

Minutes from the Planet Diversity workshop on

Diversity of Science - diversity of society, Some reflections on knowledge, information, technology and power

organised by **Fondation Sciences Citoyennes** (www.sciencescitoyennes.org)

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Outline:

In Europe, the Americas and Australia, the diversity in science and scientific approaches to the development of both innovative technologies and solution options for environmental and agricultural problems declined dramatically since world war II. Leading circles of society, mainly scientists (from private and public institutions) and governments, identified certain technology options as most promising which in turn received the biggest portion of investment (public and corporate) designated for research and development. Since decades, world budgets spent for military, biotech, aerospace and nanotech research are incomparably higher than research budgets spent on environmental and public health issues, sustainable agriculture and fishery, toxicology, and social questions. A further problem of research is its mercantilisation (increasingly bringing commercial strategies into research, large patent systems, scientists being pushed to a behaviour of competition rather than to cooperation, etc.)

The consequences of these development decisions affected the entire world. Cases in point are the post-war decisions to focus on the industrialization of agriculture as the only means to increase its productivity and the use of fossil fuel (and nuclear energy) as the main (if not the only meaningful) energy basis for rebuilding and restructuring post-war (western) societies. Other potential solution options and alternatives for achieving the same goal - in particular if non-technological/non-industrial - were almost entirely neglected and corresponding research suppressed or marginalised. Today, our societies are highly dependent on fossil fuels as basis for energy and industrial materials in all sectors of society and chemicals for agricultural production. Both have led to globally disastrous environmental and human health problems with only limited alternatives available.

The global human society threatened by growing social injustice and, as stated in the Millenium Ecosystem Report, the "intense vulnerability" of our ecosystems is facing today its biggest and most complex challenge to its continued existence: How to curtail and adjust to the inevitable consequences of the most devastating of all global consequences of the above two case examples: the warming of the global atmosphere and the changing climate. Again, singular solution options are proposed by the scientific and political elites of western societies - for example: converting food and feed into ethanol with, again, potentially devastating global consequences for the remaining global resources for human survival like food and water.

The workshop intended to explore the reasons for this serious lack of existing alternatives (lack of innovative capacities), to identify potential sources for diversity in science, to propose strategies for how to increase the innovative and creative capacities of science again and to suggest

alliances for strengthening the role of society in determining the science agendas for the public good.

In the workshop we discussed all of the following points:

- We discussed the question of what science for what society, for what kind of agriculture, and to face what kinds of global threats.
- What science, what agriculture, and what threats our societies prepare that have different implications for different peoples of the world? For whose benefit are particular directions of research being chosen? How can these decisions be made more democratic?
- Much scientific (and thus much human) creativity is devoted to perfecting ever more effective weapons of destruction.
- Knowledge is increasingly being privatised thus shifting from a public good to a corporate good.
- We are confronted by dominant « master narratives », for instance the one that says that only industrial agriculture can feed the world; so we need to build and communicate our own competing (and more accurate) narratives.
- We discussed the relation between scientific knowledge and other knowledge forms (traditional, indigenous, local, empirical/experiential, etc.).
- We discussed the relation between public research and social movements and NGOs. There is now a third sector of knowledge production outside of academia and private research laboratories where NGOs deal increasingly with research policy and research agenda setting.
- In some cases we may need « reverse capacity building » to unlearn previous habits/practices that lead to narrow research agendas that do not meet community and stakeholder needs. Participatory science and research requires new habits of interaction.
- We discussed that in many places the history of science and the history of colonialism have been interwoven;
- and that therefore science has to be decolonised in order to build an intercultural exchange of knowledge and wisdom.
- The history of colonisation is a history of unsustainable development.
- We discussed the importance of science being open to (and integrating) local, place-based approaches, as is the case for community based research and indigenous knowledge systems.
- The culture of the commercial seed with its domination of space and its monoculture of minds is fighting the culture of local and native seed. Local and native seed are associated with cultural and biological diversity.
- We are witnessing a loss of diversity in science; there is not only one scientific way to approach problems (marginalised domains in science include important approaches to problem solving such as low-input agriculture, renewable energies, and sensitivity to gender dynamics.)
- We asked ourselves, under what conditions does science produce democratic decisions?
- The precautionary principle does not close options for scientific research but can and often is a driver for new research.
- However, independent, critical scientists (whistle blowers) face defamation, see their credibility attacked and face problems in their career; they need greater legal protection.
- Our collective survival requires alternatives in science and technology development.
- Human beings are part of life as a whole (we are all within one set of relations).

We agreed to:

- collect more examples of indigenous technologies
- to promote the International Assessment of Agricultural Science and Technology for Development (IASSTD) report. This is available at <http://www.agassessment.org/>
- Vicky (from Tebtebba and the UN-Permanent forum on indigenous issues) proposed to invite scientists to the next conference of indigenous people on climate change. This will take place in April 2009. We discussed making the link between this and issues of biodiversity.

Furthermore, Claudia from FSC presented the initiative of a **World Social Forum « Sciences and democracy »** that will take place on the 26th January 2009 in Belem, Brazil.

Website : fsm-sciences.org

This Forum is intended to:

- promote and develop the knowledge commons of humanity as public goods;
- debate upon the issues and means of support that scientists might fully respond to their social responsibility;
- strengthen the autonomy of researchers; defend the public missions of research and improve the conditions in which scientific activities are led by students, researchers, engineers;
- strengthen the capacity of citizens movements to produce knowledge and be partners of scientific institutions;
- strengthen the capacity of our societies, in the North and in the South, to take democratic decisions in the field of science and technology;

Scientists and social movements need to share their expertise and conceptions to build societies that better respect human rights, cultural diversity and social and ecological needs.

All participants are invited to encourage their organisation and others to **participate actively in the WSF Science and Democracy by proposing an activity** (<http://fsm-sciences.org/spip.php?article72&lang=en>) **and spreading the information** about the forum throughout their networks. Please do so! The forum will only come to life and achieve results through the activity and input of all of us.

We developed the idea of a « Better World Science Prize »

For this purpose, Geoff wrote a first draft that you will find here below. We would be grateful if you could comment not only on this draft but more widely on the process of creating such a prize because several questions have to be solved such as:

- What is the aim of the prize?
- Who will give the prize?
- What name to give to the prize?
- Will it be linked to money or will it (at the beginning?) only have a symbolic value?
- If money, where from and with which procedure?
- At which moment or on what occasion to give it?
- What kind of procedure to choose the candidates?
- Whom we can include in the discussion?
- other questions...

FIRST DRAFT

IPSA Better World Science Prize

The Indigenous People's Science Award (IPSA – needs a title that has a catchy acronym)

Human beings are creative animals (see Max Neef of Nature of Human Needs). We try to understand our origins and environments, and have created a diverse range of cultures in which those understandings have been expressed. Today, there is a dominant culture rapidly expanding around the world, based on a historical expansion of European power and world view, now embedded in capitalism, in which 'science and technology' play a central role. But even this science and technology is part of a broader cultural approach or set of activities and both have a sociology, a philosophy and a history. As historians of science and technology like Bob Schofield, Ed Layton and Reese Jenkins, have shown there are confluent styles in the arts and sciences as both are socially and historically grounded. And while we talk of science and technology as if one underpins the other, you do not need a correct 'scientific' understanding of phenomena to develop technologies that work (And technology is much more than simply tools, for much is embedded in any tool). Sometimes, however, you need revolutions in science, such as those precipitated by Einstein and Watson and Crick to conceive of new ways to engineer the natural world and develop certain kinds of technology –from nuclear weapons to genetic engineering.

'Modern science' has developed in cultures of domination and control, imperial expansion, ethnocentric triumphalism and certainty of their superiority – and much scientific creativity is devoted to perfecting ever more effective weapons of destruction. It has tended to dismiss knowledge and understandings developed in different cultures, which are often expressed in very different language and use different technologies as means of managing within specific environments. This knowledge is often now called indigenous or traditional knowledge and tends to be dismissed as having any value. Yet this view is profoundly mistaken. There is value in both kinds of knowledge and a humane future depends upon a new kind of syntheses and respect between what is sound in both of them.

This prize is designed to encourage those working in 'modern science' to work in partnership with or in ways which acknowledge and explore the wisdom, experiential and empirical knowledge and technologies embodied in the indigenous and traditional knowledge of a vast diversity of communities worldwide. These communities have been very successful in maintaining livelihoods and living within different environments using a very detailed knowledge of the ecology within which they fit, although expressed in ways often incomprehensible to those grounded in disciplinary-based 'modern science'. As the recent IAASTD noted we need a different approach to science and technology to tackle the challenges facing us this century. There are already various examples – Melaku Worede in Ethiopia and his work with farmers in improving farmers' varieties (Right Livelihood Award winner). We are launching this prize as a way to encourage innovative research and approaches and recognise, in the same way the Nobel Prize does, those who have made a significant contribution to this. The Award will be presented during the indigenous People's Forum at the UN in New Year each year??. We are currently seeking nominations, with justifications, for the first prize giving and it is open to anyone to nominate someone for this prize – self nomination may also be considered in this first round. A more detailed set of criteria and outline of the kinds of science we mean are given below: (need to develop these)