

## **RIO DE JANEIRO, JOHANNESBURG AND BEYOND – NATURAL RESOURCES POLICIES AND MANAGEMENT TOWARDS A SUSTAINABLE FUTURE**

*Wall, P. C. and Ekboir, J.*

Agronomist and Economist respectively, International Maize and Wheat Improvement Center (CIMMYT), Apdo. Postal 6-641, 06600 Mexico, DF, Mexico. [p.wall@cgiar.org](mailto:p.wall@cgiar.org) and [j.ekboir@cgiar.org](mailto:j.ekboir@cgiar.org)

**Keywords:** Earth Summit, environment, policy, networks, conservation agriculture.

After increasing evidence that the environment was being threatened by human actions, large portions of the civil society pressed governments in the 1980s to act to avoid irreversible damage to the earth. One result of this pressure was the Earth Summit in Rio de Janeiro in 1992. The goal of the Summit was to “establish a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people, working towards international agreements which respect the interests of all and protect the integrity of the global environment and developmental system” (UNCED, 1992). Two key philosophical outcomes of Rio 1992 were the explicit linkage between poverty and the degradation of the environment, and the need to develop both global and local participatory solutions to environmental problems.

Rio spawned a series of important international treaties and accords, including the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), The World Conference on Human Rights, the Convention to Combat Desertification (CCD), the World Trade Organization, the World Summit for Social Development, the Kyoto Protocol to the UNFCCC, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC), the Protocol on Liability & Compensation to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Cartagena Protocol on Biosafety (CBD) and the Convention on Persistent Organic Pollutants (POPs).

However, the results in the last decade have been pitifully disappointing. Degradation of the environment and natural resources has increased, and poverty has continued to increase globally. Although, as indicated above, there have been advances on international initiatives to try to reduce environmental degradation, these have been few and weak. The main limitation to the implementation of local and global solutions to environmental degradation is that, as policies are intended to influence an extremely complex and long-term process, it is difficult to assess their benefits. At the same time, some of the costs are evident in the short term, in particular when the adoption of cleaner policies and technologies are perceived as detrimental to international competitiveness. Thus, the US government placed a higher value on the expected costs on the economy of a reduction in greenhouse gas emissions than it did on global well being, leading to the desistance from signing the Kyoto protocol. The European Union has suggested that it will reduce farm subsidies by 40%, but this responds more to the effects on the budget of the amplification of the Union than it does to an effort to reduce the impacts of these subsidies on the livelihoods of the resource-poor in developing countries. To some degree, however, the reverses mentioned above, such as the US not signing the Kyoto protocol, have heightened the resolve in other countries to do their part in protecting the environment.

Another limitation to the implementation of greener policies is that governments in developing countries often do not have the resources or the institutional capabilities to implement them. Assistance from developed countries has generally declined, and the promises of new resources from developed countries to tackle global problems have not been forthcoming.

The realization that agriculture is a relatively minor source of pollution (especially compared to vehicles and some industries) has shifted the focus of environmental policies away from the countryside.

In particular, support and resources for public agricultural research and extension have declined both at the national and international levels. Many policy makers have not yet understood that agriculture can be a major part of the solution.

It was with this background that the Johannesburg World Summit on Sustainable Development convened in 2002. The official website of the Summit stated that “When the United Nations General Assembly authorized holding the World Summit on Sustainable Development, 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. What the world wanted, the General Assembly said, was not a new philosophical or political debate but rather, a summit of actions and results” ([www.johannesburgsummit.org](http://www.johannesburgsummit.org)). However, Johannesburg did not provide concrete actions or results. What Johannesburg did achieve was to develop a dialogue and new partnerships between major stakeholders: governments, civil society and the private sector.

Sustainable production and consumption, areas which only just made it onto Agenda 21 ten years previously, were dealt with far more deeply in Johannesburg and a 10-year program developed that should have impacts not only in the developing world, but on the economies of the developed world as well.

How have Rio and Johannesburg impacted on sustainable agriculture and the conservation of the natural resource base dedicated to food production? Agriculture featured prominently in Rio, and several of the chapters of Agenda 21 refer specifically to agriculture. Chapter 14 “Promoting sustainable agriculture and rural development” is of direct importance. Chapter 14 contains specific sections on reviews of agricultural policy, land conservation and rehabilitation, water for sustainable food production and rural development, sustainable plant nutrition and integrated pest management. However, little appears to have been achieved on the agricultural front, despite the rhetoric. In Johannesburg, agriculture did receive more emphasis, but in the final synthesis it was water and sanitation, energy and the fate of toxic chemicals that received priority. Even when focusing on management of the natural resource base, Johannesburg concentrated on water resources (not just or specifically for agriculture), oceans and fisheries, the atmosphere, biodiversity and forests – little mention was made of the degradation of the world's productive soils by inappropriate tillage, irrigation and management practices.

This relatively low priority to agriculture, as an area that both causes and offers solutions to some of the problems of environmental degradation, is evident in an analysis of the projects funded by the Global Environmental Facility (GEF) that was initiated in 1991, but then became the major executing agency for the funds committed in Rio. Between 1991 and 1999, GEF funded US\$991 million in projects on biodiversity, US\$ 884 in projects on climate change, US\$ 360 million for international waters, US\$ 155 for those on ozone depletion and US\$ 350 million in projects on land degradation ([www.gefweb.org](http://www.gefweb.org)). However, further analysis of the projects suggests that of the US\$4.7 billion committed by GEF in the last 12 years, a maximum of US\$20 million has gone to agricultural projects and agricultural components of projects: less than 0.5% of the total ([www.gefonline.org](http://www.gefonline.org)). This is approximately equal to the administration costs of the GEF small project facility over a two-year period. Agriculture remains the ugly sister of the environmental Cinderella story.

However, there are some signs for hope. Although many of the projects funded by GEF mention the words conservation and agriculture, until the year 2001 no project put the two words together. Now there are two projects being considered by GEF, one in Brazil and one in Argentina, that specifically mention “conservation agriculture” and one of these talks of zero tillage as one possible solution to land degradation on small farms.

Why has agriculture received such a small share of the total environmental budget? We think there are many reasons for this. The strong pressure by agricultural lobbies in the developed countries has allowed the maintenance of a contradictory set of agricultural and environmental policies whose net effect seems to be negative for the environment. Even though the United States has the largest area of any country under zero tillage, the percentage of its total agriculture that is conducted without tillage falls well below the percentages in Brazil, Argentina, Paraguay and Australia where the zero-tillage movement has been pushed forward by farmers who have to look at production efficiency in the absence of subsidies.

The area of conservation agriculture in Europe is negligible, with all due respect to the individuals and institutions that are actively promoting the need for this, especially ECAF.

Fear and annoyance over the handling of BSE and foot and mouth disease in Europe, largely uninformed and emotional views on GMOs, the oversold belief that organic farming without pesticides or nutrients is able to feed the world, and the lifting of the specter of widespread famine by the Green Revolution have all led to the general belief that intensive agriculture is harmful to consumers. The depressed world prices of the major commodities suggest to international donors that farmers in the developing world cannot survive growing extensive crops, and that, therefore, financial resources should not be invested in this area.

In the developing world, politicians, for whom fulfilling a 5 or 6 year term of office is generally a measure of the meaning of “long-term”, have shied away from the longer term and more insidious forms of environmental degradation. Here they are aided and abetted by their developed country counterparts, who see agriculture as one of the major causes of poverty rather than one of the solutions. While water, sanitation, education, communication and energy sources are incredibly important as means to overcome poverty, people need food, and there are very few developing countries that are, or will be, able to feed their populations with imported surpluses from the food exporting countries. There are two sides to the food security equation: production and access. Both need to be confronted.

Thus, the general public and many politicians perceive agriculture as part of the problem and not part of the solution. Also, these same agents are not aware of the potential of agriculture to mitigate environmental degradation and pollution. What can be done to improve this situation? More effective programs to address poverty and environmental degradation can be designed by following five major insights gained in the last decade: a) environmental conservation and sustainable development are not necessarily mutually exclusive; b) environmental conservation and sustainable development policies and programs require a combination of local, regional and national actions; c) in spite of many common features across locations, solutions have to be developed locally; d) successful solutions emerge from strong partnerships among many stakeholders; and e) there may be several alternative solutions to the same complex problem (i.e., soil degradation can be mitigated by reforestation, conservation agriculture or leaving the land to revert to a natural pasture).

These insights can be better understood looking at the spread of zero tillage in the Southern Cone of South America, currently being emulated in places like India, Pakistan, China and Ghana. These movements did not start with government policies, or with a comprehensive background of locally generated technological research, and the public research and extension establishment did not drive them. Loose and changing multi-agent networks of interested individuals and agencies that did not respect the normal linear flow of technological information drove the zero tillage revolution. However, early on, farmer contacts with international research efforts were important. These stimulated farmer experimentation which was supported by individual researchers and extension agents, as well as by interested private companies, where, and because, they saw a market for their products.

Both Rio and Johannesburg concentrated on public policies, both national and international. Johannesburg tried to get back to earth but the jury is still out on whether it succeeded. It appears that there is a need to get back to basics – to promote those activities that are functioning at the farm and region level, and build on these rather than to start from the top down. At the very least both types of activities should be promoted: although the world may benefit from the international treaties, it is not going to survive on them.

## **Reference**

**UNCED** (United Nations Conference on Environment and Development). 1992. The Global Partnership for Environment and Development: A Guide to Agenda 21. Geneva, Switzerland: UNCED. 116p.