

RIO DE JANEIRO, JOHANNESBURG AND BEYOND: NATURAL RESOURCES POLICIES AND MANAGEMENT TOWARDS A SUSTAINABLE FUTURE

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Background

NRP&M is central to the broader issue of economic growth, poverty alleviation and environmental protection. In other words, NRP&M towards a Sustainable Future is part of the “great race between development and degradation”, as Paul Portney of Resources for the Future, and American think-tank, puts it.

Tomorrow, we may not run out of resources because of predictable and yet unpredictable technological innovation, e.g. hydrogen as a resource. More challenging is what the World Wildlife Fund tells us about mankind’s unsustainable “biological footprint” - which is defined as the “*biologically productive land and water areas required to produce the resources consumed and assimilate the wastes generated by a given population using prevailing technologies*”¹. Today for instance, forest is harvested at twice the regeneration rate and desertification is expanding, leading the sober magazine The Economist (July 6th, 2002) to raise the question : “*how many planets will it take to satisfy China’s needs if it ever achieves profligate America’s affluence?*”. One green group reckons the answer is three.

For the past thirty years this issue has been debated worldwide, leading eventually to international agreements and conventions. “ *The rich must take the lead in bringing their development under control reducing substantially their impacts on the environment, leaving environmental “space” to grow....if the world lapses back to “business as usual” we will have missed a historic opportunity, one which may not recur in our times, if ever*”. By these words Strong, a Canadian business executive, opened the first UN Conference on the environment in Stockholm in 1972, putting the onus for taking action on wealthy nations. While it becomes obvious that the North was unwilling to accept restrictions on its consumption pattern, the new concept of “sustainable development” arose (Brundtland, 1987) balancing environmental protection and needs for development of today and future generations. Since then an impressive series of national and international events were held raising worldwide awareness and providing rich information on the complex issue of “sustainability”. Of paramount importance was the Rio Conference (the United Nations Conference on Environment and Development UNCED, 1992). It became the launching pad of many programs of actions to address sustainable development issues, including the well-known Agenda 21, and notorious International Conventions on Biodiversity, Climate Change and Desertification. At present, many web sites, including from OECD, FAO, the World Bank, UNFCCC, IPCC, and Universities give easy access to constantly updated information, and to frameworks and strategies for actions.

¹ The biological footprint is determined by three factors: population size, average consumption per person and technology.

Box 1: Some significant recent Publications (and URL) on Sustainable Development

Johannesburg Summit partners:

<http://www.johannesburgsummit.org/html/links/unpartners.html>

Working Together Towards Sustainable Development: The OECD Experience:

<http://oecdpublications.gfi-nb.com/cgi-in/OECDBookShop.storefront/EN/product/972002131E1>

Strategies for Sustainable Development:

<http://www.oecd.org/EN/document/0,,EN-document-21-nodirectorate-no-24-21827-21,00.html>

Poverty and Climate Change; reducing the vulnerability of the Poor:

<http://lnweb18.worldbank.org/ESSD/essdext.nsf/46DocByUnid/96392A075E965F5585256C4D00682C93?OpenDocument>

Down to Earth: A simplified Guide to the Convention to Combat Desertification.

<http://www.unccd.int/publicinfo/downtoearth/downtoearth-eng.pdf>

Agriculture and Rural Development, United Nations Division for Sustainable Development:

<http://www.un.org/esa/sustdev/sdissues/agriculture/agri.htm>

Promoting Sustainable Agri-food Production and Consumption:

<http://www.uneptie.org/pc/agri-food/home.htm>

Making Sustainable Commitments: An Environment Strategy for the World Bank

http://publications.worldbank.org/ecommerce/catalog/product?item_id=478743

World Development Indicators:

http://publications.worldbank.org/ecommerce/catalog/product?item_id=2039587

Environmental Indicators for Agriculture:

<http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/512001011E1>

Unfortunately, 10 years later, the delegates from 190 nations gathered in Johannesburg had to recognize that very little has been achieved so far, stating “...it was hardly a secret— or even a point in dispute— that progress in implementing sustainable development has been extremely disappointing since the 1992 Earth Summit, with poverty deepening and environmental degradation worsening...”.

Considering the huge efforts done worldwide to tackle the issues of sustainable development and poverty alleviation, it might then appear preposterous and vain for a Congress on Conservation Agriculture to pretend to play a significant role in Natural Resources Policies and Management Strategies for a Sustainable Future: what to do more or differently when so little has been achieved globally as well as at national level, considering that even the most environmentally aware senior politicians in the world, the Vice President Gore, recognized that he could not make any significant difference²?. A sense of frustration and pessimism may take over and defeat our efforts and good will to play an active role beyond our own “backyard”, particularly these days where the overall international co-operation system is baffled.

Does it mean that the “race” is over, and that the battle is lost? Maybe not.

Natural Resources Policies and Management: the Battle for a Sustainable Future

There is beyond doubt an on-going battle between economic development and environmental protection. Mankind needs to win this battle and, for several reasons, there is still room for a cautious

² “The maximum that is politically feasible...falls short of the minimum that is scientifically and ecologically necessary”, Al Gore, 1993.

optimism. First, the stakes are so high that hopefully mankind will eventually not tolerate that the forces of environmental degradation prevail over the forces conducive to a sustainable future. However, there is room neither for complacency nor for the childish hope that Planet Earth will mend by itself the growing environmental disorders. Action and commitment are required to fight this battle of biblical proportion³ between “Goliath”, the bulldozer of environmental destruction and “David”, the popular consciousness and action, still small but growing.

From “David’s perspective”, one can observe that if environmental degradation increases it is not because people do not care. There is indeed a growing concern worldwide, among the rich as well as the poor, about the state of the air, water, land and biological resources and its consequences on alimentation, human health and quality of life.

Box 2: People’s opinion about “concern for the environment”(1992)

According to one poll, conducted by George H. Gallup International in preparation of the UNCED (the Rio Conference), based on personal interviews of all economic classes in 24 countries (including Germany, Nigeria, Japan, Canada, Chile, India, South Korea, Mexico, Hungary and the United States), and claiming to reflect the attitudes of two-third of earth’s people, *“concern for the environment has become a worldwide phenomenon. Not only do people place a greater priority on environmental protection than on economic health, they also indicate a willingness to pay for environmental protection...These results clearly challenged the view that being concerned about the environment is a “luxury” that only those in rich nations can afford to pursue...Environmental problems are no longer viewed as just a threat to [the aesthetic] quality of life...but are considered a fundamental threat to human welfare”* (quoted in Earth Odyssey, M. Hertsgaard, 1998; Broadway Books, New York, 372p).

But we know that awareness is not enough, and when it comes to decision making regarding NRM, the preferred option of most producers and policy makers may well be the quick fix solution and short term return to investment, being measured in cash income or in votes. In extreme poverty situation who can heartily give good reason for tomorrow’s quality of life improvement when today’s survival is at stake? “David” has learned that NR policies and management for sustainable future must jointly deliver economic well-being and ecosystem salvation. The good news from this Congress is that Conservation Agriculture deems to provide concrete answers to this double requirement. And yet, it is often argued that even if the “what” to do is probably known, the “how” to make it happen is still lacking. Indeed sustainable NRM is site specific and knowledge intensive, and always more applied and basic research is needed because “blanket recommendations” of technical recipes will not work⁴. In addition, the delicate tailoring of recommended practices to crop, field, farm and landscape characteristics as well as the overall fitting of adapted farming practices to specific socio-cultural and economic settings requires always adaptive and participatory research. Nevertheless, this Congress makes obvious that we know more and better everyday, gaps in knowledge are steadily filled, and an increasing number of strategic documents pave the way to facilitate the transition from traditional to improved NRM system and sustainable future.

³ Quoting Hubert Reeves, French cosmologist interviewed by Mark Hertsgaard (Earth Odyssey, 1998).

⁴ Research is required to assess for instance the long term impact of no till (NT) farming which incorporates steadily the last advances in science and technology, i.e. the understanding of the complex functioning of the web of life in various ecosystems, the use of agro inputs or molecular engineering.

Box 3: Roadmap from Conventional to No-Till Farming and Conservation Agriculture:

Drawing on the Brazilian experience and more recent African experiences, a World Bank publication written in cooperation with FAO defines the key steps in initiating the change process from conventional agriculture to no-till farming systems, and provides orientations to establish specific work plan and activities to implement the following steps:

1. Creating awareness and willingness to change.
2. Participatory farmer-led identification of change: (i) *Gateway and pathway of change*, (ii) *Piloting*.
3. Knowledge and information systems: (i) *realignment of research programs*, (ii) *management skills for no-till practitioners*, (iii) *communication strategy and networking*.
4. Building an institutional and incentive support framework.
5. Funding the transition from conventional to no-till farming: (i) *funding the no-till process*, (ii) *farmer incentives*.

(Source: Pieri C., G. Evers, J. Landers, P. O'Connell, E. Terry; The World Bank, 2002)

[http://lnweb18.worldbank.org/ESSD/essdext.nsf/17DocByUnid/3CBFB207400DFC7385256C01004ED205/\\$FILE/NotillFarmingforSustainableDevelopment.pdf](http://lnweb18.worldbank.org/ESSD/essdext.nsf/17DocByUnid/3CBFB207400DFC7385256C01004ED205/$FILE/NotillFarmingforSustainableDevelopment.pdf)

In a nutshell, the “what” and the “how” may not be the main cause for failure.

If we take “Goliath’s perspective”, policies promoting changes in NRM to favor environmental protection and poverty alleviation are not forgotten by the marketplace, and even environment activists do recognize that market forces can accomplish a great deal. Nowadays many leading multinational companies are actively involved in the implementation of Joint Initiatives (JI) and Clean Development Mechanism (CDM) activities to mitigate their greenhouse gas emissions⁵ In particular, banking and insurance institutions are also more and more concerned about the overall cost of environmental degradation which reflects heavily on their balance sheet and the return to investment.

⁵ From July 2001 to July 2002, 60 million tons of C-equivalent were commercialized for a total amount of US\$ 500 million, and it is expected that this carbon market will reach about US\$ 5 to 10 billion by the year 2008

Box 4: Opportunities and risks of climate change: an Insurance Company's perspective

Swiss Re is a leading global expert in managing capital and risk. An important part of Swiss Re's mission is to anticipate, identify and understand the developments which are shaping the future risk landscape. According to Swiss Re's latest *sigma* study, "*Natural catastrophes and man-made disasters in 2002*", *catastrophes cost insurers USD 13.5 billion worldwide – USD 1.5 billion more than the provisional sigma estimate of December 2002. The increase was mainly due to higher storm losses, which totaled USD 6.7 billion. However, the annual loss burden on insurers was substantially down from USD 35 billion in 2001. While natural catastrophes in 2002 caused the majority of losses, USD 11.4 billion, man-made losses totaled USD 2.1 billion. This marks the return of natural catastrophes outweighing man-made disasters, a trend which was only broken in 2001, due to the 11 September terrorist attack*". In the publication "Opportunities and risks of climate change" Swiss Re states: "*Today, global warming is a fact. The climate has changed: visibly, tangibly, measurably. An additional increase in average global temperatures is not only possible, but very probable, while human intervention in the natural climatic system plays an important role. And who is affected by climate changes? In a word, everyone. Climate change – a change in the average weather conditions – may have both positive and negative effects in individual cases, but it can never be without consequences. Since the weather influences all areas of life, climate changes affect each and every one of us. Thus, the decisive issue again is not whether we have to adapt, but to what, when and how. This publication examines possible answers. It shows how the forecasts of climate research can be broken down into practical measures, and thus aims to make the concrete effects of climate changes visible.*"

However, it is dubious that market-based environmental solutions freely implemented by corporations will do it all. Markets don't tell the ecological truth, and generally, according to classic economics, prices do not reflect, and actually attribute no value to, environmental goods and services. The dire reality is that national GDP increases when growth in production results from soil mining or forest logging. Governmental regulations are definitely required to relentlessly pressure big corporations to police corporate environmental wrong. And yet when short term huge profits are at stake government may fail if not backed up by the whole civil society. For instance, in the USA the fossil fuel lobby claimed that global warming was but an unproven theory and has successfully delayed progress for many years⁶.

Therefore, in the end what can be done by the participants to this Congress to make NR Policies and Management a significant partner in building a Sustainable Future?

Next steps and suggested lines of action

First and above all we should keep in mind that modern environmentalism as well as decisive improvements in land, crop and animal husbandry are largely a story of ordinary people pushing for change while public institutions reluctantly follow behind. Therefore, without pretending to change the face of the Earth, the Conservation Agriculture (CA) and No Till (NT) farming community may suggest three lines of actions for discussion: priorities might be given to 1) overcome prejudices and disseminate validated specific information, 2) act and be opportunistic, and 3) patiently contribute to required long term change in policies and NRM.

⁶ In addition, a powerful and \$13 million worth media campaign succeeded in convincing the United States that the Kyoto Protocol will ruin its economy.

(a) *Prejudice and Information:*

In the first line of actions the focus should be on tackling specific prejudices too often conveyed by most media. The overarching discussion relates to the concept of sustainable development. It may appear to many economists as a *“buzz-word largely devoid of content sliding over the difficult trade-offs between environment and development in the real world”* (The Economist, July 6, 2002). The CA/NT community knows that there are plenty of cases where those goals are linked, but also “in the real world” many where they are not: *“Environmental and economic policy goals are distinct, and the actions needed to achieve them are not the same”*. This last statement is certainly acceptable to anybody. However it doesn’t imply the conservative criticism: *“Environmental protection costs jobs and lower profits”*. This statement is simply not true. And the CA/NT community has the capacity to enlighten this wrong debate, as this has been done convincingly by others for instance in the “Climate Change” debate in USA⁷. However, to provide convincing answers it probably requires more effort from the CA/NT community to gather and analyze comprehensive data to assess the profitability and risks of these new practices as implemented by small, medium and larger farmers (J. Dixon, 2003).

Another question to be answered is the classical question: *“if so good, why don’t people do it?”* Part of the answer is certainly that *“you don’t pursue what you don’t know”*. The CA/NT community has the capacity and the data to thoroughly answer to this important question and provide the appropriate framework for action. However, addressing efficiently the issue of knowledge acquisition goes beyond the traditional diffusion of information through various media channels, including written documentation, leaflets in different idioms and local languages, video, and radio programs. Although these media are necessary, it is also well known that they are not sufficient to trigger personal willingness to change. From the author’s previous personal experience, it seems that the most cost-efficient system might be the organization of study tours. Farmers, scientists, extensionists and decision makers who participate in study tours can assess the different dimensions – technical, social, educational, financial, institutional – of the CA/NT process of adoption from direct and personal observation in the field, and in addition they have the opportunity to exchange among themselves on the conditions of adoption of CA/NT in their specific conditions⁸.

(b) *Actions:*

The second line of actions could be summarized as follows: *“don’t chat, act”*. It means for instance, be engaged only very reluctantly in the on-going controversy between “soft ecology”-reformist and dubbed to be too soft to change in depth human environmental behavior - and the dogmatic “deep ecology” - which puts the biosphere at the center of the world and recommends that the integrity of Nature must be protected from its worst “enemy”, man. The International Union for the Conservation of Nature, the world’s biggest conservation group, wisely says: *“Let’s be honest: green and businesses do not have the same objective, but they can find some common ground”*. A “common ground” to act and not to “agree that we don’t agree”. On the contrary, the CA/NT community and its supporters have to be:

⁷ *“Climate change is actually a lucrative business opportunity disguised as an environmental problem”*, (Factor Four: Doubling Wealth, Halving Resource Use, 1997, by A. & L. Lovins)

⁸ The author and the Brazilian Federation of No-Till planters have successfully organized with the World Bank and FAO, four Study Tours in Brazil each year from 1998 to 2001 which attracted a growing number of participants (from 20 to 60 from a total of 19 different countries, and including representative of agri inputs companies such as Syngenta and Monsanto) from several continents, who became lately the “champions” of the adoption of CA/NT in their country of origin, e.g. Ghana, Cote d’Ivoire.

- first, “**pragmatic**” in terms of programs and projects, remembering that the few hectares of No-Till initiated by a fistful of producers in 1972 in Brazil - which happens to be the very year of the first global conference on Environment held in Stockholm - gave birth to more than 18 millions hectares in 2002, that is the year of the rather disappointing Johannesburg Conference. The experience repeated in many countries, such as Canada and Argentina, is that effective programs are successfully implemented, and have measurable economic and environmental impacts, when managed and led by producers organizations committed to the adoption of improved farming practices which represent for them a concrete hope for short term improvement of their families and communities; and
- second, “**opportunistic**”, as for instance taking advantage of the Clean Development Mechanism (Kyoto Protocol) to facilitate the transition of resource-poor farmers from conventional to low-tillage intensity farming. On this subject matter, the debate on *“Does the use of biocarbon (or “sinks”) merely divert attention from the more urgent goal of reducing greenhouse gas emissions from fossil fuels?”* may well distract from the opportunity given by the use of sinks in the early actions to reduce the build up of greenhouse gases in the atmosphere and to buy time for the eventual transition to an era of renewable energy and lesser dependency on fossil fuels. The BioCarbon Fund discussed recently this issue (<http://www.biocarbonfund.org>) observing that *“If governments, industry and civil society were to be short-sighted and not use the opportunity to make effective transitions to less carbon intensive technologies, then we would slip further behind in the enormous challenge to combat climate change”*. Although for the time being only “afforestation” and “reforestation” activities are potentially eligible for credit under the Kyoto Protocol (this type of activities will constitute the “first window” of the Fund), other diverse carbon sequestration and conservation projects, including improved CA/NT farming practices that produce verified ERs, will also be eligible - under emerging carbon management programs (this type of activities will constitute the “second window” of the Fund).

(c) *Long term changes in NRP&M:*

The last line of actions relates to medium and long term change, which may indeed appear urgent to many, but clearly goes beyond the immediate program of action and possibility of the CA/NT community alone, although “David’s” popular influence should never be discounted on the potential change in “Goliath’s” attitude. Important and medium or long term changes may include:

- (i) for market to reflect the environment’s true value, and to slash down perverse incentive systems and subsidies; these two issues are increasingly debated in national and international forum, including during the very recent ABCDE, Conference, held in Paris, 19 May, 2003: *“ the significant welfare costs inflicted upon developing countries by the rich countries’ trade-distorting mechanisms, be their tariffs or subsidies”*. How to move from diagnosis to cure is the issue;
- (ii) to implement tax reform, that is taxing on what the society wants to discourage – inefficient energy use, environmental degradation, and pollution – while lowering taxes on what it wants to encourage – Conservation Agriculture practices, employment, business investment, and
- (iii) to steadily develop a new political-philosophical vision of man’s role and responsibility on Earth to found a sustainable future of humankind in harmony with nature. It is our belief that all the reforms or changes proposed here, which include change in human behavior,

require to lean back on and be consistent with a set of moral if not spiritual values which can inspire all the “agents of change”, be they farmers, manufacturers, marketing agents or policy makers. In practical terms, the current effort to value goods and environmental services is part of this new vision. Luc Ferry, a French philosopher, proposes that a “A New Ecological Order” be shaped, democratic and non dogmatic, going beyond the Cartesian vision which considers that only human species have rights – which is reasonable – and that Nature has no value *per se* - which falls short of modern society expectation - without falling into the extreme vision of the “deep ecology” pressure group, which wants to give “rights” to mountains, trees and animals “against” the other “sub-component” of the biosphere, i.e. human race- without explaining if an hurricane has the “right” to destroy, virus to kill – and, which tends to be generally against science and technology.

In the end what is really at stake goes probably farther and deeper, and relates to the renewed “cosmovision”. While a biased philosophical drift behind the so-called “globalization” promotes consumerism, individualism and relativism of human ideals and traditional religions, the mankind is longing for a more generous “cosmovision” in the eve of the 21st Century. Renewed Policy and Natural Resources Management owes to be inspired by higher ideal of human justice and solidarity in harmony with Nature. As said by Gordon Brown during the ABCDE Conference: “*Prosperity is indivisible. To be sustained, it must be shared. Injustice anywhere, is indeed injustice everywhere*”.