

REFLECTION GROUP ON THE EARTH SYSTEM PRESERVATION

BUENOS AIRES, 3 - 4 SEPTEMBER 2009.

Introduction

Climate Change is the major issue to consider when analysing the causes of the changes observed in the global environment and its regional implications.

South America, being adversely affected by a host of climate events and its consequences on food, water and physical security, found necessary and opportune to consider the lines defined at the High Level Workshop on "The Earth System Engineering: The Art of Dealing with the Planet Earth", held in Wildbad Kreuth, Germany, in September 2008.

The goal to achieving the sustainable use of the planet's natural resources and services, hence to preserve the life on Earth, bears a high priority in countries which economies basically depend on commodities' exportation.

Therefore, at the light of the action suggested by the European Community, a meeting of a Reflection Group on the Earth System Preservation was convened in Buenos Aires, to analyse the situation of the southernmost portion of South America. Specialists from Argentina, Brazil, Chile and Uruguay joined Professor Raoul Weiler (Belgium), chairing the Club of Rome (Chapter European Community) and the chairs of its Argentina and Brazil Chapters, Drs Alberto Lisdero and Heitor Guirgulino de Souza, respectively. Dr Silvia Zimmermann, Executive Secretary of the Argentina's Chapter assumed the logistics of this event.

The meeting of the Reflection Group was complemented with an open conference, to outreach the conclusions of the Reflection Group. It was attended by more than 150 people and authorities from official and private fora.

Both events were held in the premises of the University CEMA, in the City of Buenos Aires, from 3 to 4 September 2009.

Development of the Meeting

The activities of the South America Reflection Group were opened by Professor Weiler, who reported on the several solutions for climate control, as proposed in the above mentioned meeting, held in Wilbad Kreuth.

In addition to the standard societal interventions to palliate the Earth 's warming effects, namely mitigation and adaptation, geo-engineering activities, through the different human interventions on weather and climate, were mentioned to remediate the global crucial greenhouse warming, adversely affecting the Planet.

Since, under the current world 's socio-economic situation, mitigation efforts will not reach the required objectives, as established in Article 2 of the UNFCCC and adaptation to the Earth 's warming is yet to be adequately developed, the focus on re-mediation may, under certain conditions, open the way for large scale human intervention on the Climate System.

Climate Engineering or geo-engineering has been envisioned as an additional tool for helping the reduction of global warming. As remarked in different scientific fora, such an intervention on the Earth 's natural processes would bring a number of additional environmental hazards. Therefore, before such human intervention occurs, a thoroughgoing interdisciplinary scientific and technological assessment must be developed.

In fact, as it happened with the techniques used in weather modification, in the larger temporal and areal scales, human engineered climate changes will originate a host of litigious conflicts. These arising from the inevitable resulting changes in the distribution of the environmental components defining the natural resources 's availability and their productivity ranges as well as the habitats of the species on which food is cropped.

In fact, depending on the nature of geo-engineering techniques, water, soil and air would be polluted, the solar energy and insulation rates and, in general, the environment could be affected, with adverse effects on the human society stability. Furthermore, the available techniques would not reduce the CO₂ concentration in the air, consequently ocean acidification would remain and, most probably, be increased.

Therefore, the Buenos Aires Reflection Group, after agreeing on the need for further research in geo-engineering and its implications on the sanity of the environment, focused its analyses on matters of immediate direct concern in the sub-region. These, no doubt, are closely linked to the goal of preserving Planet Earth.

The specialists from the invited countries analysed the following matters:

- Availability of basic data and socio-economic information
- Basis for integrated analyses, by means on environmental accounting
- Soil conservation and management
- Fresh water management
- Deforestation, Reforestation and A-forestation
- Existing legislation on environmental matters
- Outreaching needs

In addition to the presentations, the Reflection Group was briefed on the IPCC and other organizations 's conclusions on the trend of the global climate change, its inter-linkages with other environmental components and on sustainable development. Reference was also made to the ethical questions pointed out by the Workshop on the Earth System Engineering: The Art of dealing wisely with Planet Earth, in the listing "On the Responsibility of Humanity for the Functioning of the Earth System" and on the Ethics of Climate Change.

Reflection Group 's conclusions.

As remarked by the GCOS, WMO and IGBP meeting analysing the IPCC Fourth Assessment Report, the Group suggested the ready implementation of the required geo-physical and biological observation networks and the development of the necessary arrangements to collect and process these as well as socio-economic information.

Special emphasis should be put on the Andean glaciers and ice shelf in this sub-continent, as valuable sources of water. The analyses of the new hydrological balances, arising from the global warming, as well as soil erosion and desertification, need monitoring for the better use of natural resources under heat stress.

Forest management and soil conservation is also a topic of importance. Their implications on CO₂ sequestration and capture transcend the sub-region interests to become an issue of global value.

The introduction of modern technologies to better use natural resources, as those related to the reuse of water, recovery of water from polluted agglomerates and wastes and to desalinate sea water, was recommended.

The coordination of these issues with those related to defining sustainable development paths, and building the sub-region 's countries environmental policies, was strongly emphasized.

Last but not least, immediate action was recommended regarding:

- The activation of outreaching activities at the formal and informal education levels
- The organization of environmental legislation records, in particular, to better define the environmental policies in the South American Common Market- MERCOSUR
- Urgent action regarding de adoption of mitigation and adaptation strategies, in a coordinated manner.

References .

UNFCCC Article 2: Objective.

IPCC Special Report on CO₂ Capture and Sequestration (2007)

IPCC Fourth Assessment Report (2007)

WB, UNEP and NASA Report: Preserving Our Planet, Securing Our Future (1999)

IPCC Technical Report on Water and Climate Change(2008)

WMO,IGBP Report on the Analysis of the IPCC Fourth Assessment Report (2007)

Lester Brown Plan B 2.0. Rescuing a Planet under Stress and a Civilization in Trouble. Mobilizing to save civilization. WW. Northon & Company, 2006.

Lester Brown. Subsidizing Climate Change. Earth Policy Institute, 2007

UNDP. Human Development Report 2007/2008.Fighting Climate Change. Human solidarity in a divided world, 2007

Founding for the Future. Energy Challenges. The next Thousand Years. Workshop Proceedings, 2007.