AGADIR INTERNATIONAL CONFERENCE

"THE INTEGRATION OF SUSTAINABLE AGRICULTURE, RURAL DEVELOPMENT, AND ECOSYSTEMS IN THE CONTEXT OF CLIMATE CHANGE, THE ENERGY CRISIS AND FOOD INSECURITY"

Agadir, November 12-13-14, 2009

FINAL SYTHESIS REPORT AND RESOLUTIONS

PREPARED BY

Shabbir A. Shahid
Joyce D' Silva
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RESEARCHERS CONTRIBUTING TO THE PREPARATION OF THIS REPORT

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Senior Scientist at Dubai based International Center for Biosaline Agriculture (ICBA) earned Ph.D. degree from University of Wales, Bangor United Kingdom in 1989; B.Sc Hons and M.Sc. Hons (Soil Science) from University of Agriculture Faisalabad Pakistan in 1977 & 1980 respectively. He has over 30 years experience (Pakistan, UK, Australia, Kuwait & United Arab Emirates) in soil related R & D activities. He is a prolific author of over 150 publications in refereed journals, proceedings, books and manuals. He is life member and current Vice President of World Association of Soil and Water Conservation (Middle East).

Dr. Joyce D'Silva

Ambassador and former Chief Executive of Compassion in World Farming, the leading charity advancing farm animal welfare worldwide through research, education and advocacy. Joyce is a compelling communicator on the impacts of industrial livestock production on animal welfare, the climate and the environment. She has been published widely on the welfare of farm animals and sustainable farming.

Dr. Phil Bennion

Chair of a DEFRA LINK research project on minimising nitrous oxide emissions from agriculture. He is a working farmer striving to become carbon neutral but at the same time maintaining high output. He sits on the main committee in the UK that commissions research on sustainable crop production on behalf of UK farmers. He has a political interest and is deeply involved in policy formulation in this area for both the Liberal Democrats of the UK and the ELDR grouping of parties in the European Parliament.

Dr. Mohamed BEHNASSI

Professor at the Faculty of Law, Economics and Social Sciences (Ibn Zohr University of Agadir), Head of the North-South Research Center for Social Sciences (NRCS) and Social Monitor with an international experience. He obtained a Doctoral Degree in 2003 on: The Multilateral Environmental Negotiations: Towards a Golbal Governance for Sustainabiltiy. Author of many scientific papers and studies related to sustainability issues, governance, social accountability and human rights. He is also organizer of two international conferences focusing on these areas (including the present conference).

SYNTHESIS REPORT AND RESOLUTIONS

The three days of deliberations of the Agadir International Conference focused on the high level topic of sustainable agriculture, rural development & ecosystems in the context of climate change, the energy crisis, the rise in global population and food insecurity.

Organized jointly by the Faculty of Law, Economics and Social Sciences of Agadir (Ibn Zohr University) and the North-South Center for Social Sciences (NRCS), in partnership with the German Technical Cooperation (GTZ), this Conference came at a time of increasing international concern with the climate change, energy shortage and global hunger challenges. More than a hundred scientists, experts and governmental officials from 40 countries have provided their perspectives on these critical issues from an interdisciplinary optic.

The key points from the five plenary sessions and fourteen panels are given below.

THE PROBLEMS ADDRESSED BY MANY SPEAKERS INCLUDED:

- The current global crisis of high food prices and of hunger in many developing countries (especially less developed ones), has given prominence once again to food security concerns and agricultural approaches and policies.

- The changes taking place in the food, energy and climate sectors require scientists and decision-makers to work out new methods for the future development of agriculture with their relevant stakeholders.

- Agricultural production and markets in 2020 are expected to become more volatile as a result of greater weather extremes and disease outbreaks associated with climate change.

- Climate change will change precipitation and rainfall patterns, decrease river flows in many developing countries and increase sea levels all over the world, with a major impact on countries like Bangladesh and many island communities.

- Climate change will affect agriculture in terms of change in cropping patterns and the probability of declining yields in many regions. Projected temperatures will increase evaporation and crop water demand will be increased. Immediate impacts will be seen on dry land farming such as in Africa.

- Water scarcity is a well established fact in arid and semi-arid countries; Morocco is already in a state of water scarcity, defined as less than 1,000 cubic meters of water per person per year. Climate change will trigger further scarcity leading to a decline in agriculture in these areas, threatening food security, and will limit socio-economic development. Lack of national level soil inventory (soil map) and Soil Capability Map.

- Many water-poor countries, such as Algeria, are using huge quantities of virtual water, i.e. the water used to grow the crops (or meat and dairy products) which these countries import.

- The Aral Sea Drainage Basin (ASDB) in Central Asia is a region under severe water stress. The ASDB suffers from water scarcity and high soil and groundwater salinity.

- The manufacture of nitrogen fertilizers is a highly carbon-intensive process and their use can result in the release of nitrous oxide, a major contributor to global warming. However, their use increases photosynthesis and thereby yields and the overall greenhouse gas balance is complex.

- Land degradation is seen as significant in arid and semi-arid regions, often caused by overgrazing. Climate change will worsen this phenomenon and land quality may also decline to a level where today's productive lands will not be exploited to their full capacity.

- The underlying causes of the food crisis are: climate change; poor water management; competing uses for land; unfair and unwise economic and trade policies and aspects of food for aid programs; the lack of effective agricultural extension services; lack of credit for farmers to buy inputs; volatile farm output prices; burgeoning population; the switch to energy and land intensive foods such as meat; food waste.

- Africa is threatened by the current global food crisis more than any other region in the world. Many children and adults are dying of starvation every day.

- Failing states are a major global problem and a cause of misery to their people.

- Greenhouse gas (predominantly methane) emissions from livestock production must be addressed.

- Higher yields on current agricultural land and the reclamation of abandoned land must be the source of increased food production to meet a growing population, as the development of virgin land for agricultural use is unsustainable. Climatic limitations in some parts of the world will make such an increase in production difficult to achieve. Scarcity of phosphate fertilizers is a long-term threat to production.

- Without improved methods there is a trade off between food production, climate change and biodiversity. Focusing on food production alone is likely to lead to deforestation and further climate change; focusing on the greenhouse gas footprint of agriculture alone is likely to lead to lower yields and further pressure on virgin lands; most efforts to enhance or preserve biodiversity will have a limiting effect on food production. A sophisticated approach taking into account all of these interactions is necessary.

SPEAKERS OFFERED AN ARRAY OF RECOMMENDATIONS AND POSSIBLE SOLUTIONS:

- Agriculture should be directly linked to many facets of sustainable development, including poverty eradication, sustainable consumption and production, management of natural resources, energy, freshwater, health, education, trade and market access, as well as technology transfer and capacity building. It is an integral part of the general development system, serving the system as a whole, and being served by it. If the effects of other sections of the development systems reduce sustainability, then sustainability of agriculture is also affected.

- Sustainable agriculture should be taken as an eco-system approach, where soil-water-plants-environment-living beings live in harmony with a well balanced equilibrium of food chains and their related energy balances. Efforts should be made to adopt innovative technologies to ensure sustainable agriculture and productivity, improve soil quality and conserve the environment using resource conservation technologies (RCT). There is a case for including animal welfare as a criterion for sustainable agriculture, where livestock are being reared.

- The current world food, energy and climate crises and their impacts on humans and the environment calls for revising existing agricultural and rural development policies to offset the changing situation. All development projects should be subject to an Environmental Impact Assessment (EIA).

- All areas of the world must contribute to global food security and furthering the sustainability of food production – developed, developing, low and high cost producers, productive and marginal lands from all continents.

- Food riots and the global food crisis have pushed agriculture up to the top of the global agenda. Expressed intentions showed more attention towards farmers, but what we really need is a shift in thinking to recognize them as the principle stakeholder.

- If there is one lesson to be learned from the food price crisis, it is that global food security needs to be based on farmer-centred investment in local communities.

- A scientific approach is required that elevates objective knowledge and criteria above ideology; e.g. organic and non-organic sectors must co-operate and learn from each others' innovations rather than sending contradictory and confusing messages to policy makers.

- Improvements in organic farming techniques can make a contribution to food security, particularly in situations where capital is scarce or expensive and labour is plentiful and inexpensive. In these cases the yield penalty is likely to be small and can be more easily made up through improved farmer skills.

- Quantitative assessment of climate impact is important to understand the expected problems. A large proportion of the mitigation potential of agriculture arises from soil carbon sequestration, which generally reduces vulnerability to climate change and keeps land in production thus providing food security and rural economic development.

- Decision makers should rethink water use, governance and allocation and adopt modern methods of irrigation for water saving to enhance water use efficiency.

- We need to establish mechanisms for adaptation, for example shifting from fresh water irrigation to wastewater. The experiences from the Aral Sea Drainage Basin are very relevant to understanding how the farming community will be impacted by climate change associated irrigation reduction, salinization and changes in water tables.

- Improved extension services are required, particularly in the developing world, to give farmers the knowledge and confidence to adopt improved methods, thereby helping them to enhance yields from their farms. Establishment of demonstration sites in farmers' fields is an ideal means for technology transfer to the stakeholders. For any developmental project the needs of farmers have to be identified very carefully and a participatory approach adopted.

- Information Technology is just as relevant in the efficient delivery of knowledge transfer in the developing world as it is in the developed world.

- Information on the carbon footprint of the food we eat should be provided in order to help deliver a gradual change in habits. In particular the impact of over-consumption of meat and dairy products, as seen in many developed and transition countries, can be moderated.

- Introduction of a carbon tax may help reduce GHG emissions. In parallel, incentives such as carbon credits to the farming community may be considered to reward farming efforts, such as organic grazing systems, which can act as a carbon sink.

- Anaerobic digestion offers a promising avenue for development, both as a source of sustainable fuel and as a source of sustainable nitrogen fertilizer that could be used by both the organic and non-organic sectors.

- Research on nitrogen utilization and biological nitrogen fixation must be a priority in order to reduce dependence on chemical fertilizers without subsequent yield reductions. Biotechnology is likely to offer considerable benefits, but requires strong legislative control to ensure adequate trials to demonstrate their safety and to prevent unfair contracts channeling all of the benefits to the shareholders of the companies involved.

- Reduced cultivation techniques and precision farming can reduce the greenhouse gas footprint of agriculture and improve resource use efficiency.

- Development and introduction of drought and salt tolerant crops and varieties are important to improve yields in challenging circumstances. Forages in saline soils will provide an additional production system to poor farmers to increase their income and improve their livelihood.

- Scientific and technological development is not enough in itself. It is critical to make sure that sustainability and poverty reduction remain the guiding principles, and that we use our resources, harness our intellect, and direct our knowledge to benefit the poor, the hungry and the marginalized.

CONFERENCE RESOLUTIONS

This conference calls on governments and decision-makers to:

- create a paradigm shift in agriculture policy both towards and within developing countries.

- reform food aid policies, so that food is not dumped on developing countries, disrupting local markets.

- increase investment worldwide in research and development in the agricultural sector.

- develop and strengthen appropriate policies and legislative measures to create an enabling environment for sustainable agriculture and rural development.

- ensure the shift towards a rewarding agriculture profession by promoting price regimes and high value addition in developing countries. This will encourage farming and decrease migration from rural areas.

- ensure that national rural and agricultural programmes are not confronted with policy, legal and institutional constraints related to ownership, intellectual property rights, exchange, transfer and trade in agricultural resources.

- ensure that biotechnology advances are introduced safely and in a manner that benefits farmers and consumers.

- strengthen agricultural systems, by technical support, training and involvement of farmers and local populations in decision-making.

- make expanding local food production a high priority in developing countries, including investment in infrastructure to cut food waste.

- improve access to affordable credit for farmers in developing countries.

- seek to maintain (and if possible increase) production levels in high input systems at the same time as reducing carbon intensity and improving biodiversity. This can only be delivered through technological progress and knowledge transfer and must not be at the expense of animal health and welfare.

- review Free Trade Agreements between developed and developing countries to ensure fairness and access to markets.

- reform policies on bioenergy production to ensure that it is pursued only when it is both sustainable and a rational use of land. Encourage the utilization of crop residues.

- ensure that, where livestock are reared, their health and welfare is a priority.

- devote efforts to combating desertification in arid and semi arid regions and develop policies to end overgrazing to conserve soil health.

- ensure national soil maps exist for better understanding of soil potential and to adapt to the impact of climate change on agriculture.

- ensure a complete ban on deforestation and develop environmental agreements to conserve and enhance biodiversity. Conserve germplasm (genebank) of threatened and nearly extinct species for long term conservation and to maintain biodiversity.

- assess the adverse impact of agriculture on global warming and its potential to mitigate climate change.

- explore the potential of organic farming in the development of long term sustainable agricultural systems.

- develop healthy, safe and environmentally sound food policies that provide adequate and nutritious food for all.

- include agriculture issues in any future climate change negotiations and Treaties.

- encourage networking and knowledge sharing.

Conference jointly organized by:

The Faculty of Law, Economics and Social Sciences of Agadir
(Ibn Zohr University of Agadir)

and

The North-South Center for Social Sciences (NRCS)

Official Partner

German Technical Cooperation (GTZ)

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