involving itself in sustainable solutions. Taking a look at Vancouver the capital city of British Columbia and one of Canada's largest cities and its aggressive attitude at becoming the world's greenest city by 2020 can be seen as a clear action towards a sustainable lifestyle.

British Columbia is located on the very West coast of Canada along the Pacific Ocean making it an obvious choice for ships to make port. For Vancouver's fleets the city uses the highest biodiesel blend allowed. When it comes to transportation there's been a campaign since 1996 on alternative methods of transportation raising 180% increase in bike trips, 44% increase in walking, 20% transit, and a 10% reduction in vehicle trips. (City of Vancouver: Sustainability Group) This is what helps to keep Vancouver's emissions only ½ of Toronto's.

Included in the submission to BC's Green Energy Advisory Task Force are different titles such as, "Renewable Energy Land-Use Planning,

Solar PV, Solar Thermals, Ocean Energy, Geothermal Energy, Bioenergy, Public Engagement," (BC Sustainable Energy Association, 2009) and many more are included. All of there are recommendations that have been given to the province of British Columbia on how it can improve its green economy because, "to save means not to tighten our belts but to transfer from primitive and wasteful technologies to modern an economical ones." (Novacek, 2001)An example of this simple change of replacing the 670 traffic lights in the city of Vancouver saves, "taxpayers about $250, 000 annually on electricity bill and nearly $110, 000 on maintenance." (City of Vancouver: Sustainability Group)

As mentioned earlier it is difficult to change the habits of people and can take a long time to make progress. It does help, however, if the government leads by example and that is exactly what the provincial government of British Columbia is doing. This is not met in enthusiasm by everyone and as in every controversial issue there are those who oppose the changing of the "black economy" (based on fossil fuels, non-renewable sources) to a "green economy". Clearly a green a economy is a loss-of-profit for those in not involved in the new wave of sustainable and renewable energy projects yet 20 000 jobs are expected to be created from this initiative.

On top of this the government of BC recognizes just how important it is to have people engaged in the change. For a democratic country it is important that there is support from the people which until now has been

minimal, and has left the government susceptible to criticism that the change in policy will damage the economy.

This recognition of the importance has led to the report on Sustainable Energy mentioning a need for:

-Funding for Public Engagement over Climate Change: Set up a fund that non-profit societies can apply to for public initiatives, and allow the results to determine which approaches are the most effective, and worthy of further funding

-Matching Funds for Local and Regional Governments: Set up a fund that local and regional governments can apply to public education and engagement initiatives related to climate and energy strategies

-Climate Change in Schools Curriculum: Accelerate the initiative to advance experiential environmental education in BC's schools to ensure that all students are available to take modules in climate science and climate solutions, starting in September 2010.

-Green Energy Public Engagement: Ensure that the approaches recommended about for Renewable Land- Use Planning and for a Collaborative Consultations Protocol- or something closely resembling them- are put into action. (BC Sustainable Energy Association, 2009, pg.21)

Taking these issues from the provincial level though and to the federal more on the matter can be examined. It has been made clear by the current government that investing in sustainable forms of energy is not the first priority. The priorities that Canada has stated in "Canada's Positions and Priorities at COP 15" underline a great need for engaging itself in a change of economics and policies but in this year's budget, "A mere $25 million on clean energy, from a government that let 93% of its Green Infrastructure Fund go unspent last year," (Liberal Party of

Canada, 2010) as well a cancellation of the EcoEnergy program for renewable power production.

With minimal support coming from the federal government of Canada it is up to the different provincial governments and municipalities to decide whether they are willing to invest in sustainable living or not. This obviously differs greatly on the regions different interests. British Columbia can gain monetarily from having companies investing in greener technology while Alberta in fossil fuels. Clearly a strong policy made by the federal government would be an advantage but as has been stated before, Canada is a victim of too much geography. The interests of different provinces, the different economic standings, and the amount of money allocated differ greatly yet, "Governments can *directly* invoke sustainable production through regulating and taxing companies." (Stevens, 2010) There is money to be found in taxing carbon emissions, money that could go towards funding greener forms of energy and business, the federal government just has to move itself in that direction.

Part 2.3: European Innovation

Another example of developed countries taking into their hands solutions to a more sustainable form of living would be those in the European Union, "the Danish information campaign "One Tonne Less", the Dutch tax incentive scheme "Green Funds", the British "Red/Green calculator", and the pan- European internet platform "Top Ten". (Scholl, Rubik, Kalimo, Biedenkopf, & Soebech, 2010)

Although all of these solutions are worth going into detail this thesis will focus on the "One Tonne Less" campaign in Denmark as it was targeted more toward consumerism and also the Dutch tax incentive that was targeted towards investors. The "One Tonne Less" campaign was created in order to instill an awareness in the people about choices they make concerning the environment and how they can improve their own lives. The importance of this campaign was that it targeted two different groups. With the first group, green consumers it attempted to help, "distinguish between merely symbolic shifts in behavior and changes that really matter." (Scholl, Rubik, Kalimo, Biedenkopf, & Soebech, 2010) The second group was the youth as their consumption habits have yet to be established and are easier to be influenced. The campaign managed to gather 92 000 pledges for 163 000 tonnes of CO2 to be reduced. The campaign not only spoke to the consumers but also to companies situated in Denmark where it managed to gather a total of 46 000 climate pledges.

The Dutch tax incentive was created in order to give green investors a tax break as well as a tax subsidy, all in an effort to draw in green projects. With such support it appeals to more ecologically friendly investors such as those interested in wind farms or organic farming. "Between 1995 and 2008, more than 5 700 projects had been supported by the scheme, which accounts for a total amount of more than 11 billion euros." (Scholl, Rubik, Kalimo, Biedenkopf, & Soebech, 2010) The reason why this tax measure is so successful is that it puts into

perspective that environmental sustainability can be achieved along with economic prosperity.

There is no need for economics and sustainability to be at odd with each other. Working within a goal that can be achieved by the given region can still lead to having a more productive economy while being able to work within the Earths own capacity. Proof can be found in different regions of the world, some included in this thesis, on how this can be accomplished. The recent economic crises however, draws attention away from this ability to focus more on the fact that to live sustainably costs more now than to continue with current modes of production, ignoring the fact that in the long run the profit will far exceed current costs.

Chapter 3: Solutions: Time to Rethink the Market Economy

"Around the world hundreds of slow cities and transition towns spring up to ensure better, greener lives… individuals, communities, and governments are taking the first steps towards a happier planet."

(The New Economics Foundation, 2009)

Fixing the habits of the people of this planet is no easy task but there is still hope as people take initiatives in their own homes and towns to ensure they are doing their part. Individuals can often feel powerless in the face of large multi-national companies but they have to realize that those companies are there to serve the wants and needs of the consumer. Just as when a large number of people decide to boycott a company or event- there are ramifications. If people begin to show an interest in bio foods or locally grown and produced items companies will come to meet that new demand. This can already be clearly seen by all the new bio food stores, or bio products being sold in large chain stores like Wal-Mart. Simple tasks like switching what goes in ones grocery basket is a step towards a sustainable lifestyle because it is not about limiting what one has but having it produced and consumed in a way that can be supported by the planet. It is about reaching, "the ideals of humanism and the harmony between man and nature, based on the respect of life, as well as the non-living parts of nature." (Huba, p. 521)

The world has become a place of consumerism and shipping routes can be found covering the worlds oceans in thick lines like a never-ending puzzle between North America, Asia, Africa, and Europe there Is a constant motion of ships on the move carrying new goods. "An average containership travels more that 344,000 kilometers (213,752 miles) a year- about eight times around the world… Experts say global shipping contributes roughly 3 to 5 percent of the world's annual carbon dioxide emissions." (National Geographic, 2009)

Another form of shipping that gains plenty of attention as it is far more profitable (making up to 40% of the value of shipped goods) and is in a struggle to become more efficient as well as sustainable due to rising oil prices. The air- shipping industry does not contribute a very high amount of CO2 emissions (1.5%) but high-altitude flights can contribute other pollutants. "Pollution from jet fuel emissions at high altitudes is greater than that from standard shipping… 300% more freight traffic is expected over the next 20 years, mainly from Chinese cargo shipments." (National Geographic, 2009)

"Even in the midst of a global economic slowdown, the human footprint on the Earth has never been so heavy. So much that once seemed inexhaustible has already been worn away by our needs, our numbers, and, too often, our shortsighted greed." (National Geographic, 2009) It is because of this ecological footprint that has been left that the need for new sustainable solutions is ever- growing. For the individual there are countless lists pertaining to this need from turning off all the

lights in the house, unplugging electrical devices, turning off the car while idling, insulating the house so heat is trapped better and cold repelled, buying locally grown produce, and many more.

A need for everyone though in order for people to develop is energy. It has become clear that without enough energy countries are unable to lift themselves out of poverty. "No country consuming energy equivalent to less than 750kg of oil per year per capita achieves an average life expectancy of over 75 years." (The New Economics Foundation, 2009) To put into context how much energy an average Westerner uses it is, "equivalent to having 147 slaves working 24 hours a day on their own behalf." (The New Economics Foundation, 2009) High amounts of energy usage are not always necessarily conducive to a longer life expectancy but in some cases more to wastefulness on the part of the people of that country. This brings around the question of whether more is always better. Based on the consumer lifestyle that developed countries have grown accustomed to there is a general thought that the more one has the happier or more fulfilled one will be. Yet, countries like Costa Rica, the Dominican Republic, and Jamaica place in the first 3 slots of the Happy Planet Index and consume nowhere near to what the average Westerner consumes. Luckily though, the question of whether more is always better is coming under some heavy criticism as, "… in affluent societies, quality of life begins to decline once a certain level of material affluence is achieved." (Carley & Spapens, 1998, p.136)

This is what brings around the idea of sustainable consumption which is by definition:

"Sustainable consumption is the use of goods and services to meet the basic needs and to bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollution over the life-cycle, so as not to jeopardize the needs of future generations." (Carley & Spapens, 1998, p.137) A key goal in this practice would be to have the ability to live within the environmental means of the planet. Energy is not endless, not the ones being heavily relied on currently. Neither is the land that cattle graze on, or the animals pulled from the sea, the plants and endangered species pulled from their natural habitats, or much of what a person consumes. There are limits and these limits have to be recognized.

A study conducted in Southern Brazil and published in the newest United Nations Sustainable Development Journal (Marx, Cariso, & Fabiane, 2010) found that there was a lack of information about ways in which to purchase green goods, use them, as well as how to dispose of them properly. Traditional consumers (those who did not but sustainably) responded in this way numerous times to the question of factors regarding purchasing sustainable goods. Requirements that emerged from this study focused on consumers being able to receive information as well as being able to feel stimulated to participate in a wholly sustainable lifestyle-from purchase to disposal. Education is a clearly important factor as it can

influence the value factor of the people greatly. The Journal of Industrial Economy (2010) summarized it as their second key point in sustainomics, "…Consumers need simplified and relevant information on these three aspects [economic, social, and environmental] to make sustainable choices, through pricing, advertising, labeling, and media." With simplified information and the most basic of education on the sustainable topic some of the barriers that stand in the way can be removed. Ones such as confusion about sustainable products and their effects, the different terms used in sustainability, personal understanding about what sustainability attempts to do, etc.

Part 3.1: The Government

Governments play a big role in all of this as it is their ability to directly impact the lives of the production companies as well as the consumers. By implementing different policies on production companies governments can make the consumers lives easier in choosing what to consume. Clear examples of government intervention on products can be seen on motor fuel which leads to more fuel- efficient cars. Within Europe the taxes imposed on motor fuels has made the car fleets more energy efficient compared to that in the United States. While the United States does have a tax on fuel inefficient cars it did not include SUVs and other semi-large vehicles making these cars still in high demand. In the United States as in Canada, The Netherlands, and Italy there is a monetary incentive that encourages people to swap, sell, or buy fuel

efficient vehicles. (Stevens, 2010) Either way, "Sustainable consumption initiatives only achieve their aims if they drive sustainable production in the private sector." (Stevens, 2010, p.18)

When governments limit the amount of pollution a company can produce it gives the company an incentive to switch to more environmentally friendly forms of production. Under the Clean Air Act Obama proposed a form of regulation to stationary producers of greenhouse gases. The European Commission has its own initiatives in order to reduce greenhouse gas emissions by 30% by 2020 if an international agreement can be made. Incentives like this automatically push large companies to change their modes of production, which often is more profitable in the long run than not. Governments can even offer subsidies for upgrading to more environmentally friendly technology just as they can offer monetary incentives to consumers, receiving and using the money from the taxes on pollutants.

Policies can face challenges of being made however, because the market cannot be predicted and more often than not governments do not want to tamper with the system. It is difficult to estimate what sort of impact a change some policies can make on the consumption patterns of individuals. The recent economic crisis has also helped to slow down the much needed push from governments to take action. "Governments have quickly found more than $4 trillion dollars for stimulus packages to revive shaky economies. Meanwhile, only about $100 billion per year is devoted to alleviating poverty, and far less is directed to combating

climate change." (Munasinghe, 2010, p.4-5) Recessions have a tendency to push away the long term ideas of the people and put into mind short term goals, ones in which there are immediate effects. Due to sustainability not being a short-term goal it is given less value as the payment for it may not be seen on a grand scale for decades to come. It is because of this that ad campaigns such as those used by Greenpeace or the opening movie for the COP15 meeting in Copenhagen, are made to speak about the generations to come after we have gone and the responsibility that is owed to them.

Part 3.2: The Media

Corporations have to begin to take responsibility for their actions by cleaning up their act- the government incentive can push them to do so. CO2 reductions, biofuel, alternative sources of energy are all still being tried and tested and are the van guard against global warming supported by a strong political (and now corporate) agenda. Some media dedicate entire magazines to the solutions of alternative energy sources. *Scientific American's* November (2009) issue is entitled, "A Plan for a Sustainable Future: How to get all energy from wind, water and solar power by 2030". *Discover* magazine entitles one article 8 Paths to our Energy Future. (2009) Within the widely published *National Geographic* advertisements made by IBM have a striking headline of, "A mandate for change is a mandate for smart." (2009) In this same magazine there is a lengthy article entitled Plugging into the Sun, all about how more energy

can be captured through the sun. *National Geographic* has also published a special "Earth Pulse" edition focusing solely on the state of the Earth and the problems it faces in the coming years.

Broadcasting companies such as CNN, Euronews, BBC, all have commercials promoting different fuel alternatives from major companies such as SHELL. The CNN three part documentary entitled "Planet in Peril" (Cooper & Gupta, 2007) that showed the clear connection between humans and the natural world, the rate of consumption, the disaster of harmful production, and the dire incentive for the need for better policies. The documentary takes them around the world to show the clear destruction of habitat happening around the globe and the consequences it is having on the wildlife and the people. They go to Lake Niger, one of the largest lakes in the world that has almost no water left and no longer provides the sustenance of food it once did due to overuse.

If the media were to bring themselves into the homes of the people there would be a clear difference in how people perceived the concept of sustainability. Currently, to live a sustainable lifestyle is viewed as more of a burden by the majority of the population rather than a convenience. This is an obvious problem as it is the convenience of peoples everyday modern lives that has lead to the new environmental awareness that the lifestyles of the modern world cannot be supported.

Conclusion

It is not only the responsibility humankind has towards future generations but also the responsibility towards those that came before. People have discovered ways to make lives better, last longer, with far more comfort than has been known in all of human history- but this progress has come at a high expense. The wealth is not distributed evenly. “In 2010 there will still be more than 800 million chronically undernourished people in the developing world,” even though, “obesity causing ill-health is becoming endemic in the wealthy countries.” (Carley, 1998, p. 4). The need to bring more equality to all parts of the world is needed. This is obvious. The population of the world is growing at an ever-quickening pace and tensions are rising. Where poverty exists there is a clear destruction of nature, “due to the fact that too many have too little to share,” (Carley, 1998, p. 5) in contrast to those in wealthy nations whose population growth is lower yet the amount consumed is staggering.

There are many steps that have to be taken towards building a better sustainable planet. In the Happy Planet Index global manifesto (2009, p.48) there is a list of ways to help reach a more sustainable society that includes: 1) Eradicate extreme poverty and hunger; 2) Improve healthcare; 3) Relieve debt; 4) Shift values; 5) Support meaningful lives; 6) Empower people and promote good governance; 7) Identify environmental limits and design an economic policy to work within them;

8) Design systems for sustainable consumption; 9) Work harder to tackle climate change and 10) Measure what matters.

The progress that sustainability makes is highly dependant on the policies that are put into place by governments. Yet, this can only be achieved when a government is made to listen to the wants of the people and the people's wants lean toward a more sustainable lifestyle. "The change of our value orientation and behavior should be driven by "positive motivation", by a vision of hope, a positive solution and a way out." (Novacek, 2001, p. 69) These values cannot be deterred by economic recessions and short-sighted goals of greed and monetary gain. The value-orientation of the people is key in all aspects of the fight for a sustainable life as they are the determining factor for policies created (in a democratic country, which has been mentioned as being a key factor), they are the consumers (consumers determine the market), and in effect also the producers (who need to see a gain for going "green"). Incentives for a change, some form of motivation like the tax cuts used in the Netherlands or subsidies given to green companies can make it easier to want to change and await the profit that will come later instead of dreading the cost now.

The footprint that humanity is leaving on the planet is clear, the consumption rates are unsustainable, the Alberta Tar Sands mark the Earth and bring into clear contrast what overconsumption is doing to the planet as well as the people. The destruction of natural habitats, such as mentioned with China, the Amazon Rainforest, and Madagascar is

driving animals to the brink of extinction. Edward Wilson, in 1992 came to the conclusion that due to the activities of humans the extinction rates have increased between 100 and 10 000 times. (Adams, 2006) Mass extinctions are common in Earth's history, having occurred five times before, but the difference is that this time humans may be the biggest factor.

Retracing back to the introduction there was a distinction made between how peoples attitudes can be viewed towards man and nature; the anthropocentric view, biocentric view, and the theocentric view. In the anthropocentric view, when man believes he is above all living beings and nature, then the kind of destruction that is occurring now will continue. In this view there is no need to sustain the planet as everything is a mere resource to use at ones whim.

The theocentric view holds that view that humans are the "custodians" over the creatures of this planet. Regulations put in place to help conserve areas and keep everything in its natural habitat could fall into this category as well as different laws preventing over-hunting, poaching, etc. As custodians preserving some part of the natural world it is an effort but placing nature into a corner and giving it little room to grow is still not a solution and it is equivalent to giving people the ability to choose what is worth saving and what is not. Taking into example, Yellowstone Park, and the open hunting season that occurred on wolves in the 1900s. The ecology of the park became unbalanced as herbivores

had no natural predators to regulate their numbers. Only after the reintroduction of the wolves did balance return to the park.

The last view is the biocentric, and when placed side by side with the fight for sustainability, it is in the opinion of the author that this is the best orientation the world can take. The biocentric view assumes equality for all living beings. This does not only have to take into fact nature but also people. If a person views themselves as better than the nature they rely upon, or even as a "custodian" then the chances are high that that is how they will view their fellow man as well. Giving all life equal chance and an opportunity to grow for the better is what sustainability needs in order to become more than just a goal, but an actual way of life. It encourages the growth equality for nature and for humankind.

The under-developed countries, developing, and the developed all have their clear distinctions between. There are different goals that to not coincide and often repel one another. Yet, all the people living within the different remote areas of the world have the same goal- to make a better life for themselves. This goal can be achieved but not if the planet cannot support the growing human population, the ability to find a way to live in coexistence is necessary for the welfare of all the people now for future generations so that they may too enjoy a green planet.

Resumé

Práca začína úvodným opisom hlavnej myšlienky, ktorá sa zaoberá témou trvalo udržateľného rozvoja. Vysvetľuje, že súčasná spotreba, ktorú čerpáme z našej planet, nie je schopná udržať spôsob nášeho života. To by spolu s očakávaným nárastom populácie v roku 2050 (približne desať miliárd ľudí podľa OSN) malo byť vysoko motivujúce v hľadaní udržateľnejších foriem života.

Prvá kapitola poskytuje rozdelenie, ktoré sa pokúša zjednodušiť príčinu a následok rôznych ekonomických, sociálnych a politických zoskupení. Z ekonomického hľadiska je prvé rozdelenie koncipované tak, aby každá prípadná štúdia predstavovala odlišné tvrdenie. Prvá kapitola opisuje rozvojové (agro-rulárne) krajiny alebo regióny, ako sú Madagaskar a amazónsky dažďový prales, ktoré názorne ilustrujú chudobu, ktorou sú ľudia v týchto regiónoch ovplyvnení. Vzhľadom na sociálny a politický faktor, chudoba hrá veľkú úlohu v koncepcii udržateľného rozvoja. Táto kapitola tiež priblíži skutočnosť, prečo rozvojová krajina nie je ochotná zmeniť svoj životný štýl pre splnenie požiadaviek stanovených rozvinutými krajinami, či je to už kvôli príjmu alebo výške spotrebovaných zdrojov. Zároveň sa bude snažiť priblížiť k pochopeniu situácie, v ktorej sa rozvojové krajiny, akou je Čína, nachádzajú pokiaľ ide o splnenie požiadaviek, ktoré sú stanovené rozvinutými krajinami.

Druh kapitola rozoberá štúdiu Kanady, kde dve provincie, aj ked

susediace, pristupujú k myšlienke trvalo udržateľného rozvoja rôzdielne. Prvou opisovanou provinciou je Alberta , domov najväčšieho ropného pola na svete, ako aj veľkého zdroja toxických látok v celom jej okolí. Druhou provinciou je Britská Kolumbia, má agresívny postoj k udržateľnosti a môže sa pýšiť hlavným mestom, ktoré dalo sľub, že sa stane najzelenejším mestom do roku 2020. Následne sa práca v krátkosti venuje inovačným prístupom, ktoré krajiny Európy používajú za účelom podpory trvalo udržateľných foriem života medzi svojimi obyvateľmi.

Tretia kapitola, s ohľadom na sociálne a politické aspekty, je venovaná možným riešeniam pristupujúcim k myšlienke, navrátu ľudí k udržatelnejšiemu životnému štýlu.Existujú príklady štúdií uskutočnených na otázkach spotreby a niektoré údaje, ktoré boli formované a závery spravené. Táto kapitola sa tiež zameriava na to, ako vlády môžu pomôcť motivovať nielen ľudí, ale aj priemysel, aby prešiel na ekologickejšie formy produkcie a spotreby. Posledná časť je venovaná záveru, ktorý spája dokopy všetky hlavné body práce.

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