

INFORMATION SERVICE
PRESS AND EXTERNAL RELATIONS SECTION

48th GRADUATE
STUDY PROGRAMME
(GSP)

Geneva

5 - 23 July, 2010

The United Nations: United to combat climate change
to safeguard international peace
and security



UNITED NATIONS

Digitized by UNOG Library

48th GRADUATE
STUDY PROGRAMME
(GSP)

Geneva

5 - 23 July, 2010

The United Nations: United to combat climate change
to safeguard international peace
and security



UNITED NATIONS
Geneva, August 2010



Remarks by Mr. Sergei A. Ordzhonikidze
United Nations Under-Secretary-General
Director-General of the United Nations Office at Geneva

Opening of the 48th United Nations Graduate Study Programme

Palais des Nations, Salle VII
Monday, 5 July 2010 at 11:00 a.m.

Ladies and Gentlemen:

Dear Friends:

It is a great pleasure to welcome you to the United Nations and to our 48th Graduate Study Programme. You have come to us from all across the world, and we appreciate the time and effort you have all invested in learning more about the United Nations. You have all been carefully selected, so you can already be proud of what you have achieved. And I have no doubt that you will accomplish even more - over the coming three weeks and as you move forward with your lives.

I will admit straight away that I really enjoy the Graduate Study Programme. There is always a particular energy and enthusiasm among the participants, and I am encouraged by the commitment to the principles and values of the United Nations of those who take part. But, I think that this year, the Programme has taken on added significance, as we are now entering the International Year of Youth, as proclaimed by the General Assembly. Officially, the year does not start until 12 August, but for me, your presence here is a very appropriate way to begin that year. Over half of the world's population is under 25. They represent our present and our collective future. I hope that while you are here, you will spend some time reflecting on what your vision for the future is. And I hope that you will leave here with determination to work to realize it.

Dear Friends:

With this year's focus on climate change and the link with international peace and security, you will be exploring some of the most pressing challenges before us. In Copenhagen in December of last year, the need to fight climate change was raised to the highest level of Government. There is no doubt that the outcome of the Copenhagen Climate Change Summit did not live up to all expectations, but we must build on the momentum and the greater consciousness that was established there. 2010 will be crucial in the international community's efforts towards a global, legally-binding climate agreement as the cornerstone of an effective response to climate change. We must tackle the root causes of climate change by limiting emissions and we must reverse its effects through better preparedness and mitigation.

The United Nations Climate Change Conference in Cancún in Mexico in December will be critical in this respect.

It is increasingly acknowledged that our environmental challenge-including climate change-has security implications. Environmental degradation holds the potential to further destabilize already conflict-prone regions. Our changing climate can be a potential driver of conflict by changing or limiting access to energy, water, and food, by including population movements or by fuelling border disputes as part of the fight over scarce resources. Sometimes the link is neither clear-cut nor obvious, but it is a dimension that we need to take into account in our efforts to maintain international peace and security.

Climate change also undermines development, and threatens to reverse gains already made towards meeting the United Nations Millennium Development Goals – the so-called MDGs – by deadline of 2015. Indeed, the impact of climate change will be felt most by those least able to cope, and who have contributed the least to the problem.

The fight against climate change must therefore be an integral part of our development efforts. From 20 to 22 September this year, world leaders will come together for a special high-level meeting of the General Assembly to assess progress achieved so far in realizing the MDGs.

The scorecard so far is mixed. We have made significant progress on many targets: the overall poverty rate is expected to fall to 15 per cent by 2015 – that is half of 1990 levels. Globally, the number of people on less than \$ 1.25 has fallen from 1.8 billion to 1.4 billion from 1990 to 2005. Yet, while the share of people living on less than 1.25 US dollars a day has also fallen in Sub-Saharan Africa and South Asia, the actual number in these regions has increased over the same period from 877 million to 984 million over the same period.

More children than ever before have access to education, with global school enrolment now at 85%. But, continuing poverty limits the rate and extent of progress and the quality of schooling must be improved in addition to increasing the enrolment rate. We have seen significant declines in child mortality and the incidence of measles, malaria and neglected tropical diseases, but overall rates remain high.

The progress notwithstanding, we are likely to miss several Goals, especially in the least developed countries, land-locked developing countries, small island developing states and countries in or emerging from conflict. Millions go hungry. Disparities between rich and poor not only persist – but grow in some countries and regions. Let us also not forget that while official development assistance is increasing, it still remains woefully inadequate to meet the challenges before us. ODA rose from 103.5 billion dollars in 2007 to USD 119.9 billion in 2008. By comparison, global military expenditure has now topped 1.5 dollars.

The September Summit will be an opportunity for leaders to accelerate progress on the MDGs, despite the challenges. We can achieve the MDGs, with the right investment. It is not only a moral imperative but it is in our collective interest.

Fluctuating stock markets remind us that recovery from the economic and financial crisis remains fragile. Rising budget deficits and public debt hold the risk of prolonging the recovery phase. In this context of ongoing insecurity, it is crucial that

we continue to strive to narrow the development gap as an integral part of the broader objective of achieving sustainable and balanced growth.

Against this background, the Secretary-General outlined at the recent G-20 meeting in Toronto a three-pronged strategy for investment that can yield high returns for the international community. Firstly, we must invest in job creation, in particular in the agricultural sector where there is a strong multiplier effect. Secondly, we need to invest in a green recovery, with a focus on mitigation and adaptation measures in development countries. And thirdly, we must invest in public health and health systems.

The agenda is indeed comprehensive and the challenges are many. Across all of them, there is a need to work towards the empowerment of women, which is one of the Millennium Development Goals and one of the Secretary-General's strategic priorities. Enabling women to take full part in our societies is not only a goal in its own right. It is widely recognized that it has a particularly strong multiplier effect on other MDGs. Targeted action is needed to help girls from poor, rural areas stay in school. Women are slowly gaining ground in political decision-making – but the progress is erratic and marked by regional differences. Figures from May of this year from the Inter-Parliamentary Union, which is based here in Geneva, show that the representation of women in parliaments, at the global level, stands at 19.5%. There is still a long way to go in equal participation. Job opportunities are opening up for women, but they often remain trapped in insecure, low-paid positions.

On Friday of last week, the United Nations General Assembly agreed to establish single United Nations entity with greater clout to promote equality for women – namely the United Nations Entity for Gender Equality and the Empowerment of Women, to be known as UN Women. It is our hope that this new entity will provide a solid foundation for advancing gender equality and participation of women.

The gender balance in this course – which actually has a majority of female participants – does remain the exception when it comes to women's empowerment. I hope that your generation will continue the efforts to change that.

Dear Friends:

I have only touched upon some of the issues that you will look at in much more depth over the coming three weeks. Experts from across the United Nations are volunteering their expertise to give you an insight into their work and how they strive to create a better world for all. My hope is that you will leave here with a reinforced commitment to making a difference wherever you go, and with a readiness to challenge the status-quo. Together with my colleagues here, I look forward to hearing the final outcome of your discussions. I am sure that as you learn from us, we will also learn from you.

Thank you very much.

Blank page



Page blanche

48th United Nations Graduate Study Programme (GSP)

Geneva, 5 - 23 July 2010

Theme: "The United Nations: United to combat climate change to safeguard international peace and security"

TABLE OF CONTENTS

PART I:	HUMAN RIGHTS	6
PART II:	ECONOMIC AND SOCIAL DEVELOPMENT	26
PART III:	ENVIRONMENTAL ISSUES	46

PART I: HUMAN RIGHTS

Report of the Working Group on Human Rights

EMERGING CHALLENGES: CLIMATE CHANGE, HUMAN RIGHTS AND ACCESS TO INFORMATION

TABLE OF CONTENTS

I: INTRODUCTION.....	7
II: DEFINITIONS AND FRAMEWORK	8
<i>A. Rights in the context of climate change</i>	8
<i>B. Climate related displacement</i>	8
<i>C. Framing the legal debate</i>	10
<i>i. Narrowing Legal Gaps</i>	10
<i>ii. Ensuring State responsibility</i>	12
III: ACCESS TO INFORMATION	13
<i>A. Bridging information gap</i>	13
iii. Knowledge management	15
iv. Public Participant	15
<i>B. Access to Information in Context of Human security and climate related displacement</i>	16
v. Public Health.....	16
vi. Water.....	17
vii. Food.....	18
viii. Land.....	19
IV: FINDINGS AND RECOMMENDATIONS.....	20
ix. Findings.....	20
x. Recommendations.....	21
BIBLIOGRAPHY.....	23
WORKING GROUP PARTICIPANTS.....	25

Abstract

This report analyzes climate-related population displacement from a human rights perspective and examines the complex nature of displacement as it relates to climate change. It continues by looking specifically at the legal framework regarding displaced persons and affirms the existing gaps in the international human rights architecture for persons threatened or affected by climate related displacement. The second part of the report examines the role of access to information and education as a tool for aiding in the process of prevention of and adaptation to climate related challenges. Finally, the report offers examples of ways in which access to information, knowledge sharing and education can be used as a means to address security-related issues linked to climate change such as adequate provision of health, water and food. In analyzing climate-related displacement and the role of access to information as a means for raising levels of human security among vulnerable populations, this paper explores specific aspects of the relationship between climate change and human rights.

PART I: Introduction

“Education makes a difference between life and death,” asserted Brigitte Leoni, Media Relations Officer of the UN International Strategy for Disaster Reduction, in a presentation to the 48th Graduate Study Programme that was held at the Palais des Nations from 5 to 23 July 2010. Within the context of climate-related displacement, access to information enables individuals to more fully enjoy their human rights and is a key to survival. Education about climate change is necessary to prevent conflict, protect human rights, and empower individuals to sustain livelihoods and social networks. Individuals threatened or affected by climate change face multiple human security risks since their basic rights to life and to the highest attainable standard of living are endangered and they find themselves in a precarious legal standing. Knowledge about climate change can empower displaced persons and help them exercise their human rights. This report will thus examine how human rights mechanisms must adapt to climate change challenges and how the collective climate change approach should emphasize access to information as a means to address human security risks.

PART II: Definitions and framework

A. Rights in the Context of Climate Change

In conditions of global warming, the right of everyone to an adequate standard of living for himself and his family, including adequate food, water, housing, and to the continuous improvement of living conditions, as stipulated in Article 11 of the International Covenant on Economic, Social and Cultural Rights¹, will be compromised. Climate change is influenced by extreme weather conditions, shrinking arable land, water shortages, lesser crop yields and various other effects. Additionally, the fundamental right to life will be impacted through deaths, disease, and injury resulting from heat waves, floods, storms, fires and droughts; risk of death and injury by drowning due to changes in rivers and other water bodies because of a rise in sea level; increased deaths among the elderly or chronically sick people, young children, and the socially isolated.²

B. Climate-Related Displacement

Climate change is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.³ Climate change plays a significant role in influencing population displacement. Long-term environmental deterioration such as a rise in sea level threatens Small Island Developing States (SIDS) and low-lying regions such as Bangladesh. Similarly, desertification and drought in the Sahel region of Africa contribute to volatile displacement and violent conflict.⁴

Population displacement influenced by climate change involves a complex network of factors including economic inequality, political instability and social exclusion. Climate change exacerbates human insecurity resulting from economic, social and/or cultural marginalization⁵ At basic levels, the risk of displacement posed by climatic events to vulnerable populations is a consequence of pre-existing human insecurity and involves issues of economic, social and cultural marginalization.⁶ In addition, water, food, and other resource scarcities coupled with an inadequate access to health services and education fosters a threat to human security.⁷

¹ International Covenant on Economic, Social and Cultural Rights; adopted and opened for signature, ratification and accession by General Assembly Resolution 2200A (XXI) of 16 December 1966, entry into force 3 January 1976, in accordance with article 27

² Ramana Acharyulu A.V. (2010), *The Impact of Climate Change: Social Policy Initiatives*, Global Policy 10 (1), 2010

³ UNFCCC, 1992

⁴ General Assembly, annual report of The United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and The Secretary-General, 15 January 2009 [...] p. 5

⁵ Jon Barnett and W. Neil Adger. "Climate change, human security and violent conflict." *Political Geography* 26 (2007) 639-655

⁶ Cultural insecurity specifically refers to indigenous populations and their unique ties to the land and way of life. Nuttall, Mark : "Protecting the Arctic: Indigenous Peoples and Cultural Survival", Routledge Harwood, 1998

⁷ The inherent right to education is critical for social empowerment among vulnerable displaced populations and is cited as a key element in development strategies. Hans-Dietrich Lehman. *The right to education in the context of migration and integration-The development cooperation perspective*. http://www.iiz-dvv.de/index.php?article_id=723&clang=1; "Report of the Office of the United Nations Commissioner for Human Rights on the Relationship between climate change and human rights". Annual Report of the United Nations High Commissioner for Human Rights and Reports of the Office of the High Commissioner and Secretary General. Human Rights Council, Tenth Session Agenda item 2. 15 January 2009. GE.09-10344 (E) 220109

Thus, framing environmental migration discourse requires a broad analysis of complex, interrelated factors contributing to displacement as well as different contexts of population movement including situations of slow and rapid onset disasters and voluntary and involuntary displacement.⁸ As a population vulnerable to various forms of marginalization (especially in the cases where an international border has been crossed), displaced persons threatened or affected by climate change face unique challenges. In addition to basic needs and security-related threats, displaced persons affected by climate change who have crossed an international border face complex legal hurdles concerning the protection of their human rights. They often lack straightforward means to participate in decision-making and governance processes of the host country while at the same time are limited in their ability to maintain key elements of their cultural integrity and identity.

In brief, the quality of the environment directly correlates with human dignity and well being⁹, and significantly affects “the realization of a range of human rights”, such as the right to life, health, food, water, housing, and culture.¹⁰ Preventive measures for mitigating climate-related displacement are generally similar to basic efforts for improving the economic and social infrastructure of a developing country or region.¹¹ This critical, multi-variable analysis becomes particularly relevant in situations where, in addition to climatic events, push factors include political insecurity, violence, and/or coordinated persecution, discrimination or marginalization”.¹²

Adaptation to climate change poses new challenges for the international community. For example, addressing the risk of “sinking islands” in the Pacific requires new approaches to traditional environmental adaptation methods as well as evolving immigration policies. New arrangements such as the 2001 agreement between the governments of Tuvalu, Fiji, Kiribati, Tonga and New Zealand provides a means for a limited number of people from SIDS at risk of sinking to move to a less vulnerable location. Each country has been allocated a quota of citizens who can be granted residency in New Zealand each year.¹³ In this case displaced persons deal with a form of *simple* climate-related displacement where the push factors include only climate-related motivators such as the loss of land.

Whereas low-level islands are threatened to disappear as sea levels rise, other parts of the world are increasingly exposed to natural disasters and climate-related catastrophes. However, many affected by the consequences of climate change are not protected by their governments and do not receive adequate support. NGOs and civil society are working hard to provide information to people affected by climate change

⁸ “Migration which does occur in response to both sudden and slow on-set environmental events exhibits varied characteristics which can be organized according to the following spectrum: voluntary – forced; temporary – permanent; internal – international; vulnerability – resilience” IOM, Migration, environment and climate change: assessing the evidence, Geneva, 2009, p. 23

⁹ Principle 1, Declaration of the United Nations Conference on the Human Environment, Copenhagen 1972

¹⁰ General Assembly, Op. cit. p. 7

¹¹ In the case of climate related population movement and displacement push factors include decreased accessibility to water, soil and forest degradation leading to limited agricultural production, or territorial loss as in the case of small island developing states such as the Maldives and Tuvalu. Astri Suhrke. “Environmental Degradation and Population Flows.” Journal of International Affairs. Winter 1994, 47, no 2

¹² Migration and displacement in these circumstances can be viewed in terms of “complex displacement”. Along the same lines, situations in which displacement is caused only climate related factors and related economic and social stresses can be best viewed as being conditions of “simple displacement”. “Environmental Degradation and Population Flows.” p490-493

¹³ A citizens guide to climate refugees, <http://www.foe.org.au/resources/publications/climate-justice/CitizensGuide.pdf/view>, p.8.

so that they can cope with this phenomenon.¹⁴ Nevertheless, in countries like India for example, there is a huge gap between those who benefit from education and are able to participate in decision-making processes and those who do not have access at all. In this case, displacement is a function of *complex* motivators. Specifically, the aggregate of poverty, neglect and inaccessibility to information combine with climate-related push factors to create conditions which foster displacement.

C. Framing the Legal Debate

The emerging concept of “environmental migrants”¹⁵ represents a complex human rights issue, as it would require a new legal framework for addressing vulnerable persons to climate-related displacement. These persons would require special protection beyond national state boundaries that is not covered in the 1951 Convention on Refugees. It is well recognized that the term “climate refugee” lacks a consistent legal basis within the current human rights framework, though it does represent a much needed attempt to situate such persons somewhere in the existing human rights normative structure. A significant legal gap does exist regarding the specific definition of this kind of migrants¹⁶, though the lack of specific legal provision must not prevent their adequate protection under a human rights framework.

According to international human rights law, states have an obligation to recognize, protect and fulfil individual rights. If states violate human rights by causing, directly or indirectly, by action or omission, changes to global climate, then they have the duty to assist affected persons, not only immediately preventing further climate-related damage, but also making reparations for damages that have already been caused. In fact, protecting the most vulnerable from the effects of climate change is fundamentally related to fighting poverty, since the marginalized populations living in vulnerable areas usually do not have the necessary means to fight against environmental threats.

It is apparent that improved consideration of the economic, social and cultural rights of vulnerable persons will provide better means for prevention, mitigation and the addressing of adverse impacts of climate related disasters. Developed countries, which have significantly contributed to greenhouse gas emissions, have the to provide greater resources to prevent and repair the effects of climate change. These obligations must constitute guiding principles of every international agreement on climate change and human rights.¹⁷

i. Narrowing Legal Gaps

International human rights law struggles to articulate a clear definition of persons threatened or affected by climate related displacement.¹⁸ Population movement caused in part by climate-related push factors does not fall into traditional concepts of refugees and internally displaced persons, thus there is no clear definition in the existing international legal instruments that could specifically apply to this

¹⁴ <http://www.mantlethought.org/content/climate-change-india-humanitarian-perspective>

¹⁵ Definition adopted by the OIM, as explained in detail herein below.

¹⁶ IOM, *MIgration, environment and climate change: assessing the evidence*, Geneva, 2009, p. 27

¹⁷ “The human rights of the poor in a changing global climate”, p. 29.

¹⁸ The definition of migrant workers as outlined in article 2(1) of the ICPAMW is useful in considering how to situate persons affected by climate related displacement. However it does not provide an completely accurate definition. International Convention on the Protection of All Migrants Workers and Members of their Families, adopted 18 December 1990, entered into force 1 July 2003.

emerging category of displaced person. The International Organization for Migration (IOM) has adopted the definition of environmental migrants, as “*persons or group of persons who, for compelling reasons of sudden or progressive change in the environment that adversely affects their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad*”.¹⁹ Although still being broad and not universally accepted, this definition perfectly stresses the nexus between changes in the environment and its effects on migration. However by referencing general migration only to environmental causes, it does not consider the complex and multiple possibilities of displacements that can derive from climate change effects. Therefore, a proper legal framework of rights’ protection should be established.

With the aim of providing for a more precise and adequate protection of human rights, significant attention should be paid to the movement of persons pushed into climate-related displacement. They would be considered internally displaced persons (IDPs)²⁰ if they stayed in their country of origin, but when crossing an international border they could be treated as migrants, stateless persons or refugees, depending on the associated motivations for their displacement. In the first case, by being internally displaced, they continue to have access to their own rights as citizens, while in the second they must rely on broad, creative interpretations of existing human rights law to appeal for international legal protection. Going beyond domestic law responses that inevitably follow national legislations’ rules, it is crucial to reason in international terms, or at least in regional contexts. For example it is necessary to provide a proper protection to cross-borders migrants from SIDS.²¹ In the case of the SIDS, it is also possible to bring environmental migrants into the 1960 Convention relating to the Status of Stateless Persons. In essence this means equating *de jure* stateless people to *de facto* “State-less” people, in that their physical territory is absent.²²

It is clear that international law is not yet equipped to respond adequately to the diverse causes of climate-induced migration. Yet, given the numbers, a solution can be devised wherein the right of displaced populations are acknowledged and given credence in the form of protection and provision from receiving countries. To encompass the emerging issues arising in the climate change context, a new international agreement is needed; one that equitably shares the burden of climate-induced migration flows across the world and upholds the human rights of the individuals affected. The development of solutions at the international level will inevitably take time, and in the interim it will be necessary to formulate domestic laws to respond to the issue of climate-induced migration. However, the implementation of such a policy should be driven by the human rights needs of the affected populations, and not by their capacity to fit within the general migration framework.

¹⁹ IOM International Organization for Migration, “Migration, Environment and Climate Changing: Assessing the Evidence”, 2009, p. 19.

²⁰ For the definition of IDPs, the 1998 Guiding Principles on Internal Displacement, the 2009 Kampala Convention, the Great Lakes IDP Protocol.

²¹ For Example Tuvalu a small pacific island affected by climate change asked until 2002 the neighboring countries New Zeland and Australia to open their doors to the migrants. As of this date, New Zeland has agreed to take in 116 labor immigrants a years but Auustralia has refused to accomodate Tuvalu’s request. Tuvalu is preparing to sue the United States and Australia in the International Court of Justice.

²² Report of the Representative of the Secretary-General on the human rights of internally displaced persons, Walter Kaelin, 5 January 2010, UN/A/HRC/13/21.

ii. Ensuring State Responsibility

The International Covenant on Economic, Social, and Cultural Rights (ICESCR), adopted by the General Assembly in 1966, establishes that states engage in international cooperation in order to guarantee the enjoyment of the rights to food, clothing, housing, health and education.²³ Moreover, the UNFCCC includes inter-state obligations to provide international support for adaptation and technology transfer programs based on a principle of shared but differentiated responsibility.²⁴

With regards to the duty to protect human rights within the state's territory, States must deliver adaptation support for those most vulnerable to the impacts of climate change. Furthermore, in this case the issue of extra-territorial responsibility becomes relevant. Besides refraining from practicing acts that could result in the violation of individual and collective human rights, states must at the minimum provide the international community with adequate information on the risks associated with climate change, as they may cause violations of economic, social and cultural rights of populations outside their boundaries.

Despite the fact that the ICESCR establishes that duties of states are not limited territorially, making states responsible for violations of human rights outside their boundaries is still a challenge. In order to make effective the obligations of sharing information, adequate mechanisms capable of ensuring the transfer of such knowledge are needed. Such mechanisms must consider adequate means for both the availability of information and access to it by every affected community.

The obligation of information disclosure by States with more scientific and economic resources is a fundamental step for international cooperation under the applicable legal instruments. Nevertheless, information sharing is not enough to mitigate the effects of climate change. Developing countries also need international financial aid to make the necessary adaptations in order to reduce the risks and effects caused by environmental disasters. For this purpose, new policies addressing the issue must be drafted, ratified and implemented, allowing the most needed to receive the financial assistance required.

²³ See for example article 2(1), 11(2), 15(4) of the ICESCR and principles 5,7 and 12 of the Rio Declaration on Environment and Development

²⁴ Article 4 (1) of the UNFCCC

Part III: Access to Information

A. Bridging the Information Gap

Access to information plays an essential role in reducing vulnerability of persons either threatened by or coping with climate related displacement. Indeed, “[a] human rights approach to sustainable development emphasizes improving and implementing accountability systems, access to information on environmental issues, and the obligations of developed States to assist more vulnerable States, particularly those affected by climate change”.²⁵ It is necessary to identify different ways in which access to information can act as an element for improving peoples’ lives as they function within a continuum of displacement.²⁶

Climate change also affects displaced persons’ access to decision-making processes. Successful integration of migrants into a local environment and deriving potential economic benefit for the host country imply the right of participation in decision making for this category of people in order to prevent the risk of stigmatizing displaced persons.²⁷ Security concerns resulting from the fact that the number of people sharing the natural resources of the host country rises can be abated by dialogue. In this context, access to information empowers marginalized groups through bottom-up and top-down processes, requiring not only community but also high-level political action.

Education is necessary for adequate responses to climate related challenges. Local practice and individual consultation should be considered as project implementation must account for specific social and cultural factors, which could have a bearing on intended outcomes. As vulnerable groups such as women, the elderly, children, disabled, and indigenous people who are at least supported by existing institutions and services, countries should work to develop means of inclusion and increased participation to ensure that marginalized groups have an easy access to information. This can provide persons threatened or affected by climate-related displacement with critical knowledge²⁸ and is crucial to their right to self-

²⁵ Claiming the Millennium Development Goals: A human rights approach. UNOHCHR, 2008. HR/PUB/08/3; The Atlanta Declaration and Plan of Action for the Advancement of the Right of Access to Information. International Conference on the Right to Public Information February 27-29 2008; Americas Regional Findings and Plan of Action for the Advancement of the Right of Access to Information. Americas Regional Conference on the Right of Access to Information April 28-30 2009 Lima Peru; African Regional Findings and Plan of Action of the Right of Access to Information. African Regional Conference on the Right of Access to Information Feb 7-9 2010 Accra Ghana; In the context of climate change this analysis assumes certain stage of displacement where people

²⁶ In the context of climate change this analysis assumes certain stages of displacement where persons must find ways to react and adapt to climate related displacement factors. These stages include pre-displacement where persons are threatened by the possibility of displacement. In these circumstances persons. Elisabeth Meze-Hausken. “Migration caused by climate change: how vulnerable are people in dryland areas?” *Mitigation and Adaptation Strategies for Global Change*, vol 5 number 4/ December, 2000 379-406

²⁷ It is important to establish a definition of integration in the theoretical field, so as to prevent minorities from experiencing marginalization and social exclusion. Complete integration demands commitment of both entities: the host community and the minorities. According to Ruth Farrugia: “Integration is a two-way process involving adaptation by migrants to the host community, and the host community welcoming and adapting to the migrants. Well-planned integration policies are essential to social stability and to protecting the rights and dignity of migrants”. Farrugia R., *Integration at What Cost? Research into What Refugees Have to Say About the Integration Process*, in: *International Journal on Multicultural Societies*, Vol. 11, No. 1, 2009.

²⁸ <http://www.oxfam.org/sites/www.oxfam.org/files/climate-change-adaptation-apr2010.pdf>; Specific attention must be paid to incorporating gender considerations into climate change and human rights discourse. Traditional gender inequalities are exacerbated in conditions of climate related displacement and when ignored have the potential to negatively affect vulnerable communities. Women however also represent a source of motivation when it comes to promoting change in terms of mitigation and adaptation to climate change. Within developing and vulnerable communities women possess critical, necessary information and perspectives which should be

determination as stated in Article 1 of the International Covenant on Civil and Political Rights.²⁹

With regard to access to information, problems might occur – in particular as far as vulnerable groups such as indigenous people are concerned – in terms of lack of information infrastructure, different local languages, and differentiated access to the media (radio, TV, etc.).³⁰ Political efforts to achieve the Millennium Development Goals (MDGs) stress that local participation in planning and decision-making³¹ are crucial to reduce individuals' vulnerability to climate change. Political participation can consist of both active and passive forms and can be directed towards the electoral process and all kinds of organized campaigning on specific subjects. Fostering active citizenship by guaranteeing the right to associate and build social networks to defend their rights and interests is important so that migrants can contribute to the quality of democracy of the host country. Furthermore, their own experience in terms of social knowledge and the experience of being displaced due to climate change can contribute to the process of raising awareness that the reduction of CO2 emissions is a global responsibility. This is because the existence of trans-national work migration networks and trans-national social spaces has shown that the lives of migrants and their families back home are deeply interwoven. Projects or programs focused on climate-related displacement should address the point of origin and the point of destination.³² Finally, programs focused on climate change related displacement should focus on a holistic and integrated approach through which migrants gain knowledge and information and hence power in order to not only address their basic needs but also to grant them appropriate legal standing in their host country.

The following section goes further in explaining how access to information can be used as a tool for persons threatened by climate related displacement to prepare for and adapt to the effects of climate change through infrastructure improvement, awareness and education especially in areas of agriculture, health, housing, sanitation, water management, communication and transportation.³³ Access to information and public participation in these areas provide a means for economic, social and political empowerment which can play a significant role in helping vulnerable populations address climate-related problems locally and make appeals for aid and cooperation at the regional, national and international levels.³⁴

referenced when formulating mitigation and adaptation plans. In addition, women's unique position in their communities provides them with a powerful standpoint from which to promote change in the use of outside resources and how they are managed within families. Women Gender Equality and Climate Change: Fact sheet.

²⁹ <http://www.unhchr.ch/tbs/doc.nsf/0/f3c99406d528f37fc12563ed004960b4?Opendocument>

³⁰ <http://www.oxfam.org/sites/www.oxfam.org/files/climate-change-adaptation-apr2010.pdf>

³¹ <http://www.un.org/climatechange/pdfs/bali/ohchr-bali07-19.pdf>

³² <http://www.north-south.unibe.ch/content.php/publication/id/2074>, p.50.

³³ Howard Frumkin, Jeremy Hess, George Luber, Josephine Malilay and Micheal McGeehin. "Climate Change: the Public Health Response." *American Journal of Public Health*. March 2008, vol. 98 no 3; Edward Cameron.

"The Human Dimension of Global Climate Change." *West-Northwest*, winter 2009 vol. 15, no 1

³⁴ *ibid*. "Climate change, human security and violent conflict."; Maria Lee and Carolyn Abbot. "The Usual Suspects? Public Participation under the Aarhus Convention." *The Modern Law Review*, January 2003 Vol. 66, no 1 pp. 80-108

iii. Knowledge management

In view of these threats, good governance practices based on principles of transparency emerge as an important element in the use of access to information to address climate-related conditions on vulnerable and displaced populations. Disclosure of information and public awareness campaigns can equip people with the necessary knowledge and skills to cope with difficulties and manage irreversible changes. However, in the realm of transparency, this could take the form of drowning in disclosure, if recipients bombarded with large volumes of disclosed information do not know how to find the “needle in the haystack”. This can be seen, for example, in governance of genetically modified organisms (GMOs) in South Africa, where civil society groups concerned about environmental impacts that rely on national right to-know laws receive large volumes of risk assessments and related information, but lack sufficient capacity or expertise to use it in holding state and private actors accountable.³⁵ Collaborative knowledge systems involving various public, private, non-governmental actors and interest groups as well as regional knowledge networks incorporating the traditional knowledge should be established through international cooperation and donor support.

iv. Public Participation

The effects of climate change will intensify global poverty and deepen social divisions; they affect the poor more than the rich.³⁶ Vulnerable people should be specifically addressed in the process of adaptation and mitigation to climate change, as they will be the most affected by the climate change processes due to their particular roles and status in the affected communities and/or geographic locations. HRC Resolution 10/4 explicitly recognizes persons vulnerable to climate change such as women, youth, the elderly, the disabled, indigenous peoples, minorities, and those made vulnerable by geography status.³⁷ Apart from this, affected persons at a grassroots level, such as women, indigenous peoples, small local farmers, often have the knowledge that can help cope with the effects of changing climate, for example, on water purification, soil fertilizing and fire fighting.

Whether bringing all stakeholders together to town hall meetings is a right approach or not still needs to be discussed. However, it is clear that affected communities should be given an opportunity for meaningful involvement in the decision making process at an early stage when all options are open and effective; thus public participation can take place. Mitigation and adaptation projects that can have a significant impact on such vulnerable groups as indigenous people or communities at risk of displacement should be subject to a prior consultation process, including obtaining free, prior and informed consent from affected populations. The initiative and responsibility of organizing a consultation process should lie with national and local authorities and should be monitored by the Committee on Economic, Social and Cultural Rights.

³⁵ Gupta A. (2008), Transparency Under Scrutiny: Information Disclosure in Global Environmental Governance, *Global Environmental Politics* 8 (2), May 2008

³⁶ Sachs W. (2008), Climate Change and Human Rights, *Development* (2008) 51, 332–337

³⁷ Orellana M.A., Kothari M., Chaudhry S., Climate Change in the Work of the Committee on Economic, Social and Cultural Rights, Friedrich Ebert Stiftung, Housing & Land Rights Network, CIEL.

B. Access to information in the context of human security and climate-related displacement

Over the past five decades the increase of climate anomalies has had significant impact on human security. In addition to the direct ecological and political implications, climate change is a challenge to human security in general. Due to environmental degradation there is an increase in the number of persons affected by climate related displacement. The following section will briefly discuss the importance of access to information as a relevant tool to tackle the issues of public health, water and food security generated by climate change.

v. Public health

Persons threatened by climate-related displacement face a variety of health risks stemming from often marginalized social and economic conditions. Vector-borne, water-borne and food-borne disease can spread quickly in circumstances where sanitation, water supply and food supply is compromised.³⁸ For displaced persons in the developing world, such conditions are common especially when climate events exacerbate already weak infrastructure and public works systems. In this regard it is necessary to consider the role of access to information in the area of health as key adaptive tool for displaced persons.

Displaced persons experience health risks inherent to their vulnerable situation and therefore deserve specific, tailored health-related initiatives, which emphasize awareness, knowledge sharing and empowerment. Analyzing health needs is often complex. Health initiatives should take into consideration issues relating to culture and incorporate those steps across all demographic groups.³⁹ Political instability and insecurity, overcrowded and unsanitary living arrangements, food and water scarcity, lack of economic opportunity affect displaced persons' ability to participate in public health initiatives, to become informed and seek care. Key examples of information include social protection mechanisms such as climate warning systems, emergency and recovery plans, vaccination programs, clean water supply, and food safety regulation.

A right-to-health approach to developing and improving health care systems places the well being of individuals, communities and populations at the center of the response initiative related to climate change displacement.⁴⁰ Along these lines, transparency, equity, equality, non-discrimination, respect for cultural difference, resource availability and integration must be implemented and access to health-related education and information must be emphasized in order to affirm the right to seek, receive and communicate health related information.⁴¹ In addition, the population should participate in all health-related decision making in the community.

³⁸ P.R Hunter. Climate change and waterborne and vector borne disease. *Journal of Applied Microbiology* 2003, 94 37S-47S

³⁹ Jonathan Patz et al. Health Assessment of Global Climate Change: Expanding on Comparative Risk Assessment Approaches for Policy Making. *Annual Review of Public Health* Vol 29: 27-39 April 2008

⁴⁰ Paul Hunt and Gunilla Backman. *Health Systems and the Highest Attainable Standards of Health*. http://www.swisshumanrightsbook.com/SHRB/shrb_03_files/02_453_Backman_Hunt.pdf; See Committee on Economic, Social and Cultural Rights, General Comment No. 14, "The right to the highest attainable standard of health", E/C.12/2000/4, 4 July 2000, paras. 3, 12, 44

⁴¹ From Science to Policy: Developing responses to climate change. WHO. <http://www.who.int/globalchange/summary/en/index11.html>. accessed 21 July 2010; A. Haines et al. Climate change and human health: impacts vulnerability and mitigation. *The Lancet* Vol 367 June 24 2006; health Adaptation Measures to Climate Change <http://www.mdpi.com/1660-4601/6/2/759/table?id=t3-ijerph-06-00759>

vi. Water

Climate change risks have the potential to affect a range of critical needs for persons in compromised conditions including adequate water supply for both individual consumption and agricultural use.⁴² In the context of climate change related displacement, considerations must be made for timely effective measures to ensure adequate supply of water for affected persons.⁴³ With respect to the right to water, access to information combined with necessary infrastructure investment and aid can play an essential role in facilitating improved water availability. Improvements in knowledge sharing and education about irrigation, for example, have the potential to reduce the impact of drought (whether or not it is empirically attributable to climate change as is defined earlier) on food supply and thus limit the possibility of displacement due to lack of food. In the case of the Sahel region of Africa, climate change adaptation could be seen as a function of limited economic resources and an inability to “cope” with economic and social conditions aggravated by deteriorating climatic conditions.⁴⁴ In this example, providing clear needs assessments and easily accessible information on improved irrigation techniques combined with necessary support would contribute significantly towards limiting the impact of severe drought.

The impact of climate change will be hardest felt in the developing world and in poorer communities. It is anticipated that its effects will add to the existing challenge of providing safe water and sanitation to the poor. Rapid urbanization and unsustainable use of water resources for agricultural and industrial purposes are threatening the water security of populations vulnerable to climate change and its related effects. In addition, industrial and municipal demand is affected through the increased flow of migration of people from water scarce regions.⁴⁵ Global warming could further reduce water availability in those areas that already suffer from water stress or water scarcity. It will also lead to an increase in water variability, rising sea levels and floods.⁴⁶ Climate change puts additional stress on water resources and reinforces the competition over limited resources.

⁴² FAO Technical Background Document from the Expert Meeting held on 26 to 28 February 2010, *Climate Change, Water and Food Security*, Rome, 3-5 June, HLC/08/BAK/2, <http://www.fao.org/nr/water/docs/HLC08-FAOWater-E.pdf> (17 June 2010).

⁴³ See Committee on Economic, Social and Cultural Rights, General Comment No. 15, “The right to water”, E/C.12/2002/11, 20 January 2003, paras. 12, 48, 54 and 56.

⁴⁴ *ibid.* Environmental Degradation and Population Flows.” p476

⁴⁵ TANDON, N., *Biopolitics, Climate Change and Water Security: Impact, Vulnerability and Adaptation Issues for Women*, 2007, http://www.networkedintelligence.com/Biopolitics_of_water.pdf (17 June 2010).

⁴⁶ TANDON, N., *Biopolitics, Climate Change and Water Security: Impact, Vulnerability and Adaptation Issues for Women*, 2007, http://www.networkedintelligence.com/Biopolitics_of_water.pdf (17 June 2010).

Indeed increased participation and access to information related to water resource management have the potential to promote, for example, local ownership of irrigation projects which is critical for effective, sustained development and affects a range of sectors including agricultural capacities, health initiatives and infrastructure growth.⁴⁷ Similarly, the availability of quality knowledge database regarding water resources is essential for building and sustaining effective water projects as well as accurate analysis on the extent of water demand for a given region. This comes into play particularly in fragile displacement situations where artificial stresses are placed on existing water supplies and timely, effective solutions are critical to the well being of affected populations. Naturally, developed countries hold valuable resources and information related to water resource management and development. It is thus critical to facilitate international information sharing of best practices, technology transfer and expertise to improve conditions for persons affected by climate-related displacement.⁴⁸

vii. Food

The right to adequate food is well established in the principles of international human rights law.⁴⁹ The impact of climate change on the right to food is of concern. The Intergovernmental Panel on Climate Change (IPCC) established that agriculture would come under an increased strain due to heat and weather extremes, caused by climate change.⁵⁰ Specifically, in circumstances where vulnerable persons to climate-related displacement depend heavily on agricultural production for their livelihood, lower productivity of their soil will reduce their harvest, which increases the risk of hunger and food insecurity.⁵¹

Displacement as examined in this report may prove an inevitable consequence of climate change due to push factors, such as resource scarcity. Regarding the violation of human rights, two aspects must be stressed. First, the responsibility of States to ensure freedom from hunger and to take all the necessary measures to alleviate hunger, even in times of natural disasters should be ensured.⁵² Second, it must be borne in mind that the lack of prevention measures by the state results in a violation of the right to food and other human rights such as the right to information.⁵³ Access to information and knowledge sharing as well as efforts to generate individual and local capacity in areas of food sanitation, proper nutrition, agricultural product indices and growing techniques are critical in circumstances where crop production is marginalized. They are essential to improve living conditions for persons affected by climate-related displacement. In fact, knowledge about selling, producing and safe consumption of food has the potential to reduce the impact of climate change on resource availability. Finally, access to information and

⁴⁷ Integrated Water Resource Management. TAC Background Papers No. 4, Global Water Partnership, Technical Advisory Committee. March 2000

⁴⁸ *ibid.* "Integrated Water Resource Management" p57

⁴⁹ See FAO Voluntary Guidelines to support the progressive realization of the right to adequate food in the context of national food security, adopted by the 127th Session of the FAO Council, November 2004. For example, Guidelines 1.2, 9.6, 9.7, 10.2, 10.6, 11.5, 13.1 and 17.1.

⁵⁰ Dialogue on Globalization. Exposed. The human rights of the poor in a changing global climate. Thea Gelbspan. Friedrich Ebert Stiftung. Page 11.

⁵¹ ANNUAL REPORT OF THE UNITED NATIONS HIGH COMMISSIONER FOR HUMAN RIGHTS AND REPORTS OF THE OFFICE OF THE HIGH COMMISSIONER AND THE SECRETARY GENERAL. Report on the relationship between climate change and human rights. Summary. Page 10.

⁵² ANNUAL REPORT OF THE UNITED NATIONS HIGH COMMISSIONER FOR HUMAN RIGHTS AND REPORTS OF THE OFFICE OF THE HIGH COMMISSIONER AND THE SECRETARY GENERAL. Report on the relationship between climate change and human rights. Summary. Page 10.

⁵³ Office of the High Commissioner of Human Rights and the FAO. The Rights to Adequate Food. Fact Sheet No. 34. Page 5.

knowledge sharing improves the use of resources and would help to alleviate conflicts, which may turn into violent conflicts and further threaten human security.

viii. Land

Climate change has the potential to result in resource scarcity. Scarcity, in turn, negatively affects stability. Thus, lack of governance and conflict situations may arise. In such a situation, climate change can affect human rights. In this human rights' framework, there are a number of issues that are raised as well as security and governance issues.

States have the responsibility to ensure that all citizens have fair access to land. In this regard, they must introduce legislative reforms in the field of land registration and management. In order to prevent future environmental clashes among populations, states should put emphasis on environmental friendly policies, such as the creation of sustainable development infrastructure. For instance, in Israel where water from the river Jordan plays a key role in its political, economic and social security, there are strategies for the use of water and recycling of wastewater for agricultural purposes. States must also guarantee land reform and systems of state management must be put in place.

Regarding access to information, States must ensure that deeds and land titles are accessible to everyone. New technologies of mapping, such as remote sensing from earth observation satellites should be used. Researches on key-security resources should be diffused to the public so as to prevent the aggravation of future conflict hazards as early as possible. Lessons on survival in emergency situations such earthquakes, typhoons and other environmental disasters must be integrated into school programs.

PART V: Findings and Recommendations

ix. Findings

Legal

International law is not yet equipped to respond adequately to the diverse causes of climate-induced migration.

International cooperation and assistance are essential in addressing the human rights implications of climate change because many areas heavily affected by climate change are already marginalized and vulnerable and thus lack the capacity to address the issues on their own.

States have an obligation to ensure that economic, social and cultural rights are universally protected both within and outside of their borders.

x. Recommendations

States, private actors, civil society and international organizations should cooperate at all levels in order to:

Legal Framework

Affirm and fulfil the obligation of information disclosure by States with more scientific and economic resources as fundamental step for international cooperation under the applicable legal instruments.

Develop a new international agreement that equitably shares the emerging burden of climate-induced displacement across the world and upholds the human rights of the individuals affected.

Clarify the framework of protection and qualification of the so-called hunger refugees and develop adequate legal mechanisms capable of ensuring the transfer of knowledge. Such mechanisms must consider adequate means for both the availability of information and the access to it by every affected community,

Consider the development of a new disaster relief fund of the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) in order to help vulnerable groups which are most affected by climate change. This fund would enhance an effective response adapted to needs of developing countries through contributions made by donors from both the private and public sectors.

Consider the creation of a program that would protect vulnerable states or regions against potential climate change-related effects such as “sinking” of small island developing states.

Lobby and act to change policy pertaining to energy friendly and the use of fuel limited to a specified allocation.

Basic Needs and Human Rights Protection

Consider and tailor environment policy based on the reality that within developing and vulnerable communities women possess critical, necessary information and perspectives, which should be referenced when formulating environmental mitigation and adaptation plans.

Ensure that persons affected by natural disasters, in particular those displaced, have unimpeded and non-discriminatory access to goods and services necessary to address their basic needs.

Ensure that all possible measures are taken to protect the right of persons to maintain their original culture, way of life and natural resources closely linked with the preservation of culture.

Promote female environmentalists and social workers in the shaping of climate policy.

Adopt a human rights-based approach to ensure that such climate change prevention and adaptation efforts do not discriminate on gender, racial or ethnic grounds; that the rights of children are adequately addressed; and that property rights of the poor and vulnerable are respected.

Ensure access to water in all circumstances, especially in the context of privatization of water resources in order to prevent unsustainable exploratory practices.

Access to Information, Knowledge Transfer and Education

Assist in developing and providing effective formal and non-formal education programs as part of pre-disaster plans.

Establish international and regional collaborative knowledge networks on the impact of climate change on water and food systems, public health, as well as encourage participation of vulnerable population groups. Such networks should involve policy makers, practitioners, academia, and non-governmental actors.

Develop prevention and adaptation solutions at the regional and national levels through broad public consultation, also including free, prior and informed consent of communities to climate change adaptation and mitigation projects that may affect their well being and/or drive their displacement.

Provide information through radio, television or cell phones to achieve fullest possible dissemination among marginalized and vulnerable groups.

Provide information on how to cope with current climate-related challenges and how to act in case of disasters with particular focus on dissemination of information among vulnerable populations.

Consider children in the privileged situation to attend school as potential mediators and disseminators of information by spreading word of mouth messages to their communities.

Use local knowledge inherited in indigenous communities in the dialogue with the state. Indigenous people have the right to be consulted and to participate in the policy

making process. The overall decision should echo the collective indigenous opinion(s)/suggestion(s) as they provide valuable information.

Encourage the development of effective database management (making the deadline population of census more frequent).

Assist in the development and management of effective population databases.

Support social knowledge sharing at the grassroots level.

Adapt education policies to the realities and pressing challenges of climate change.

Recognize and pursue policies based on the inherent connection between education and the ability of the information seeker/receiver to effectively use the information, which is made available.

Undertake further assessment of the development and use of green fuels and the potential impact on food systems.

BIBLIOGRAPHY

Books, Journals and Websites

- Suhrke, A. (1994). Environmental Degradation and Population Flows. *Journal of International Affairs*, 47(2), 473-496.
- Acharyulu, R. A. (2010). The Impact of Climate Change: Social Policy Initiatives. *Global Policy*, 10(1), 21-23.
- Barnett, J., & Adger, N. (2007). Climate change, human security and violent conflict. *Political Geography*, 26, 639-655.
- Climate Change Water and Food Security. (n.d.). *fao.org*. Retrieved July 21, 2010, from www.fao.org/nr/water/docs/HLC08-FAOWater-E.pdf
- Cameron, D. (2009). The Human Dimension of Global Climate Change. *West-Northwest*, 15(1), 1-14.
- Farrugia, R. (2009). Integration at What Cost? Research into What Refugees Have to Say About the Integration Process. *International Journal on Multicultural Societies*, 11(1), 51-74.
- Frumkin, H., Hess, J., Luber, G., Malilay, J., & McGeehin, M. (2008). Climate Change: the Public Health Response. *American Journal of Public Health*, 98(3), 435-445.
- Gelbspan, T. (n.d.). The Human Rights of the Poor in a Changing Global Climate. *Friedrich Ebert Stiftung*. Retrieved July 21, 2010, from www.fes-globalization.org/geneva/documents/EXPOSED_web%20version.pdf
- Gupta, A. (2008). Transparency Under Scrutiny: Information Disclosure in Global Environmental Governance. *Global Environmental Politics*, 8(2), 8-13.
- Hussain, S. (n.d.). Building Learning Communities Among The Unreached. *N/A*. Retrieved July 21, 2010, from www.col.org/pcf3/papers/pdfs/hussein_sazzad.pdf
- Integrated Water Resource Management. (n.d.). *TAC Background Papers No. 4*. Retrieved July 21, 2010, from www.cepis.ops-oms.org/bvsarg/i/fulltext/tac4/tac4.pdf
- Lee, M., & Abbot, C. (2003). The Usual Suspects? Public Participation under the Aarhus Convention. *The Modern Law Review*, 66(1), 80-108.
- Macnaughton, N. (n.d.). Climate Change in India - A Humanitarian Perspective | The Mantle. *The Mantle | a forum for progressive critique*. Retrieved July 21, 2010, from <http://www.mantlethought.org/content/climate-change-india-humanitarian-perspective>
- Meze-Hausken, E. (2000). Migration caused by climate change: how vulnerable are people in dryland areas?. *Mitigation and Adaptation Strategies for Global Change*, 4(5), 379-406.
- Nuttall, M. (1998). *Protecting the Arctic: Indigenous Peoples and Cultural Survival (Studies in Environmental Anthropology, Vol 3)* (1 ed.). New York: Routledge.
- Orellana, M. A., Kothari, M., & Chaudhry, S. (2010). *Climate Change in the Work of the Committee*. Berlin: Friedrich Ebert Stiftung.
- Pettengell, C. (n.d.). Climate Change Adaptation. *Oxfam.org*. Retrieved July 21, 2010, from www.oxfam.org/sites/www.oxfam.org/files/climate-change-adaptation-apr2010.pdf
- Report of the Secretary-General's High-level Panel . (n.d.). *Welcome to the United Nations: It's Your World*. Retrieved July 21, 2010, from <http://www.un.org/secureworld/>
- Sachs, W. (2008). Climate Change and Human Rights. *Development*, 51(3), 332-337.
- Tandon, N. (n.d.). Biopolitics, Climate Change and Water Security: Impact, Vulnerability and Adaptation Issues for Women. *networkintelligence*. Retrieved July 21, 2010, from www.networkedintelligence.com/Biopolitics_of_water.pdf
- The human rights impact of climate change. (n.d.). *UN.org*. Retrieved July 21, 2010, from <http://www.un.org/climatechange/pdfs/bali/ohchr-bali07-19.pdf>
- Thieme, S. (2007). Social Networks and Migration. *NCCR North-South Dialogue*, 15, N/A.

Treaties and Declarations

International Covenant on Economic, Social and Cultural Rights; adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966; entry into force 3 January 1976, in accordance with article 27.

United Nations Framework Convention on Climate Change, 1992.

Declaration of the United Nations Conference on the Human Environment, Copenhagen 1972.

Convention on the Protection of All Migrants Workers and Members of their Families, adopted 18 December 1990, entered into force 1 July 2003.

The Atlanta Declaration and Plan of Action for the Advancement of the Right of Access to Information. International Conference on the Right to Public Information February 27-29 2008 Atlanta Georgia

Americas Regional Findings and Plan of Action for the Advancement of the Right of Access to Information. Americas Regional Conference on the Right of Access to Information April 28-30 2009 Lima Peru;

African Regional Findings and Plan of Action of the Right of Access to Information. African Regional Conference on the Right of Access to Information Feb 7-9 2010 Accra Ghana

UN Documents

General Assembly, annual report of The United Nations High Commissioner for Human Rights and reports of the Office of the High Commissioner and The Secretary-General, 15 January 2009, UN. Doc. A/HRC/13/44.

Report of the Representative of the Secretary-General on the human rights of internally displaced persons, Walter Kaelin, 5 January 2010, UN Doc. A/HRC/13/21.

Working Group Participants

AMPONSAH	Eric
CHOSKY	Irem
COSTA	Heber
FONTOURA MARQUES	Mariana
G.D.	Ranganath
MENDES	Helena Germaine
IANOVITZ	Sara
JACCARD	Julian
KOBYLINSKA	Aneta
KRUSE	Irene
LEITÃO	Pedro
MACLEOD	Erin Eve
MASSARA	Raffaella
NIELSEN	Mikka
PREE	Daniela
PUSTOVOITOVA	Nadiia
RAUCH	Svenja
SADAT	Mir Nematullah
SENE	Fatou Ba
STYLIDI	Mary
TRENBATH	Gabrielle
VAFEIADAKI	Chrysoula
VALLES GALMES	Edouardo
VAN DE VELDE	Astrid
WALLS	Jonathan Mark

PART II: ECONOMIC AND SOCIAL DEVELOPMENT

Report of the Working Group on Economic and Social Development

TABLE OF CONTENTS

LIST OF ABBREVIATIONS	27
PART I: INTRODUCTION	28
PART II: CLIMATE CHANGE AND TRADE	29
<u>Climate Change and Trade</u>	29
1.1 <i>Background of Multilateral Negotiations on Trade and Climate Change</i>	29
1.2 <i>Key Areas of Concern in the Copenhagen Summit</i>	29
1.3 <i>Little Progress under WTO discussions</i>	30
1.4 <i>Prescriptions on Alternative Institutional Architecture</i>	30
<u>Key Elements to Combat Climate Change Related to Trade</u>	31
2.1 <i>Low-Carbon Technology Development and Transfer</i>	31
2.2 <i>Financial Support to the Transitional and the Developing Countries</i>	31
2.3 <i>Border Tax Adjustments (BTAs)</i>	32
2.3.1 <i>Background</i>	32
2.3.2 <i>Challenges of Implementation</i>	33
2.4 <i>Public-Private Partnership: The Best of Two Worlds to Make Ours Better</i>	33
Part III: RE-THINKING SOCIAL AND ECONOMIC DEVELOPMENT IN FACE OF CLIMATE CHANGE: AN INTEGRATIVE POLICY APPROACH	35
3.1 <i>Economic Impacts in Growth and Trade</i>	35
3.1.1 <i>Impacts on Resources</i>	36
3.1.2 <i>Food and Agriculture</i>	36
3.2 <i>Social development</i>	37
3.2.1 <i>Employment Access</i>	37
3.2.2 <i>Health</i>	38
3.3 <i>Recommendations</i>	38
3.3.1 <i>Specific Responses to Identified Challenges</i>	38
3.4 <i>An Integrative Approach to Development</i>	40
Part IV: CONCLUSION	41
Part V: BIBLIOGRAPHY	43
PARTICIPANTS IN THE WORKING	45

List of Abbreviations

BASIC	Brazil, South Africa, India and China
BCA	Border Carbon Adjustments
BTA	Border Tax Adjustments
BTM	Border Tax Measures
CO₂	Carbon Dioxide
COP	Conference of Parties
CTE	Committee on Trade and Environment
EU	European Union
FDI	Foreign Direct Investment
GATT	General Agreement on Tariffs and Trade
GHG	Green-house Gas
HIV	Human Immunodeficiency Virus
ICTSD	International Centre for Trade and Sustainable Development
ILO	International Labour Organization
IISD	International Institute for Sustainable Development
ISDR	International Strategy for Disaster Reduction
LDC	Least Developed Countries
MDG	Millennium Development Goals
MEA	Multilateral Environmental Agreement
MFN	Most Favoured Nations
NGO	Non-governmental Organization
ODA	Official Development Assistance
PPP	Public-Private Partnerships
R&D	Research and Development
TAIT	Thinking Ahead on International Trade
tC	ton of Carbon
UN DESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UN-FAO	Food and Agriculture Organization of the United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UN Global Compact	United Nations Global Compact
UNICEF	United Nations Children's Fund
USA	United States of America
WB	World Trade Organization
WHO	World Health Organization

Part I: INTRODUCTION

When looking at the causes of climate change, the economic sector is often regarded as the evil polluter. While this may sometimes hold true, the private sector is crucial for solving today's challenges. In the following report we would like to examine the state of affairs in the economic sector when it comes to the mitigation of the effects of climate change. Other than international agreements, there is also room for national legislation. The field is in a state of development and the potential for improvements and innovation is large.

Our report investigates and proposes new frameworks for global co-operation, as this is the arena where problems such as climate change need to be resolved. The social and economic perspective of this report allows us to take a closer look at PPPs as one of the answers to the climate challenge we are facing.

The latter part of the report gives a more concrete view of the direct consequences of climate change in the areas of social and economic development. Due to the breadth of the subject, we have focused on certain areas of challenge and industry sectors that we consider more significant. From the perspective of economic development, the impact upon growth, resources and agriculture is examined. On the other hand, the changes in access to employment and healthcare due to environmental distortions are investigated in the section on social development. Our recommendations are illustrated in the last part of the report with specific case studies. We acknowledge that further studies on the topic from other social and economic dimensions including migration and displacement, infrastructure development, manufacturing and production, tourism etc. can reinforce a more comprehensive view of the challenges related to climate change that we are encountering.

Part II: CLIMATE CHANGE AND TRADE

Climate Change and Trade

Considering the closely related impact of climate change on sustainable development, this part examines the latest international trade policies and multilateral framework related to climate change and trade development. The debate of how to best resolve the two objectives of environmental protection and trade liberalisation involves the key issues of inter-relationship between MEAs and the multilateral trading system.⁵⁴ An international response to climate change is essential given its global nature.

1.1 Background of Multilateral Negotiations on Trade and Climate Change

- The 1972 Stockholm Declaration of the United Nations Conference on Human Environment called for increased attention to sustainable development.
- The notion was further endorsed in the 1992 Rio Summit, and this occasion was groundbreaking as the first ever to conclude a correlation between sustainable development, economic growth and environmental protection. It also led to the adoption of the UNFCCC as a framework for action.⁵⁵ However, this did not result in any legally binding commitments for reducing gas emissions.
- Inter-governmental commitment was shown after the signing of the Kyoto Protocol on climate change in 1997, and industrialised countries agreed to GHG-emission reduction over the period 1990-2012.⁵⁶ In spite of this, only a few countries have ratified it and the USA is missing out.

1.2 Key Areas of Concern in the Copenhagen Summit

The current negotiations issues concern the level of technological and financial support that developed countries should provide to LDCs in order to help them participate in the mitigation and adaptation to global climate change.⁵⁷

No binding agreement was reached at the summit, and only the USA and the BASIC countries presented a three-page document.

The main difference between the Kyoto Protocol and the Copenhagen Accord, to summarise, is that the Kyoto Protocol has taken a *top-down approach* with a collective target (an average reduction in GHG of 5.2% until 2012), whereas the Copenhagen Accord concluded in a *bottom-up agreement*. The Copenhagen Accord pledges to limit the rise in global average temperature to no more than 2 degrees Celsius. However, it does not mention any collective target commitments for the global reduction of GHG emissions, it only asks for national mitigation targets and actions. By March 2010, about 100 countries had inscribed their - *often conditional* -

⁵⁴ Brack, Duncan & Gray, Kevin (2003). *Multilateral Environmental Agreements and the WTO*, Report by The Royal Institute of International Affairs and International Institute for Sustainable Development (IISD).

⁵⁵ UNEP-WTO Report 2009. *Trade and Climate Change – A Report by the United Nations Environment Programme and the World Trade Organisation*.

Often referred as Earth Summit.

⁵⁶ The exact amount of emission reduction varies from each country however the collective commitment represents the reduction to 5 % less than their 1990 levels.

⁵⁷ Hufbauer, Gary Clyde & Kim, Jisun (2010). *Climate Change and Trade: Searching for ways to avoid a train Wreck*. Thinking Ahead on International Trade (TAIT) - 2nd Conference on Climate Change, Trade and Competitiveness: Issues for the WTO.

commitments under the Copenhagen Accord. Furthermore, the impact on the consequences on GHG-control measures and the trading system differs between the two accords.

1.3 Little Progress under WTO discussions

It is noted that as the inter-governmental platform for trade negotiation, the WTO is also aware of the close relationship between trade and sustainable development. Indeed, the WTO-CTE has been examining this relationship since 1995. In spite of this, it has not been able to reach any real conclusions.⁵⁸

At the latest Doha Round negotiation, sustainable development has been reaffirmed. As stated in the Declaration⁵⁹ in 2001, the WTO negotiating agenda deals explicitly with the topic of MEAs in paragraph 31, which agrees to negotiations on the relationship between existing WTO rules and specific trade obligations set out in MEAs. The Declaration contains measures allowing for environmental considerations. Thus, the Agreement establishing the WTO recognises conduction of trade while allowing for the optimal use of the world's resources in agreement with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so.

1.4 Prescriptions on Alternative Institutional Architecture

The Westphalian tradition of *Domaine Réservé* and non-interference in countries' internal affairs is currently challenged by the need of international cooperation in transnational issues such as pandemics, global migrations or climate change consequences.

Slaughter proposed the definition of the globalization paradox as: "...the world needs global governance to combat problems that jump borders, and yet most people fear—rightly,—the idea of a centralized, all-powerful world government".⁶⁰

The results of our research call for the adoption of *the network model of decentralized global governance* (performed by multiple actors) developed by Hass and Kanie.⁶¹ We uphold that such a model would generate effective global coordination while covering major governance functions needed in solving climate change-related issues.

The functions are the followings: issue linkage, agenda setting, developing usable knowledge, monitoring, rule-making, norm development, policy verification, enforcement, capacity building (technology transfer and organizational skills), promotion of vertical linkage and financing.

Functions can be *formally* executed when the international community

⁵⁸ For a summary, see WTO Report of the General Council to the Ministerial Conference of Singapore, 12 November 1996.

⁵⁹ "...we strongly reaffirm our commitment to the objective of sustainable development, as stated in the Preamble to the Marrakesh Agreement. We are convinced that the aims of upholding and safeguarding an open and non-discriminatory multilateral trading system, and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive".

(WTO: http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm)

⁶⁰ Slaughter, A.M. (2004), *"A New World Order"*, Princeton University Press, New Jersey

⁶¹ Hass, P. and Kanie N. (2004), *"Emerging forces in Environmental Governance"*, United Nations University Press, Tokyo.

directly asks a particular (set of) agent(s) to perform them. As an example, the agenda setting functions should be formally performed by the United Nations, member states and by scientists through an early warning mechanism that could be developed to accurately define the points on which the international community should concentrate its efforts. Unfortunately, the current situation is one of NGOs providing exaggerated claims and warnings.⁶²

These functions can also be *informally* performed when action is not the consequence of explicit instructions. The financing function illustrates this task. Financing is controlled *formally* by Governments (through ODA), Regional Development Banks and Multilateral bodies. Nevertheless, the private sector also participates in it without being constrained to do it.⁶³ As a consequence, private funding *informally* contributes to finance Climate Change related programs.⁶⁴

Key Elements to Combat Climate Change Related to Trade

2.1 Low-Carbon Technology Development and Transfer

Hence, one method to reduce GHG reduction is considered to be technological enhancement with respect to energy efficiency. Enhanced low-carbon technology could be further developed, and international trade between the advanced-technology states and the developing countries can foster technology transfer and facilitate the spread of new technology and know-how.

Problems can arise when a developing country cannot afford low-carbon technology. Thus, it is important for developing countries to acquire the capacity to purchase the necessary technology and infrastructure to adapt and mitigate the impact of climate change incurred in development. The provision of necessary financial aid and promotion of FDI to these countries should be addressed furthermore at multilateral negotiations.

2.2 Financial Support to the Transitional and the Developing Countries

While growth and emission reduction, as commonly agreed at the UNFCCC-COP can be achieved, an effective means for the developed countries to provide assistance to transitional and developing countries, incorporating emission reduction measures for their growth.⁶⁵

According to the WDR 2010, released by the World Bank, the funding for adaptation and mitigation should be adequately organised to encourage recipient country development and offer ownership of a low-carbon development agenda at an efficient transaction cost. Key sectors including energy (e.g. sources of energy, process of production and consumption of electricity), urban transportation and trade-related freight emission, together with the development of a sustainable manufacturing mechanism, are core areas to look into. A large portion of GHG-emission in developing economies requires substantial and immediate assistance from the developed countries in order to facilitate emission adaptation and mitigation.

⁶² Ibid.

⁶³ This point will be further illustrated in Part III of this report.

⁶⁴ For more information on the Matrix of Functions, see Hass, (2003), "Addressing the Global Governance Deficit", *Based on a presentation given to ECOLOGIC on 5 November 2003 in Berlin, Germany.*

⁶⁵ United Nations Framework Convention on Climate Change (2009). Copenhagen Accord, available on <http://unfccc.int/resource/docs/2009/cop15/eng/107.pdf>.

Capacity building in energy efficiency, the transfer of clean development mechanisms and ‘*sustainable*’ practices could much contribute promptly without waiting for a conclusion of the emission reduction agreement.

Climate financial aid committed by developed countries at the COP15 is considered as one of the few positive achievements of the conference. Yet, the World Bank forecasts an annual mitigation cost in the developing countries of \$140-175 billion associated with \$265-\$565 billion financing needs by 2030, while the current start-up contribution by the developed countries amounts to \$8 billion per year up to 2012.⁶⁶ There is a large gap between how much developed countries are willing to contribute and the amount the developing economies require. A substantial lack of finance aid is needed for adaptation in the developing economies. A serious examination of such a discrepancy and a constructive consensus at the multilateral level in the upcoming round in Cancún (COP16) should be addressed.

2.3 Border Tax Adjustments (BTAs)

2.3.1 Background

Border tax adjustments (BTAs), also known as border tax measures (BTMs) or border carbon adjustments (BCAs), is currently under consideration as new measures to climate change mitigation by the USA and the European Union (EU). It could take the form of a tax on certain imports products, compulsory acquisition of emission allowances for domestic firms when importing these products or tax rebates for domestic firms when exporting these products.⁶⁷ The aim of these measures from these countries’ points of view is threefold:

- As effective trade measures to address the concern of carbon leakage – the risk that emissions will increase in areas with little or no climate regulations whereas emissions will decrease in areas where the carbon price is relatively higher.⁶⁸ By implementing BTAs, the movement of energy-intensive industries will be reduced;
- To protect the competitiveness of domestic industries – BTAs can level the playing field of international trade by equalizing the carbon price paid between domestic and foreign producers;⁶⁹
- As instruments to force developing countries to contribute to the climate change challenge.⁷⁰ Since the Kyoto Protocol only binds developed countries with emission targets, developing countries have not been subject to carbon reduction targets.⁷¹

These measures have been opposed by developing countries.⁷² In a nutshell, their main arguments are the following:

- BTAs are disguised forms of protectionism;

⁶⁶ Data sourced from the study of the World Bank in the World Development Report 2010.

⁶⁷ Brandi, Clara. “International Trade and Climate Change: Border Adjustment Measures and Developing Countries”. Briefing Paper 11/2010. German Development Institute. Bonn. [http://www.die-gdi.de/CMS-Homepage/openwebcms3.nsf/\(ynDK_contentByKey\)/ANES-873HC2/\\$FILE/BP%2011.2010.pdf](http://www.die-gdi.de/CMS-Homepage/openwebcms3.nsf/(ynDK_contentByKey)/ANES-873HC2/$FILE/BP%2011.2010.pdf)

⁶⁸ UNEP-WTO Report 2009. *Trade and Climate Change* – A Report by the United Nations Environment Programme and the World Trade Organisation.

⁶⁹ “Border Carbon Adjustment”. International Centre for Trade and Sustainable Development (ICTSD). Trade and Climate Change Briefing, Issue 3, 5 December. <http://ictsd.org/downloads/2009/12/briefing-border-measures.pdf>

⁷⁰ Ibid.

⁷¹ Ibid.

⁷² Ibid.

- They violate the multilateral free-trade system, and;
- They undermine the principle of common but differentiated responsibilities laid out by the UNFCCC.⁷³

Developing countries are concerned with the fairness of BTAs in assigning the burden of emission reduction responsibilities between the implementing parties and the targeted countries.

2.3.2 Challenges of Implementation

There are several challenges in implementing BTAs. Except the criticism raised by developing countries, their technical feasibility is also being questioned. Designed to address fair competition, these measures will “*almost certainly discriminate between domestic producers and foreign producers and among different foreign producers*”.⁷⁴ This effect is clearly violating Articles I and II of WTO rules, undermining the MFN and National Treatment principles. Unless the design of BTAs could effectively eliminate this discrimination, it is difficult to apply the general exceptions of WTO’s GATT agreement (i.e. Article XX).⁷⁵

Another challenge will be the counter-reactions of developing countries upon the implementation of the BTAs. To protect national interests, targeted countries might apply tariffs in other fashions to offset the BTAs charges. In the worst case, trade war may be triggered which could lead to an increase of costs in terms of economics and environment.⁷⁶ The negotiation between developed and developing countries on the issue of climate change will encounter further difficulties. The US and EU must be cautious in implementing the BTAs to avoid possible negative implications for the multilateral climate and trade regimes.

An alternative to BTAs could be a *cap-and-trade system* which issues emission quotas to countries according to agreed emission targets that are tradable between countries. This system allows more flexibility, offers the possibilities for those who emit more to buy quotas from countries, which emit less.⁷⁷ However, this system also has complications such as how to decide the amount of quotas for each country, who is responsible for monitoring the trading processes, and how to address the problem of carbon leakage.

2.4 Public-Private Partnership: The Best of Two Worlds to Make Ours Better

As accountability is an important issue for better controlling the emission targets, cooperation between the private sector “*undertakings*” and the public sector “*government*” to achieve the MDGs is therefore necessary. Undertakings should be irrespective of their volume, and governments of all levels of power should combine

⁷³ Ibid.

⁷⁴ Hufbauer, Gray C. & Kim Jisun. *Climate Change and Trade: Searching for Ways to Avoid a Train Wreck*. Background Paper for the 2nd TAIT conference (Climate Change, Trade and Competitiveness: Issues for the WTO) held in WTO from the 16th and 18th of June, 2010.

⁷⁵ UNEP-WTO Report 2009. *Trade and Climate Change – A Report by the United Nations Environment Programme and the World Trade Organisation*.

⁷⁶ International Centre for Trade and Sustainable Development (ICTSD). *Border Carbon Adjustment*.

⁷⁷ Zabarenko, Deborah. *U.N. Climate Chief Skeptical About Global Carbon Tax*. Aug 2, 2007. Reuters. <http://uk.reuters.com/article/idUKN3124057820070802>.

their resources, skills and expertise to improve the chances to achieve the 2015 Goals.⁷⁸

The idea of PPP is rather recent. The UN Global Compact was founded in July 2000 as a voluntary initiative that provides a policy platform and a practical framework for companies that committed themselves to sustainability and responsible business practices. The main goal of this global platform is to align business operations and strategies everywhere with ten universally accepted principles in the areas of Human Rights (principle 1-2), Labour (3-6), Environment (7-9) and anti-corruption (10). As the world's largest corporate citizenship and sustainable initiative, it is a forum where actors from all sectors can meet.⁷⁹

However, too many people and nations do not benefit from the growth and opportunities associated with massive foreign investments in their countries. Too often there is a gap between the director's office and social and environmental issues. Figures and stakeholders still whisper louder than the hungry and uneducated children, the deprived nature and the abused employees.

Members of the UN Global Compact, though small in number, understand that a commitment to the universal principles of responsible investment is a win-win situation. There is a need to clarify this to plenty of other players in the market.⁸⁰ The UN Global Compact must remain aware of participating and non-participating enterprises operating in developing countries, ensuring respect for the basic ten principles of responsible investment, implying that they create a human face for their company's strategy. Concerning environmental issues, the UN Global Compact should also focus on the fact that the failure of climate policy will transform the landscape of risk and opportunity for investment.

Next to those primaries, logical and human initiatives there must be a huge effort of both government and the private sector in the redrawing of the international market in a sustainable and responsible manner. The UN Global Compact has to strive for the creation of a secondary market in these countries. This will lead to the satisfaction of manufacturers of industrial products and will improve the competitive position of the country as the market diversifies. The creation of a secondary market implies new infrastructure, educated employees and much more. Where the aforementioned changes are a duty of the private sector, we must be aware that market success and political leadership go hand in hand. Where the market has to do its part, governments have to do theirs. The creation of new infrastructure, labour relations, higher volumes of trade, need a stable, predictable jurisdictional system to rely on.⁸¹ Well-considered trade and company law, enforceable labour laws, social security and education are indispensable in a prosperous economy.

To achieve such change by the year of 2015 is ambitious, but there is light at the end of the tunnel. The first rays appear with the success of the MDGs. By achieving these objectives a first step is made and allows further structural change. The UN Global Compact must design a realistic and broadly supported project with its own goals by 2015.

⁷⁸ All information used under this title can be found on the webpage of United Nations Global Compact: www.unglobalcompact.org. No quotes are used, neither direct copies.

⁷⁹ More than 7,700 participants (these are business and non-business actors).

⁸⁰ A figure of 20,000 members in 2020 is postulated; First reason to join the UN Global Compact is the increase in *trust* in the company.

⁸¹ A recent example of a successful public-private partnership is found in Angola, where Total France (member of UN Global Compact) cooperates with the national government so that also the Angolan community gains from the natural richness of the soil.

Part III: RE-THINKING SOCIAL AND ECONOMIC DEVELOPMENT IN FACE OF CLIMATE CHANGE: AN INTEGRATIVE POLICY APPROACH

The exact extent of climate change upon social and economic development is not clear. Overwhelming evidence of anthropogenic climate change, however, makes an urgent re-evaluation of development a priority. This chapter outlines the effects of climate change on economic and social development and offers recommendations that point to the foundation of a new sustainable model of development. The developing world is poised to experience the most significant effects of rising global temperatures. Altering rainfall patterns, rising sea levels, floods, droughts, exacerbation of disease and weak economic growth are some of the impacts to affect developing countries where livelihoods remain highly dependent on agriculture and increasingly unsuitable habitations.

With limited resources, technology, information, weak institutions and inequitable empowerment, developing nations are less equipped to adapt to climate change. At the same time, economic and social development must continue to relieve mass poverty, inequality and deliver basic human rights such as education, access to healthcare and food security.

We therefore suggest to discuss, first and foremost, the impacts of climate change on economic development, especially on growth patterns and resources. After that, our contribution continues with discussions on health, food and employment access identifies challenges of climate change to social development. The final part offers recommendations for the challenges faced.

It is often argued by scholars that an integrative policy which builds a single, holistic development strategy prioritising de-carbonisation of economies in both developed and developing economies is the most effective mitigation strategy.

As Banuri and Opschoor have made clear, the Kyoto Protocol has separated the environmental development goals.⁸² Instead, a separation of responsibilities, funding and action would initiate a move from a developmental language of emission targets to one of investment and technological transfer leading to more sustainable economic growth. It is emphasised that such a transformation should not be “*faceless*”, and indeed, this chapter concludes that climate change adaptation and mitigation offer the developing world opportunities for new modes of pro-poor development. Competing issues such as the HIV crisis and economic growth obscure the threat of climate change; thus, developing economies must be reassured that development goals are a part of any integrated policy, while diseases will be exacerbated by climate change.

3.1 Economic Impact on Growth and Trade

To sum up, academic studies on initial positive effects of climate change in some areas are due to a reduction of water stress in plants as a result of increased CO₂ emissions.⁸³ Since a large portion of the global economy is located in the temperate areas, warming would imply a reduction of expenditures on heating and healthcare resulting from cold conditions. Such benefits disappear after a 1.1 degree Celsius increase in global temperatures, affecting the bulk of the global population situated in

⁸² Banuri N.J. and Opschoor M.J., “Natural Resources Forum, 2009 p. 1.

⁸³ Tol, Richard S.J (2008). *The economic impact of climate change*. Working paper no. 255, September 2008. Economic and Social Research Institute, Dublin.

the tropics. It is estimated that GDP losses due to climate change at -0.7 per year with a 2.5 degree Celsius increase, but a lack of studies create uncertainties surrounding the true impact of climate change.⁸⁴ Concerning the marginal cost per ton of CO₂ emissions, there is a wide range of estimates from \$37/tC (to \$271/tC). Problems are further exacerbated by the date limitation of most studies. Current taxation on carbon emissions is a cause for concern, which weakens global action of carbon emissions.⁸⁵ Maritime trade will be affected by rising sea level and increased storm activity. In South-East Asia, for instance, regional economies depend upon important trade routes linking Northeast Asia to South Asia, the Middle East and Europe.

3.1.1 Impact on resources

For developing countries, usually under demographic and climate change stress, it has become evermore essential to develop conceptual and spatial framework to manage natural resources. Unfortunately, many of the resources of those countries are still to be surveyed and development planning would go a long way to ensure more research into natural resources in developing countries for better utilisation and management of the available resources. There are social, technological and environmental difficulties to be overcome before more efficient natural resource utilization in these countries could be achieved. The activities of transnational corporations distort developments in agriculture and mining in many developing countries, and many of those countries are today making greater moves to realize full sovereignty. For example, the National Assembly in Venezuela has passed a law allowing the government to take over oil-service contractors, including several American and British firms that are owed up to a year in-back payments over their natural resources. The development of a new and renewable sources of energy point up to the most present and greatest challenges to developing countries.

3.1.2 Food and Agriculture

Climate change and its regime will negatively affect the production and consumption of food in developing countries. Climate change regime will lead to price increase in food. And Rosenberg & Scott expect changes in profitability in agriculture, as the costs rise for essential activities.⁸⁶

The new climate change regime will encourage or sometimes mandate countries to reduce their reliance on fossil fuels for energy, instead attempting to use hydropower. When it comes to the choice of using water, this means a competition between the generation of hydropower and irrigation for farming. Besides, afforestation, which has been strongly supported as a means to reduce the volume of carbon dioxide in the atmosphere, will affect land availability for food production. The pro-forestation trend will lead to considerable land use competition between land for planting and land for farming. This can result in the increased costs in producing food.

Introducing new technology for food production could be another burden on producers and consumers in developing countries if the price of using the new

⁸⁴ Ibid.

⁸⁵ That is \$15 / tC in most US states versus \$134 in the EU

⁸⁶ G. Fischer, K. Frohberg, M.L.Parry and C. Rosenzweig (1994), "Climate Change and World Food Supply, Demand and Trade: Who benefits and Who loses?", *Global Environmental Change*, Vol. 4, No. 1, pp.7-23; Norman J. Rosenberg and Michael J. Scott (1994), "Implications of policies to prevent climate change for future food supply", *Global Environmental Change*, Vol.4., No.1, pp. 49-62

technology is high. According to Rosenberg and Scott, new technologies and higher levels of management will be important to reduce agricultural emission.⁸⁷ However, if the developed countries that engineer new technology to raise food productivity set a high price tag to any application of this technology, which is usually the case with high R&D cost - the developing countries - many of which rely on agricultural-based development will be in a disadvantageous position. The intellectual property rules and standards that regulate the use of innovative technologies can impose additional obstacle to the agricultural sector of the developing countries.

All these factors would likely raise the production cost of the farmers, and accordingly the price of food products the producers generate. While consumers in the developing countries are prone to difficulties in affording high food price and feeding themselves, unless if their income can increase proportionally to retain their purchasing power, the impact of climate change likely worsen the situation of mal-nourishment. The climate change and its regime impact the lives of the developing countries, and assistance efforts are extensively needed.

Considering development in Africa, the economic growth in the continent may be jeopardized by inadequately funded agricultural adaptation – most African economies are rooted in agriculture. UN-FAO has estimated that 60% of Africa's population directly depends on agriculture and natural resources. Africa's natural resources in tropical Savannahs, forests, coral reefs, and water habitats will be affected by climate change. Biophysical processes such as plant and animal growth, biodiversity and nutrient cycles are set to change, and such will destabilize the income levels of the local producers. Africa's reliance on rain-fed agriculture is a cause for concern. Climate change has altered flow velocity in watercourses and reductions in water quality. Agriculture is negatively affected by poor water control, especially in the Nile delta region and in areas of poorly managed reservoirs. Droughts threaten the production of major crops such as maize, which could decrease by 6.9% in production by 2020, compared with a more drought resistant crop such as millet.⁸⁸ The poorest people are the most vulnerable. A 3-degree Celsius rise in temperature is expected to have substantial negative effects on agricultural production.

3.2 Social Development

3.2.1 Employment Access

ILO has projected that the number of unemployed would reach up to 59 million people around the world this year.⁸⁹ For example, in Brazil, Argentina, Mexico and Venezuela, as assessed by the experts of the world body, there is a downturn in the labour market between 22.6 million and 25.7 million jobs. It also pointed out that by the end of this year in these countries an unemployment rate between 8.1% and 9.2% is expected. This situation is ever more alarming because of the unpredictability of the climate change regime over job access.

A change in weather patterns may cause a dramatic revolution in the job market in developing countries. Commodities are the basis of most developing

⁸⁷ Rosenberg, N.J. & M.J. Scott (1993). Implications of Policies to Prevent Climate Change for Future Food Security. Presented at the NATO Advanced Study Workshop, Climate Change and World Food Security and the Oxford Environmental Conference, Oxford, UK.

⁸⁸ IPCC 2007 <http://www.ipcc.ch/>, accessed on the 18 July 2010.

⁸⁹ ILO 2007 <http://www.ilo.org> accessed on the 18 July 2010.

countries' economies, which makes them even more vulnerable in the face of climate change. Traditional elementary jobs that constitute the main pillar of developing countries economy might disappear.

As a response, the creation in developing countries of work posts related to climate change is pointed as a possible solution. Nevertheless, the creation of the so-called “*green jobs*” can have a positive or a negative impact over a job market. In most of the developing countries, job structures do not follow green policies. As a matter of fact, in many developing countries, the labour sector is based in an informal structure, which does not even take into account normative regulations. As a consequence, the implementation of green jobs into this unstructured work system could make job access even more difficult. In addition, to change work practices takes a long time. In the meantime, when the job market is still adjusting, people may lose their occupations. On the other hand, it is important not to forget that even though it is a greater challenge to deal with job access in developing countries, the implementation of more “*environmentally-sympathetic*” work structure is vital.

3.2.2 Health

WHO defines health as “*a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*”.⁹⁰ Climate change poses a potential threat to health, especially in developing countries. Moreover, poor people will be the most affected by climate change, particularly in small islands and in densely populated areas. In developing countries, preventable causes of malaria, malnutrition, pneumonia and diarrhoea still leads to thousands of deaths every year which climate change can significantly aggravate.⁹¹ In today’s scenario, over 350 million people suffer from severe water scarcity, and climate change is due to increase the number of floods, droughts and heat waves aggravate and creating the perfect conditions for the propagation of diseases such as malaria and dengue fever.⁹² Another fundamental concern related to health is the impact of climate change in other sectors that are directly related, in agriculture, food and transport, to mention some.

3.3 Recommendations

3.3.1 Specific Responses to Identified Challenges

Education/awareness building should be a central pillar to improve social development in the face of climate change. For example, a customized educational program about basic health conditions and how to deal with them, run by local governments, local health centres or international organizations, would better equip local and remote communities. Such measures would strengthen communities’ capabilities and empower local people, as basic health assistance could be provided locally. Furthermore, it would help the earlier diagnosis of certain health problems, which would reduce the risk of complications.

The capability approach, developed by Amartya Sen, aims to expand developing communities’ freedoms to increase the functions that they value.⁹³ Strengthening the state’s capacity-building is pivotal to develop health, employment,

⁹⁰ World Health Organization, <http://www.who.int/globalchange/en/>, accessed on the 18 Jul 2010.

⁹¹ UNICEF, <http://www.unicef.org/>, accessed on 18 Jul 2010.

⁹² Global Issue, <http://www.globalissues.org/>, accessed on 19 Jul 2010.

⁹³ Sen, A. (1999). *Development as Freedom*. Oxford University Press.

resources and food provision. Such co-operative work between the state, which will provide organization and operational personnel, the private sector, helping with infrastructure (building roads, hospitals and health centres), and international organizations, providing finance, will support states with innovation and capacity-building.⁹⁴

During the 98th Session of the International Labour Conference in June 2009, “green jobs” were promoted, offered not only to be a new approach to fight climate change, but also to fight unemployment during the climate change regime. Whether through research or responsible socio-economic activities, green employment is a reality; examples are activities with a focus on environmental technology and renewable energy, tourism and recycling. Green jobs can reverse a scarcity of jobs worldwide via a sustainable model. For example, investing in capacity building can change traditional methods of production to a more sustainable and environmental-friendly one.

Aid from developed nations is paramount, both financially and technologically. To change developing countries’ structure of production and employment without causing great social damage to the work force will take an immense effort from international community. Indeed, it is unthinkable to believe that the process of improving food production and job opportunities through green jobs can be achieved without a significant transfer of technology and financial resources from the developed world. Developing countries have most rudimentary work structures and they will be more affected by the green economy model. Technologies and management skills for higher agricultural productivity need to be shared between developed and developing countries facilitated by less stringent intellectual property rights. A global policy to create financial resources and transfer technology is vital. The possible solutions for pooling such financial resources could be the establishment of harmonized international taxation systems such as carbon tax. However the feasibility of such measures are questionable due to their contradictory nature regarding national sovereignty, the lack of monitoring capacity of the existing global framework, and the complexity in determining a tax rate which would not undermine the economic development of the LDCs.

Climate change and the strategies to mitigate its impact are expected to disadvantage developing countries’ abilities to feed their people. Fisher et al. predicted net gains for developed countries and a noticeable loss to developing countries. Therefore, resource control measures, by reserving and protecting agricultural land and water, are of crucial consideration. Striking a balance between the environment and development is crucial. By ensuring that the environmental aspects of an investment proposal are taken into account alongside economic and social issues during the investment decision process as well as ensuring that the proposed investment does not carry environmental liabilities beyond those that have been clearly defined in an investment proposal would protect and enhance the efficient use of resources for social development.

Resource stakeholders must be fully engaged in developing management strategies in a context of deliberative democracy. These approaches offer pathways for vulnerable communities to engage in developing response policies and ensure that there is room for change in those policies. A rights-based approach to resource-use ensures that there is room for change in the management policies.

⁹⁴ MacDonald, Theodore H. (2009). *Removing the barriers to global health equity*. Radcliffe Publishing.

3.4 An integrative approach to development

Prioritising the de-carbonisation of all the world's economies should be a priority. Managing the transition from fossil-fuel based economies which have historically over-used environmental resources such as the atmosphere as a free sink is problematic. In South East Asia and Central Asia, reliance on hydrocarbons is high.

However, it must be seen that mitigation is the most effective and cheap method of limiting the impact of climate change upon social and economic development. Mitigation, however, calls for a holistic approach to development, placing climate change as a central pillar in economic growth strategies. Mitigation has been argued by Stern as a cheaper option to adaptation.⁹⁵ Mitigation has largely been focussed on the developed world, but offers developing countries an opportunity to forge a new economic model with sustainability at its core. As with disaster strategies planned by the ISDR, prevention is cheaper and more effective than cure. However, more urgent adaptation is required at the same time before longer-term mitigation can take effect on global climate change. Adaptation again affords developing countries opportunities for development where local communities can benefit from investments in adaptation projects such as infrastructure construction, research and data collection and rises in employment.

The effective implementation of both mitigation and adaptation in the developing world require large assistance from the international community. Funding is paramount, as Banuri and Opschoor have suggested.⁹⁶ A large scale funding effort from the developed world, combined with effective technological transfer could minimise the effects of climate change on social and economic development, just as the Green Revolution evaded; mass famine and agricultural collapse through investments in agricultural education and technologies such as fertilisers and machinery.

⁹⁵ Stern Review 2006

⁹⁶ Banuri T. & Opschoor Hans (2007). p. 21.

Part IV: CONCLUSION

In the first part of our report, we sought to understand the current state of climate change-related multilateral negotiations and to discuss the institutional perspective of this transnational issue.

When examining the institutional framework needed to address climate change impacts, we suggested the adoption of *the network model of decentralized global governance*. In this model the governance functions are divided and each function is performed by a specific set of actors. We believe that this model would generate a more effective international cooperation. Yet, the international community has to cope with a lack of research that would provide the exact magnitude of the negative consequences of global warming as well as the areas most impacted by it.

We also suggested leveraging the private sector capacity in providing expertise and financial resources rather than just blaming it for its profit-driven orientation. By involving them in the definition and implementation of solutions rather than just requiring their financial participation, we believe that challenges would be addressed effectively and private sector could be held more accountable. We regard the UN Global Compact initiative as a promising opportunity to internalize human rights promotion and climate change's challenges in the for-profit companies' strategies and operational actions.

When looking at trade as an independent variable of global warming, we argued that the spread of low-carbon technology is a relevant answer for reducing GHG. As far as design and implementation are concerned, multilateral negotiations should define appropriate mechanisms, including the provision of financial assistance from the developed to the developing countries.

The issue on financing is crucial, and we emphasized on the need for a well-tailored and reliable financial envelope. The World Bank suggests that \$140-175 billion are needed for mitigation cost in the developing countries; as well as \$265-\$565 billion for financing needs by 2030. However, the current start-up contribution by the developed countries amounts to \$8 billion per year up to 2012. This discrepancy will have to be seriously discussed and addressed in next rounds of negotiation.

In the second part of our report - after highlighting the impact of climate change on social and economic development - we advocated a new integrated model of development. We argued that an integrative approach that builds a *holistic development strategy* with de-carbonization of economies as a priority in both developed and developing economies is the most effective mitigation strategy.

This strategy should encompass education and awareness building, a focus on prevention by strengthening states' capacity-building, reliable financial mechanisms and resources control measures. Education would develop communities' capabilities and empower locals for a micro-level answer to climate change challenges. At the state level, economic and social development policies have to be designed, integrating a sustainable development approach. With the scarcity of agricultural lands and water resources, we call for a *rights-based approach to resource-use* in order to take into account negative impacts that will be experienced in developing countries.

In a nutshell, we firmly believe in climate change as a core element of a holistic economic and social development strategy, which would lead to a long-term prosperity for both developed and developing countries.

Post Report Note

As a collective exercise to work on this research project, we truly appreciate the opportunity to simulate a trusted collaboration under a multi-cultural setting, and we have learnt a lot from each other through understanding and sharing. The multiplicity of diversified cultural and professional perspectives, intelligence as well as passion towards our common vision to combat climate change enables us to share this report with you. We look forward to a more united and harmonized world with a sustainable way to further advance.

Part V: BIBLIOGRAPHY

Banuri T. & Opschoor Hans (2007). *Climate Change and Sustainable Development*. DESA Working Paper No. 56. October 2007.

Brandi, Clara (2010). *International Trade and Climate Change: Border Adjustment Measures and Developing Countries*. Briefing Paper 11/2010. German Development Institute. Bonn. Available on [http://www.die-gdi.de/CMS-Homepage/openwebcms3.nsf/\(ynDK_contentByKey\)/ANES-873HC2/\\$FILE/BP%2011.2010.pdf](http://www.die-gdi.de/CMS-Homepage/openwebcms3.nsf/(ynDK_contentByKey)/ANES-873HC2/$FILE/BP%2011.2010.pdf). Accessed on 21 Jul 2010.

Brack, Duncan & Gray, Kevin (2003). *Multilateral Environmental Agreements and the WTO*, Report by The Royal Institute of International Affairs and International Institute for Sustainable Development (IISD).

Global Issue. <http://www.globalissues.org/>, accessed on 19 Jul 2010

Hass P (2003). *Addressing the Global Governance Deficit, Based on a presentation given to ECOLOGIC on 5 November 2003 in Berlin, Germany*.

Hass P. & Kanie N. (2004). *Emerging forces in Environmental Governance*. United Nations University Press, Tokyo.

Hufbauer, Gray C. & Kim Jisun (2010). *Climate Change and Trade: Searching for Ways to Avoid a Train Wreck*. Background Paper for the 2nd TAIT conference (Climate Change, Trade and Competitiveness: Issues for the WTO) held in WTO from the 16th and 18th of June, 2010.

International Centre for Trade and Sustainable Development (ICTSD) (2009). *Border Carbon Adjustment*, Trade and Climate Change Briefing, Issue 3, 5 December. <http://ictsd.org/downloads/2009/12/briefing-border-measures.pdf>

MacDonald, Theodore H. (2009). *Removing the barriers to global health equity*. Radcliffe Publishing, 2009.

Rosenberg, N.J. & M.J. Scott (1993). Implications of Policies to Prevent Climate Change for Future Food Security. Presented at the NATO Advanced Study Workshop, Climate Change and World Food Security and the Oxford Environmental Conference, Oxford, UK.

Sen, A. (1999). *Development as Freedom*. Oxford University Press.

Slaughter, A.M. (2004). *A New World Order*. Princeton University Press, New Jersey.

Stern N. (2006). *Stern Review on The Economics of Climate Change*. HM Treasury, London.

Tol, Richard S.J (2008). *The economic impact of climate change*. Working paper no. 255, September 2008. Economic and Social Research Institute, Dublin.

United Nations Environment Programme (UNEP) & World Trade Organization (WTO) (2009). *Trade and Climate Change*. UNEP-WTO Report 2009. Available on http://www.unep.ch/etb/pdf/UNEP%20WTO%20launch%20event%2026%20june%202009/Trade_&_Climate_Publication_2289_09_E%20Final.pdf. Accessed on 18 Jul 2010.

World Trade Organization (WTO) (1996). *WTO Report of the General Council to the Ministerial Conference of Singapore*, 12 November 1996, available on http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm. Accessed on 20 Jul 2010.

United Nations Framework Convention on Climate Change (UNFCCC) (2009). Copenhagen Accord, available on <http://unfccc.int/resource/docs/2009/cop15/eng/l07.pdf>. Accessed on 18 Jul 2010.

United Nations Global Compact. www.unglobalcompact.org, accessed on 19 Jul 2010.

UNICEF. <http://www.unicef.org/>, accessed on 18 Jun 2010.

World Bank (2010). *World Development Report*.

World Health Organization (WHO). <http://www.who.int/globalchange/en/>, accessed on 18 Jul 2010.

Zabarenko, Deborah (2007). *U.N. Climate Chief Skeptical About Global Carbon Tax*. Aug 2, 2007. Reuters. Available on <http://uk.reuters.com/article/idUKN3124057820070802>. Accessed on 18 Jul 2010.

Working Group Participants

ABSAMATOVA	Akgul
BENATTAR	Sarah
CHO	Eunok
DA COSTA	Elissandra Messias
DUNCAN	Andrew
HALOUACH KHARBICHI	Amal
JACOBS	Charlotte
LI	Hao
CHRIS LO	Yat Fung
MESKOUR	Hicham
PARADA HERNANDEZ	Carolina Elizabeth
PERFORS BARRADAS	Gerardo
PESSOA	Igor
PIERRE	Elizabeth Adelaide
SARIYEVA	Aliya
TAUKHASOVA	Ainur
WONG	Robert

PART III: ENVIRONMENTAL ISSUES

Report of the Working Group on Environmental Issues

TABLE OF CONTENTS

I. INTRODUCTION	47
II. IN THE HOME	50
1. <i>Food</i>	50
2. <i>Compost</i>	50
3. <i>Water</i>	51
4. <i>Entertainment</i>	52
5. <i>Communication</i>	53
III. IN SCHOOL, AT WORK	55
1. <i>Transportation</i>	55
2. <i>Technology</i>	56
3. <i>Recycling</i>	57
IV. LEISURE	58
1. <i>Materialism</i>	58
2. <i>Travel</i>	59
CONCLUSION.....	61
BIBLIOGRAPHY.....	63
WORKING GROUP ARTICIPANTS.....	64

“Sustainability means living within the Earth’s limits. It means living in a world where feeding people does not necessitate polluting groundwater and coastal shorelines. Where transporting people and goods does not mean polluting our air and changing our climate. Where heating our homes and powering our industries does not require vast amounts of polluting fossil fuels. **Sustainability means doing things better – not doing without.**”

– David Suzuki, Foreword to Sustainability Within a Generation, 2004

I. INTRODUCTION: YOUNG GENERATIONS FACING CLIMATE CHANGE

“Real generosity toward the future lies in giving all to the present.”

– Albert Camus

We know *what to do* but we do not do it, WHY?

We are currently at the threshold of a tipping point: we all know that there's something going on, that the planet is suffering because of us, and that we, young generations, have a huge role to play in the fight against what we call *climate change*. Everyday, we receive guidelines, instructions, TV commercials on how to adapt, change our current lifestyle in order to ensure a better environmental future, or at least to prevent the worst.

Nevertheless, **even if we know what we have to do, we do not do it, why?** Maybe the usual instructions simply do not fit for us! They speak another language, propose unthinkable concessions, and suggest what seem to be (almost) impossible changes.

So let us try to find what we can **actually** do
to fight this climate change and preserve our future!

Climate Change: The Basics

What is *climate change*?

“Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global average sea level [1]”.

Climate change is one of the most serious global threats to our environment, our economies, and our lives. **In the last 100 years, the temperature has increased by 0.74°C globally.** That may not seem like a lot, but in the last 11,500 years the temperature has only increased 5°C. Global warming is therefore a serious problem today. In fact, in the past 12 years, eleven of those years have been registered as the hottest on record; and according to the United Nations, the global temperature is supposed to increase from 1.8°C to 4°C by 2100.

Climate change will not only have an impact on the daily temperatures we experience, but also on the rising of sea levels caused by the melting of polar ice caps. This will result in more frequent storms and floods. Concurrently, semi-arid regions will face problems with water resources as a result of higher temperatures.

Why is the climate changing?

Emissions of greenhouse gases are the most significant, human-caused, contributor to climate change. The atmosphere is like a blanket that traps heat escaping from the Earth's surface. Over the course of the last century, we have continually burned coal, gas, and oil, all of which are extremely effective at trapping heat. At the same time, we have been cutting forests and changing agricultural land use, returning therefore less carbon dioxide to the soil. As a consequence, today there is more carbon dioxide that cannot be assimilated and which is causing an increase in temperatures.

Climate Change: A Threat to our Lives and Security

Climate change as defined above is **real**: we cannot deny it! It has concrete impacts on our daily lives, we can feel them all around the world – the Jordan River is one of the many examples where climate change is a daily reality for young people of the region – and those impacts have just started.

Climate change truly constitutes a threat to our lives and more generally to world security. Indeed, the main effects of climate change, which scientists agree on, concern natural resources, rising of sea levels, and increased frequency of natural disasters, amongst other environmental impacts. Yet, all those processes may easily lead to huge local, regional, and even international conflicts. People might fight to possess the only natural resources available in the area – water is, for example, already an important cause of tensions in several regions – or tensions might arise as a result of the huge migration flows induced by those previous effects.

This logical assessment is not a simple media motto to attract your attention: the link between climate change and security is becoming more and more direct and concrete every day!

Wherever we live, go to school, or work, our safety depends on the amplitude of climate change effects. If we want to ensure for ourselves a globally safe world in the future, we know what we have to do: fight climate change!

Fighting Climate Change = Saving our Future

What does this mean: fight climate change? Two main processes are concerned: mitigation and adaptation.

Mitigation means that we will do whatever we can to prevent climate change, or at least to limit its effects. Basically, the main solution is to reduce our greenhouse gas emissions. It concerns big industries, transport businesses, as well as common human beings like us!

Adaptation means that we need to accept the fact that some effects of climate change have already happened, or will soon happen. These are irreversible and we have to adapt ourselves to deal with them – for example, populations living in regions where natural disasters are going to be (or even are) more and more frequent, have to strongly consider investing in prevention and taking this reality into account in their building construction.

We have several ways to deal with climate change, and what matters is that we need to act to save our future! Let us have a look at what we, **young generations**, can concretely do to contribute in this global combat.

An Eco-friendly Lifestyle: What Can We Do?

What we propose here is a short review of what we could change in our daily lifestyle in order to make it more eco-friendly. These are some concrete ideas, which actually speak to us, because we believe that we too can be concerned by the environment and the future of our planet all the while continuing to enjoy our youth! **There IS a way to be young, cool, AND eco-friendly.**

If you want to find some fun ideas about domestically eco-friendly habits, go to the chapter AT HOME, which proposes some ways to reduce our gas emissions.

If you want to learn more on going to school and work in an eco-friendly way, go to the chapter IN SCHOOL, AT WORK, which deals with this huge aspect of our lifestyle.

If you want to think about your recreational activities such as shopping or travelling, go to the chapter LEISURE, which gives you some ideas on having fun in an environmentally friendly way.

**We hope you will enjoy this because
fighting climate change can be cool, fun, and inspiring!**

'True story!'

Jordan River Case Study: Yousef's Experience

Yousef is 17 years old and lives in the Lower Jordan River Valley. Yousef does not have water at home every day; but instead, only for three hours, once a week. Even if the Jordan River flows less than 200 meters from his home, he has never seen it because it is in a military zone. As such, though he knows he does not have water at home and is aware of the presence of a river nearby, he just cannot grasp why he cannot have water every day.

The Lower Jordan River, border between Jordan and Israel, has lost 98% of its volume in the last 50 years because of the diversion of its water resources. The remaining 2% is highly polluted and due to climate change, it is likely to disappear within this century.

Due to the Jordan River's water resources, many tensions have developed in the last decades between Jordanians, Palestinians, Israelis, Lebanese, and Syrians. Some of the wars in the area have been the result of these tensions. However, local NGOs are supporting trans-border cooperation between the local communities of the Lower Jordan River Valley, building trust and a dialogue among them, as a first step towards regional peace.

Youth Programs represent the most important initiatives for peace as they aim at encouraging young Palestinians, Israelis, and Jordanians to meet, get to know each other, talk about their problems linked to the degradation of their environment, and share the best practices adopted in their local villages.

After participating in such a program, Yousef has understood that water scarcity is a common problem for the communities living on both sides of the river and that young people have to act now to save the river and the water resources of the valley.

Yousef, as well as other youth involved in this program who come from Jordanian, Israeli, and Palestinian villages, are trying to change their lifestyle and the mentality of the people living around them. Yousef and the other youth have introduced water saving systems (toilets, irrigation of gardens) and the culture of recycling in their schools. In other words, **they are adopting an environmentally friendly lifestyle in order to help their river, their valley, and their future.**

SOURCES

- Turner, M., Nader Khateeb, N. and Nassar, K. *Crossing the Jordan: Concept Document to Rehabilitate, Promote Prosperity and Help Bring Peace to the Lower Jordan River Valley*, Friends of the Earth Middle East, 2005, p.10.
Gafny, S., Talozzi, S., Al Sheikh, B. and Ya'ari, E. *Towards a Living Jordan River: an Environmental Flows Report on the Rehabilitation of the Lower Jordan River*, Friends of the Earth Middle East, 2010, p.16

II. IN THE HOME

1. FOOD

Are you aware of the benefits of eating less meat occasionally?
Have you ever considered trying a vegetarian-like diet, but perhaps just once a week?
There's really no harm in trying.

Climate change has direct effects on livestock productivity as well as indirect ones on the availability of animal feed and pastures. As local temperatures determine the types of livestock that are most adapted to given agro-ecological zones, climate change is expected to affect the presence, or absence thereof, of livestock, thus affecting for example, a rural community's sustainability.

Livestock emissions contribute to 9% of the total anthropogenic carbon-dioxide emissions, 37% of methane emissions, and 65% of nitrous oxide emissions. Some options available to mitigate these types of emissions include restoring organic carbon and carbon sequestration by means of agro-forestry, improved livestock diets, and better manure and nutrient management. The use of biogas technology is yet another way to reduce emissions all the while increasing farm profit and providing environmental benefits [2].

Less meaty-dinners may also help in the fight against climate change! Recently, a group of international scientists announced that the greatest cause of greenhouse gas emissions was food production and the use of fossil fuels. They stated that the only way to feed the world while reducing climate change is to switch to a more vegetarian diet. **“A substantial reduction of impacts would only be possible with a substantial worldwide diet change [3]”**.

Today, there is however a growing global consumption of beef. As “Western” diets contain large quantities of meat, this is having an impact on public health as well as that of our Planet. It is often said that being vegetarian is a gesture to the planet, but why not consider reducing our consumption of meat for a healthier diet and a less carbon-filled atmosphere [4]. Small changes can lead to even bigger ones.

Do you ever find yourself leaving leftovers in the refrigerator for days and then just never being in the mood to eat them?
Don't worry; you are most definitely not alone.

2. COMPOST

It is said that almost half of the waste generated at home may be compostable [5]. Imagine diverting all this waste away from the landfills it is normally sent to. –

In fact, you can! **Composting** helps divert your organic waste away from landfills and transforms it into a rich, moist soil amendment that you can then add to your own garden or mix with potting soil for plants in your home.

Smelly and gross? No way! It is **black gold**. There is no denying that at the beginning, composting may seem quite disgusting with its coffee grounds, old food scraps, pet waste, wet leaves, and much more, but the finished product is anything but that. Not only do avid

DID YOU KNOW?
The average Canadian will in his/her lifetime generate 40,000 kg of garbage.

SOURCE: Sustainability within a Generation, 2004

gardeners enlist the help of an army of microbes to turn their organic waste into decomposed organic matter or compost, but also everyday home and apartment owners. Composting has been made easy today with commercial compost pails, small enough to fit on your kitchen counter top, often available in your municipality. If you do not have a garden big enough to house a large compost recipient in the back, look into *vermicomposting*, which uses earthworms to turn organic waste into... black gold.

TOWARDS A SUSTAINABLE COMMUNITY IN SOME PARTS OF THE WORLD RESIDENTIAL ORGANIC WASTE IS COLLECTED WEEKLY AND THEN PROCESSED INTO COMPOST INSTEAD OF ENDING UP AT A LANDFILL. IN 2002, A GREEN BIN PROGRAM WAS LAUNCHED IN TORONTO, CANADA AND IS NOW COMMONPLACE IN MANY OTHER CITIES ACROSS THE COUNTRY. IN FACT, THE PROGRAM HAS BEEN SUCH A SUCCESS AMONG HOMEOWNERS IT WILL SOON ALSO SERVICE APARTMENTS AND MULTI-RESIDENTIAL UNITS. FIND OUT FROM YOUR LOCAL GOVERNMENT IF SUCH A PROGRAM WOULD BE POSSIBLE IN THE COMMUNITY WHERE YOU LIVE. THINK GLOBALLY, ACT LOCALLY!

3. WATER

We are all aware of climate change and its effects on water scarcity and impact on access to potable drinking water. But why repeat old information? It's time to focus on our actions.

Did you know that 33% of the water we use in our homes is spent on personal hygiene, 30% on flushing our toilets, 8% on washing our clothes, and 4% on drinking? That's a lot of water!

There is no denying that we need water in our daily lives. It is impossible to get away without using it. However, we can definitely use it in a better way. We have all heard about the ways we can save water and be more water-efficient users, so here are some more unexpected, easy, and synergic ways of consuming our precious commodity:

- Order water in a restaurant only if you know you will drink it...and be sure to ask for tap water. It is healthier and free! (You can also always ask for a free refill.)
- Try watering your indoor plants with water collected by your dehumidifier.
- Wash fruits and vegetables in one unique bowl of water, and then use that water to water your houseplants.
- Check for leaks both inside and outside your house. (And you can even use this as a fun game for children.)
- Use the same glass for water. There's no need on washing it every time you want to use it (this also means fewer dishes for you to wash).
- Instead of draining boiled water, use it for making soup or other recipes instead.
- Reuse your water bottle. There's no need to buy individual bottles when it is easier to have fresh tap water in a bottle you already have.

Easy, right? These are just some ideas you can adapt to your daily life with no effort at all. The important thing is to remember to be conscious of your actions.

Great Pacific Garbage Patch: Water and plastic do not get along that well

Did you know that in the central North Pacific Ocean exceptionally large quantities of plastic are floating around? Their accumulation is said to be the size of the State of Texas in the United States!

4. ENTERTAINMENT

You are at home. You have just arrived. You are tired of work, traffic jams and stress. All you want to do is rest. Maybe you can read the latest book you borrowed from the library or today's newspaper? Oh wait! Maybe better switch on the TV; there might be something on... It is all about taking it easy, right?

WHY READING IS GREENER: The majority of people tend to choose watching TV over reading a book. We have been told (so many times, at school, at home...) why reading is much better than watching TV; it exercises our brain and lets our imagination run wild; basically... we think – something that does not happen as often while watching TV. But who knew, reading books may also be more environmentally friendly!

Overall, watching TV is proven to be a remarkably low-carbon activity – at its worst a 42-inch plasma screen TV turned on for ten hours per day may emit up 800 kg of CO₂ e per year [6] in terms of energy consumption. However, it is important to also factor in the production involved in manufacturing a 220 kg TV and its energy consumption when left on standby. In contrast, a paperback entails a maximum of 2 kg CO₂ e – or solely 1 kg of CO₂ e on average.

1:1 COMPARISON

42-inch plasma screen TV, watched 5 hours per day, for 10 years:

400 kg CO₂ e/year/electricity consumption +
22 kg CO₂ e/year/production +
15 kg 400 kg CO₂ e/year being in standay 20h a day
437 kg CO₂ e/year... in only 10 years!

250 g book printed on a mix of virgin and recycled paper:

1 kg CO₂ e forever!

So, according to this math, the result is pretty clear: “the carbon footprint of a typical paperback is about the same as watching 12 hours of programs on an average TV [7]”.

READ MORE, EXERCISE YOUR MIND! If you are not convinced yet, you might be interested to know that a study conducted by sociologists at the University of Maryland recently concluded there is a correlation between happiness and entertainment activities such as reading, socializing, and watching TV. That is, after 30 years of analysis, it has been reported that spending time watching TV has less positive effects in the long run despite providing escape, especially in times of economical crisis. Based on a general social survey, researchers found that self-described happy people socialize more and read more newspapers in contrast with unhappy people that would watch an estimated 20% more television than very happy people. Therefore, TV may work as a short-term opiate that makes it easy for you to know how to spend time and energy, but you might feel it is a loss of both after realizing that you could have thought of something better and even cheaper to do [8]!

5. COMMUNICATION

A Must Read!

Berners-Lee, M. *How Bad are Bananas? The Carbon Footprint of Everything*. London: Profile Books LTD, 2010.

Do you enjoy hanging out Sunday night, just chatting on the Internet with your laptop? Playing against your neighbour on Play Station? Talking on your phone for hours with your boyfriend? Showing your friends videos from your latest trip?

Many electronic devices produce carbon emissions when they are manufactured, and even more when they are being charged for use. Furthermore, the raw materials, including some of the metals and components used to produce mobile phones are toxic and leaked into the earth when they are thrown out rather than being recycled. Incredibly, your beloved electronic gadgets are also one of several factors destroying the jungle and continuing the conflicts in Central Africa.

THE HIDDEN FACE OF OUR ELECTRONIC GADGETS: Our everyday products, such as cell phones, laptop computers, Play Station, video cameras, all have one thing in common: **coltan**. Colombo-tantalite, commonly known as coltan, is a black and heavy ore, which the high-tech industrial sector has a particular interest in. The metal tantalum, extracted from tantalite, conducts heat and electricity effectively, is very malleable as well as resistant to corrosion: all of which makes it an important component in the production of electronics, more specifically, the production of capacitors, which are destined from 18 to 35% to wireless communication sector [9].

DID YOU KNOW?

In 2008, the world consumed around 1170 tonnes of tantalum, for a value estimated at about \$200 million.

SOURCE: U.S. Department of the Interior, U.S. Geological Survey Minerals Yearbook.

Unfortunately, in the Kivu region, in the Democratic Republic of Congo (DRC), the exploitation of coltan forms part of a complex dynamic in which corrupted politicians, armed militia, and overseas multinational companies based in the European Union and Asia are linked. The logging activities of mining camps continuously contribute to the degradation of the native gorillas' habitat as well as the displacement of locals, workers, and sometimes even slaves. "As many of these camps and militia groups rely heavily on bushmeat, many of the national parks in the region have lost up to 80% of their larger mammals [10]." According to the NGO

Global Witness and *UNO* [11], revenue gained from the exploitation of the natural resources of the country (the DRC does not only export coltan but also diamonds, gold, cobalt, wood, and charcoal) is allowing the financing of armed groups and contributing to conflict in the area, which has caused the death of approximately 5.4 million of Congolese people since 1998 (*International Rescue Committee*).

But as a consumer, you too can act by choosing to avoid the purchase of new cell phones when your service providers attract your attention with new offers, or buying electronics only when you really need to. You can also participate or create projects such as the one established at a zoo in Prague, in the Czech Republic, where visitors' cell phones are recycled by a company in order to help the Dja Reserve in Cameroon, that is home to many protected species, including our beloved gorillas.

III. IN SCHOOL, AT WORK

1. TRANSPORTATION

Green Vehicles

The present use of fuel as gasoline, diesel, and others derives from burning fossil fuels, threatens people's lives all around the world. If we are going to stop the Earth's climate spinning out of control, most of the world's reserves of fossil fuels such as coal, oil, and gas cannot be used for energy and must stay underground. We must make the switch to positive energy both at home and globally.

Renewable energy technologies are the most appropriate, affordable, reliable, and environmentally friendly way to get essential energy: solar, wind, water, biomass, geothermal, hydrogen and fuel cells.

Using vehicles that are powered by renewable energy is more energy-efficient and environmentally friendly. The long-term aim is to develop "leap frog" technologies that will provide greater freedom of mobility and energy security, while lowering costs and reducing impacts on our environment.

Public Transportation

As a general rule, public transportation is an **effective** and **economic** alternative to driving. Experiments in Bangkok have shown that drivers in Bangkok spend on average 1056 hours (equivalent to 44 days) per year stuck in a traffic jam as well as spending large sums of money as a result of the rising costs of fuel. It is also great for your **health**. Users of public transit are 81% less likely to become obese, giving them also time to relax, read or nap during the commute. And the most important, it is 79 times **safer** and **greener**. Replacing just 1 mile of your trip by public transportation reduces approximately 240 lbs of CO₂/year, not to mention the pollution and energy costs.

Carpooling

Carpooling, or car-sharing, is the shared use of a car by a driver and at least one more passenger. The aim is to put in relation the number of individuals who have, up until then, travelled on their own. Whenever possible, try carpooling!

Carpooling reduces the number of vehicles circulating on public highways, decreasing traffic jams or car accidents. By reducing the number of cars on the road, car-sharing also decreases the need for parking places. This measure contributes to mitigating pollution emissions and the greenhouse effect.

Carpooling means less fuel, lower costs; the expenses are, moreover, divided by all those travelling together. It is estimated that car-sharing costs 150-200€ a month, against 600€ spent by the owner of an individual vehicle. It avoids the rapid wear and tear of your vehicle since in principle you may alternate the use of each carpooler's car all the while making use of a vehicle's seat that would otherwise be empty. Carpooling is also more convivial! The time spent in a vehicle to go to one's workplace (several hours a day for some) can be an opportunity to socialize and to make this time more pleasant. Such shared driving may even reduce driving stress!

Walking and Cycling

A lot of people talk for the environment – why not walk for it too. It is healthy, it is cheap, it is pollution-free, it is quiet – it is the easiest way to improve your quality of life and that of the environment! Imagine a 30-minute walk to your school, university or to work. If you walked there and back again, you would have burnt about 280 calories, approximately the amount of calories in one *Snickers* bar [12]. By walking two days a week, you can eat a whole bar of chocolate each week without having a guilty conscience. The same is true for cycling. Riding your bike for 15 minutes to and from work each day burns off the equivalent of 11 lbs of fat in a year [13].

Exercise is good for you – well, you know that. You save money on fuel costs (remember, the only fuel you need for walking or cycling is food and drink), you reduce your carbon footprint on YOUR planet, you eliminate driving-related stress and give yourself instead more time and space to socialize with other eco-friendly commuters and friends!

"Walking is highly efficient in its use of urban space and energy, it rarely causes injury and it gives streets vitality and personal security. Many car trips are quite short, less than 2 km, indicating that walking could be a feasible alternative and contribute to reducing the pollution from a cold-start vehicle travelling only a short distance."

SOURCE: C. Mason. "Transport and Health: En Route to a Healthier Australia?" Medical Journal of Australia, 2000 [14]

2. TECHNOLOGY

Green Buildings

Green building designs reduce the amount of energy required for operation by incorporating energy-saving technologies. Benefits include: significantly reduced energy use, decreased maintenance and capital costs, less environmental impact, increased occupant comfort and health, and improved employee productivity.

Whole Green building designs take into consideration site, energy, materials, indoor air quality, acoustics, and natural resources. Integrated building designs change the way architects, engineers, and project teams design buildings and leads to much a higher energy performance.

To be successful, project teams must consider all components and subsystems during the initial design phase and are the most important step in achieving energy-efficient buildings. It is important to set specific and measurable energy goals, develop strategies to meet the goals by planning from the top down and evaluating from the bottom up, create a structure that encourages communication among team members, make each team member accountable for successfully implementing the strategies, and evaluate progress toward the goal frequently.

Air Conditioning

Air conditioning was first developed in the United States over 100 years ago and became popular after the Second World War. While some people might actually *need* air conditioning (the elderly, the infirm) most of us could do without it – just think of the positive impact on your electricity bill and the environment! Air conditioning can be unpleasantly noisy and affects indoor air quality. It artificially increases the difference between indoor and outdoor temperature; you are stuck readjusting each time you go outside, which can be a serious strain on your health.

Sometimes the dress code at your school, university or workplace, may leave you sweating without some freshly cooled air, so why not suggest leaving the tie at home during hot weather or switching to loose-fitting, lightweight clothing instead? Apart from giving you personal comfort, these cooling alternatives may boost your popularity at work – be the one who dares to speak up!

DID YOU KNOW?

In the United States, about 1/6 of all electricity generated is used to cool buildings while more than 1,500 kg of carbon dioxide is emitted each year as a result of air conditioning in the average home [15].

Last but not least, the use of air conditioning in your car increases fuel consumption by 11 to 15% [16], so even a modest use is possible on a daily basis.

Computers

While many of us blame climate change on factories, airlines and cars, we are unaware that computers, printers, and mobile phones also cause a lot of damage to global warming. Almost half of the power from the wall never reaches the processor, memory, disk and other components in a typical desktop PC and are wasted. In 2007 it was estimated that the manufacture of ICT equipment, its use, and disposal accounted for the emission of 830 million tonnes of global CO₂ emissions, which is equivalent to the aviation industry's contribution. Turning your computer off when not in use, adjusting the 'hibernate' mode to idle at a lesser time, installing 'CO₂ Saver' onto your computer, and exploring alternative energy use, are all ways of reducing your carbon footprint.

3. RECYCLING

Minimizing the amount of paper you waste is important. Simple ways of doing so include printing double-sided, giving old textbooks to younger students in need, and choosing recycled paper, which is lighter and cheaper.

DID YOU KNOW?

The US Justice Department is saving \$573,000 USD through 2010 by printing their documents double-sided. Ten pieces of used paper can make eight new sheets, and these can even be recycled one more time!

IV. LEISURE

1. MATERIALISM

We live in a materialistic world; we are leading a way of life that produces, processes, and consumes a lot of scarce natural resources. We are turning our planet into a basket for waste and pollution. The most important question to ask ourselves is whether we are happy and comfortable with what we are doing to the planet? Is this really environmentally sustainable for our future? An interesting point is that it is actually possible to reduce our consumption if we think about or prioritize our real needs. Sometimes, it is about cutting down our appetite and indulgence for the things we don't need. Some of the desires could be fulfilled through other means! We can't go on like this forever, and as consumers and producers we have to adopt an environmentally friendly lifestyle. One where the use of goods and services responds to our basic needs and brings us a better quality of life. One that minimizes the use of natural resources, toxic materials, and emissions of waste and pollutants, and does not jeopardize the needs of future generations [17].

DID YOU KNOW?

Resource use increase faster than population growth!

Europeans use about 43 kg of natural resources daily, while the average American more than doubles that at 88 kg. 7% of People = 50% of Carbon Emissions [18].

THE PLASTIC WAR: Plastic is all around: we use it to wrap things and to produce goods. Nevertheless, this material is not very environment friendly. Most of the time, we use it for a very short time; bringing things to and from the shop and our house, but in fact it has a long lasting life. If it is dumped everywhere like it is now, it will continue to have very harmful effects on the environment. Many times it ends up in the oceans, being eaten by fish. So what can we do? Avoiding taking plastic bags from the shop but rather using reusable ones is one idea. Picking up articles with less packaging is another.

DID YOU KNOW?

The life span of a plastic bag is about 20 minutes, but needs around 400 years to decompose [19].

THE GREEN FASHION: Fashion has been quite often left as an area with little concern when it comes to the topic of environmentalism. It is an important one though; go and ask your friends about what is left in their wardrobe and never worn and you will see just how grave this matter really is. Giving away clothes that are no longer needed may benefit somebody else, and you can even earn a pretty penny if you decide to sell them. Sometimes old clothes can even have a second use, such as turning jeans into a pair of shorts. A question as simple as "Do I really need this?" can really help us in recognizing our real needs.

Do we really need the latest "cool" thing to be considered by our peers?

Metaphorically speaking, the Earth is a big store and on its shelves we can find all the natural resources we need to survive, like water, cropland, and forestry. However, as you know, these natural resources are limited. Beyond this fact, human actions contributing to deforestation, ecosystem degradation, and pollution reduce even more our finite stock of natural resources. This means that the world has started its sale season! However, in contrast with the sales in your favourite shops, the consequences of not finding water on a store shelf, for instance, may result in conflicts among nations and the death of thousands of people.

You can take action in following the principle of the three R's:

REDUCE, RE-USE, and RECYCLE

You feel like only one in a million? Take a look at your social networking page... How many friends do you have? You are connected worldwide! Your voice and ideas can reach the end of the world in a second. Remember that Martin Luther King and others were spatially limited and despite this they contributed to their generation and those that have since followed. **You have the power!**

DID YOU KNOW?

Some soccer players wore jerseys made from plastic bottles during the 2010 World Cup in South Africa. It took 8 bottles to produce one and used 30% less energy! [20]

2. TRAVEL

You are about to go on holidays and want to make the most of it? If travel is one of your favourite activities, you could not be more right, as we all know that it broadens the mind and enriches our life along with inspiring positive change! However unfortunately, too much of it can also impact negatively on the places, which are so wonderful: polluted beaches and dirty water to name a few. Still, when executed mindfully, and with the minimum impact, travel can inspire cultural awareness, tolerance, and responsibility towards the environment. So, whenever you travel, remember that your travel choices can make a difference!

Therefore, as a thoughtful and responsible person, there are several things you can do before, during, and after your journey to ensure the experience is in line with the values of "eco-tourism" and minimizes your impact on the host country. It is much easier to simply go on vacation as an uninformed tourist but making the choice to be an informed one can have far reaching impacts on the world around us. The more you put into your trip the more you will get out of it.

Responsible travel is a way that international travellers can minimise these negative impacts and instead create a positive experience for both visitor and host. It is not difficult; think about how you would like others to behave when visiting your country and try to do the same. It applies to any type of holiday, from a luxury beach villa to a volunteering project. Eco-tourism simply means holidays that care about local communities and culture, as well as wildlife and environment conservation.

To make it even more clear, it is said that more than 2/3 of all American and Australian travellers and about 90% of the British ones consider that it is the hotel's responsibility to act accordingly in protecting the environment and supporting the local communities [21], which can be translated in the fact that they would pay more

for a stay in a hotel that has a responsible ecological and environmental attitude.

DID YOU KNOW?

The number of international tourists in 2009 was estimated by the World Tourism Organization to be 880 million and in 2050 it is expected to surpass 1.5 billion! So our actions and attitudes towards the place where we are travelling are not negligible! [22]

So, what can you improve? Plan your trip wisely so that you minimize air travel and try as much as possible to stay longer in a place rather than making short trips. As you may well be aware, the flight can be the most polluting aspect of your holiday as it is estimated that air traffic accounts actually for 10% of greenhouse gas emissions. When choosing your service providers, it may be wise to make some research about their environmental initiative and other sustainability practices, that shows their respect and care towards mother earth and its wealth. Being informed of any project or environmental policy will offer you the experience of a more authentic approach and will contribute to the local culture and community!

Once you are there, think about using public transportation and other ways of getting around such as walking, cycling, and horseback riding, as it is a healthier and more enjoyable way to get to know the place you visit! You can help the local community by buying locally produced food, an option that is much tastier and more sustainable as well. Try to buy rechargeable batteries for your travel items such as camera, razors and flash lights! Lastly, you can also support conservation of local sites by paying entrance fees to parks and protected areas while staying informed about the state of the endangered species.

On any occasion remember to respect the natural environment and local people's privacy and lifestyle, bearing in mind that this is the way that you would like to be treated in return. Being a responsible traveller is only a matter of choice and intention to get actively involved in respecting natural and cultural diversity wherever we go.

**Everyone has the right to see the world,
but travelling with respect earns you respect!**

CONCLUSION

THE RELATIONSHIP BETWEEN CONSUMPTION, HAPPINESS, AND CLIMATE CHANGE

We might not think about this often but it is interesting to note that there exists an undeniable **relationship between climate change and consumption**. Every product consumed has a life cycle and several types of energy are required to produce it.

Every step of the process requires **energy, which in turn contributes to carbon emissions** seeing as fossil fuels are the major source of energy today. In addition, after we consume an object, this contributes to the **generation of waste**, which needs to be processed, recycled, or eliminated - once again requiring energy.

Does consumption make us happier? How does it relate to our quality of life?

It is obvious that we need to be able to satisfy our basic needs and being able to afford additional treats makes us feel good, however **beyond a certain amount of achievement, the relationship is no longer linear**. Why? Perhaps:

- a. Part of the fun is having to work to achieve something.
- b. The obligation of choosing what it is we want to consume reassures us of what it is that we really want.
- c. Great satisfaction lies in being able to acknowledge the hard work behind the achievement or the purchase.

All this to say: **a high possibility of consumption does not necessarily relate to a high level of happiness**.

Money cannot buy happiness, love or health...
...neither can it pay to reverse environmental damage.

In the face of nature, there is no distinction between rich and poor. And when the world spirals in a downward fashion due to environmental degradation and climate change, not even the richest men will be able to save themselves.

This brings up to the question of what do we really classify as long-term investments or contributions to our well being?

A Few Final Thoughts

BUILDING AN UNBIASED PUBLIC AWARENESS OF THE RISKS POSED BY CLIMATE CHANGE IS COMPLICATED. HOWEVER, THE CHANGES IN WEATHER PATTERNS AND GLOBAL TEMPERATURES ARE THE DIRECT RESULT OF HUMAN-RELATED PRODUCTION OF GREENHOUSE GASES AND NEGATIVE CHANGE TO THE ENVIRONMENT. IT IS IMPORTANT THAT WE START ACTING NOW TO STOP THESE FROM HAPPENING AND BUILD A MORE SUSTAINABLE FUTURE.

As young people, as hopeful as we are, we want to let everyone know that climate change offers opportunities if we are serious about its impact, as well as problems if we refuse to change our current way of life.

We can be part of and lead in the fight to transform every aspect of our lives into a “low carbon future”. This means decreased costs for heating our homes, better public transport and local services to cut the need for travel, increased local production and jobs, and stronger and more resilient communities around the world.

Who would not want that?

As we said from the outset, we want to be remembered as the generation that built the foundation for a better future, but never as the generation that destroyed the future of future generations.

SPREADING THE MESSAGE: In the end, everything we said and aspired for will depend on the magnitude of people, organizations, and communities we engage in this process. We must involve every one to move from: **AWARENESS** to **ENGAGEMENT** to **ACTION**.

Be aware of what is happening!

Be actively engaged!

Get others to do the same!

Take action!

BIBLIOGRAPHY

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, 2007: CLIMATE CHANGE 2007: SYNTHESIS REPORT

1. Climate Change, Food and Agriculture Organization (FAO), 2010
2. Eat less meat to save the planet-UN, English Newspaper Telegraph, 2010
3. Environmental reasons to eat less meat and being vegetarian, Scientific American magazine.
4. Van der Werf, P. and Cant, M. 2006. The State of Composting Across Canada – Part 1. Solid Waste & Recycling Magazine
5. Berners-Lee, M. How Bad are Bananas? The Carbon Footprint of Everything. London: Profile Books LTD, 2010. p.30.
6. Berners-Lee, M. How Bad are Bananas? The Carbon Footprint of Everything. London: Profile Books LTD, 2010. p.75.
7. University of Maryland. "Unhappy people watch TV, happy people read/socialize, says study." Physorg. com. <http://www.physorg.com/news145901411.html>
8. GRAMA, 2003, La route commerciale du coltan congolais: une enquête, <http://www.unites.uqam.ca/grama/>
9. Nellemann, C., I. Redmond, J. Refisch (eds), 2010. The Last Stand of the Gorilla – Environmental Crime and Conflict in the Congo Basin, UNEP, Europol, GRID-Arendal. www.grida.no
10. ONU, 2001, Rapport du Groupe d'experts sur l'exploitation illégale des ressources naturelles et autres richesses de la République démocratique du Congo. <http://www.onu.org>.
11. <http://caloriecount.about.com/calories-burned-walking-a509>
12. <http://www.energysavingsecrets.co.uk/Cycling.html>
13. Bilzon, Phil. <http://ezinearticles.com/?Walking-and-the-Environment&id=488291>
14. Shreeve, Jimmy Lee. "Why Air Con is Ruining Our Environment." *The Independent UK* 24 Aug. 2006. <http://www.arehn.asso.fr/dossiers/clim/climatisation.html>
15. Kirby, Alex. *Kick the Habit: A UN Guide to Climate Neutrality*. UNEP, 2008.
16. Oslo Symposium in 1994, <http://www.dolceta.eu/united-kingdom/Mod5/spip.php?rubrique95>
17. <http://www.treehugger.com/files/2010/01/cult-of-consumerism-root-planets-environmental-degradation-destruction.php>
18. http://www.arehn.asso.fr/dossiers/sacs/sacs_plastiques.html
19. <http://www.treehugger.com/files/2010/02/nike-creates-world-cup-jerseys-from-landfill-plastic.php>
20. <http://www.ecotourism.org>
21. <http://www.world-tourism.org>

Working Group Participants

CARNET	Pauline
EGWUONWU	Henry Okechukwu
FORETAY	Alexia
GARCIA SANCHEZ	Dario
HUSSEIN	Hussam
JAUSLIN	Mylene
KUBICA	Barbara
LLÁDOOS VILA	Julía
MAERTENS	Lucile
PAI	Anthony Chia-Ming
PETRYSZYN	Pauline
RUDIG	Stefanie
RUIZ OJEDA	Alicia
SILVA	Helena Maria
SU	Maggie
SULTANA	Ilona Anne
VISAN	Laura Adina
ZOU	Yueyu



48th UNITED NATIONS GRADUATE STUDY PROGRAMME (GSP)

Geneva, 5-23 JULY 2010

“The United Nations: United to combat climate change to safeguard international peace and security”

PLENARY MEETINGS: CONFERENCE ROOM VII

WORKING GROUPS:

Environmental issues: Room XV

Moderator:

Mr. Wondwosen Asnake, Programme Officer, Civil Society and Harmful Substances and Hazardous Waste Sub-Programme Focal Point for Europe, UNEP

**Economic and Social Development:
Conference Room VII**

Moderator:

Mr. Shigehisa Kasahara, Economic Affairs Officer
UNCTAD

Human Rights: Room IV

Moderator:

Mr. Christian Curtis, Human Rights Officer, Office
of the High Commissioner for Human Rights
(OHCHR)

Monday 5 July 2010 Room VII

10:00 a.m. **Opening ceremony, Room VII, Opening remarks by Mr. Sergei ORDZHONIKIDZE, Director-General of UNOG**

Information about the Graduate Study Programme: Room VII

Ms. Corinne Momal-Vanian, Director, UNIS Geneva

Ms. Elena Ponomareva-Piquier, Chief, Press and External Relations Section, UNIS Geneva

Ms. Gertrude Nimako-Boateng, Coordinator, Graduate Study Programme, Press and External Relations Section, UNIS Geneva

2:15 p.m. **Guided Tour of the Palais des Nations: Visitors' Service**

3:45 p.m. **Visit to the UN Library and League of Nation Museum**

Ms. Sylvie Jacque, Chief, Users Services Section

5.30 p.m. Cocktail: Bar 13-15, Palais des Nations

Tuesday 6 July 2010 Conference Room VII

9:30 a.m. **Introduction to moderators and set-up of Working Groups:**

1. Environmental issues
2. Economic and Social Development
3. Human Rights

11.30 a.m. Photo opportunity

2.00 p.m. **Visit to the International Committee of the Red Cross (ICRC)**

Screening of the film "Panorama 08"

Presentation by Ms. Christine Beerli, Vice-President of the ICRC

Wednesday 7 July 2010 **Conference Room VII**

9.30 a.m. **Office of the United Nations High commissioner for Refugees (UNHCR)**

Mr. Jose Riera, Senior Adviser to the Director, Division of International Protection, UNHCR

2.30 p.m. Working Groups

Thursday 8 July 2010 **Conference Room VII**

9.30 a.m. **Office for the Coordination of Humanitarian Affairs (OCHA)**

Ms. Elisabeth Byrs, Spokesperson, OCHA

11.00 a.m. **World Trade Organization (WTO)**

Mr. Harish Iyer, Counsellor, Development Division

2:30 p.m. Working Groups

Friday 9 July 2010 **Conference Room VII**

9:30 a.m. **UN Recruitment - Human Resource Management Service (HRMS)**

Ms. Jean-Marie O'Connell, Human Resource Officer,
Ms. Mihoko Ito, Associate Human Resource Officer

2:30 p.m. Working Groups

Monday 12 July 2009

Room VII

9.30 a.m.

Non-Governmental Organizations (NGOs)

Mr. Ricardo Espinosa, NGO Liaison Officer,
Office of the Director-General, UNOG

11:00 a.m.

World Food Programme (WFP)

Ms. Emilia Casella, Spokesperson, WFP

3:00 p.m.

**Graduate Institute of Geneva,
Rue de Lausanne 132**

Dr. Daniel Warner, Director of the Centre for
International Governance,
Graduate Institute of International and
Development Studies

Tuesday 13 July 2010

Room VII

9.30 a.m.

International Labour Organization (ILO)

Mr. Kees Van Der Ree, Coordinator, Green
Jobs Programme

11.00 a.m.

**World Intellectual Property Organization
(WIPO)**

Ms. Loretta Asiedu, Consultant, Global Challenges
Division

2:30 p.m.

Working Groups

Wednesday 14 July 2010 Room VII

9.30 a.m.

International Organization for Migration (IOM)

Mr. Jean-Philippe Chauzy, Spokesperson, IOM

11.00 a.m.

**United Nations Inter-Agency Secretariat of the
International Strategy for Disaster Reduction
(ISDR)**

Brigitte Leoni, Media Relations Officer,

2:30 p.m.

Working Groups

Thursday 15 July 2010 **Room VII**

9.30 a.m. **University for Peace (UPEACE)**
Dr. Amr Abdallah, Vice-Rector for
Academic Affairs

2:30 p.m. Working Groups

Friday 16 July 2010 **Room VII**

9:30 a.m. **United Nations Environment Programme**
(UNEP)
Mr. Christophe Bouvier, Director and Regional
Representative, UNEP Regional Office for Europe

11:00 a.m. **United Nations Economic Commission for**
Europe (UN/ECE)
Mr. Patrice Robineau, Senior Adviser to the
Executive Secretary, UN/ECE

2:30 p.m. Working Groups

Monday 19 July 2010 **Room VII**

11: 00 a.m. **World Health Organization (WHO)**
Dr. Ian Smith, Adviser to the WHO Director-
General

2.00 p.m. Working Groups

4.00 p.m. **International Association of Soldiers for Peace**
(IASP)
Mr. Laurent Attar-Bayrou, President, IASP

Tuesday 20 July 2010 Room VII

9:30 a.m. **Office of the United Nations High Commissioner for Human Rights (OHCHR)**
Mr. Ibrahim Salama, Director, Human Rights Treaties Division, OHCHR

11:00 a.m. **Office of the Director-General**
Mr. Markus Schmidt, Senior Legal Liaison Officer and Director of the International Law Seminar

2:30 p.m. Working Groups

Wednesday 21 July 2010 Room VII

9:30 a.m. **United Nations Conference on Trade and Development (UNCTAD)**
Mr. Shigehisa Kasahara, Economic Affairs Officer, UNCTAD

11:00 a.m. **International Telecommunication Union (ITU)**
Mr. Jose Maria Diaz Batanero, Policy Analyst Corporate Strategy Division, ITU

2:30 p.m. Working Groups

Thursday 22 July 2010 Room VII

9.30 a.m. **Association of United Nations Correspondents (ACANU)**
Mr. Bradley Klapper, Correspondent, Associated Press,
Jamil Chade, Correspondent, O Estado de Sao Paulo,

11:00 a.m. Plenary: Discussion of Working Groups' proposals
Adoption of the final report
Debate co-ordinated by Moderators of Working Groups

2:30 p.m.: Ad hoc drafting group to edit final report

Friday 23 July 2010

9:30 a.m.

Closing ceremony, Room VII, Presentation and adoption of the final report.

Ms. Elena Ponomareva-Piquier, Chief, Press and External Relations Section, Press and External Relations Section, UNIS Geneva

Ms. Gertrude Nimako-Boateng, Coordinator, Graduate Study Programme, Press and External Relations Section, UNIS Geneva

Environment Moderator

Mr. Wondwosen Asnake, Programme Officer, Civil Society and Harmful Substances and Hazardous Waste Sub-Programme Focal Point for Europe, UNEP

Economic and Social Development Moderator

Mr. Shigehisa Kasahara, Economic Affairs Officer UNCTAD

Human Rights Moderator

Mr. Christian Courtis, Human Rights Officer, Office of the High Commissioner for Human Rights (OHCHR)

* *** *

48th GRADUATE STUDY PROGRAMME PARTICIPANTS

ABSAMATOVA	Akgul
AMPONSAH	Eric
BENATTAR	Sarah
CARNET	Pauline
CHO	Eunok
CHOSKY	Irem
CHRIS LO	Yat Fung
COSTA	Heber
DA COSTA	Elissandra Messias
DUNCAN	Andrew
EGWUONWU	Henry Okechukwu
FONTOURA MARQUES	Mariana
FORETAY	Alexia
G.D	Ranganath
GARCIA SANCHEZ	Dario
HALOUACH-KHARBICHI	Amal
HUSSEIN	Hussam
IANOVITZ	Sara
JACCARD	Julian
JACOBS	Charlotte
JAUSLIN	Mylene
KOBYLINSKA	Aneta
KRUSE	Irene
KUBICA	Barbara
LEITÃO	Pedro
LI	Hao
LLADÓS VILLA	Julfa
MACLEOD	Erin Eve
MAERTENS	Lucile
MASSARA	Raffaella
MENDES	Helena Germaine
MESKOUR	Hicham
NIELSEN	Mikka
PAI	Anthony Chia-Ming
PARADA HERNANDEZ	Carolina Elizabeth
PERFORS BARRADAS	Gerardo
PESSOA	Igor
PETRYSZYN	Pauline
PIERRE	Elizabeth Adelaide
PREE	Daniela
PUSTOVOITOVA	Nadiia
RAUCH	Svenja
RUDIG	Stefanie
RUIZ OJEDA	Alicia

SADAT	Mir Nematullah
SARIYEVA	Aliya
SENE	Fatou Ba
SILVA	Helena Maria
STYLIDI	Mary
SU	Maggie
SULTANA	Ilona Anne
TAUKHASOVA	Ainur
TRENBATH	Gabrielle
VAFEIADAKI	Chrysoula
VALLES GALMES	Edouardo
VAN DE VELDE	Astrid
VISAN	Laura Adina
WALLS	Jonathan Mark
WONG	Robert
ZOU	Yueyu

