

**FARMERS
MAJOR GROUP**

**GROUP INTERVENTION AT THE CSD 14
MULTISTAKEHOLDER DIALOGUE
UNITED NATIONS, NEW YORK CITY
MAY 1ST-12TH, 2006**

INTERNATIONAL FEDERATION OF AGRICULTURAL PRODUCERS
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Mr. Chairman, Ministers, fellow Major Group participants, I am pleased to be with you to highlight some of the key achievements of farmers and the challenges facing them as world leaders recognize an increasing need to replace petroleum fuels with biobased fuels, expand the production and use of biobased products, and the widespread incorporation of renewable energy sources. Some farmer's organizations have long histories of promoting the concept of widespread biobased fuel programs, and the expanded application of renewable energy sources as part of the answer that can alleviate dependence on petroleum and fossil-based energy and fuel. Farmers also see this as part of the way they can contribute to mitigating climate change challenges, and as a way to invigorate rural communities by their value-added participation in renewable fuel and energy programs that are generated on working farmlands.

Farmers are eager and willing to participate in the development of programs to mitigate climate change through carbon sequestration and carbon credit trading programs, as an integral part of the sustainable production of biobased fuel feedstocks and renewable energy production. Farmers have remarkable stories to tell on how to reach for these possibilities and overcome challenges through practical actions and voluntary initiatives.

Although many challenges lie ahead in agriculture, many new opportunities present themselves as well. Our fossil fuel based economy, which heats our homes, powers our transportation, and provides us with an array of products, is subject to increasingly precarious market forces, and most say is ultimately unsustainable. In this time of high gasoline and diesel prices and turbulent global situations, agriculture can play an important role in planning for and meeting the call for renewable fuels and renewable energy and therefore, energy security needs. An evolving renewable fuel and energy economy is emerging as fossil-based sources of energy become economically, environmentally, and politically unsustainable. This different economy will rely increasingly on renewable sources of energy such as wind, solar, geothermal, and especially bioethanol and biodiesel based transportation fuel programs. This is truly an extraordinary opportunity for farmers.

Farmers and ranchers can be at the forefront of this revolution; utilizing the commodities and plants they grow, and even the waste streams they now must dispose of, in innovative new ways to produce power, transportation fuels, and a new generation of biobased products and chemicals.

The recent abrupt inflation of petroleum prices has suddenly brought renewable fuels and energy into a more favourable limelight, but this is only a temporary situation, and we must act now to make these the mainstay of helping the developing and developed states address climate change related issues of increased desertification, increased water demands, pest proliferation, and the need for greater agricultural application.

Both North and South will have to assess the appropriateness of the different feedstocks for biodiesel and bioethanol that are most appropriate, and most beneficial, not only environmentally, but also take into account the effect on local food production lands and the effect on rural communities in the production of these feedstocks.

Importantly, farmers and their organizations must be included and work with science and industry, researchers, and governments policy makers to help facilitate the future of renewable feedstocks for fuels and energy evolution by developing community-based programs for farmers and small rural businesses that

will enable farmer-owned renewable energy cooperatives to produce fuels, biobased products, and energy efficient renewable energy systems, including wind and solar cooperatives.

In this way, farmers and rural communities can benefit from, and retain the important link of adding and retaining value to their production of biologically produced feedstocks and other renewable energy sources.

Technological advances have brought the economic cost of bioethanol, biodiesel, wind, and solar power, down by large percentages over the last 20 years. Farmers have known that these sources of clean energy and fuels have huge societal and environmental benefits as well, and farmers can reach for the economic benefits from developing these renewable resources, and rural communities benefit from the creation of new and locally based jobs.

Linking agriculture and renewable energy is the key to diversifying renewable fuels, energy and agricultural markets. Agriculture often plays a dominant role in the economy and internal politics of many states -- and this is reflected in the political and trade relationships among states. However, the agriculture production sector (farmers) is often not included as part of the dialogue and planning, which affects the sector (the working farmer) most intimately. This unfortunate feature must be addressed if we are to adequately plan for a sustainable, renewable energy plan forward that actually affords farmers in developing countries a chance to participate in the evolution of biobased fuel and energy markets. Farmers have to be consulted and involved in the overall renewable energy plans of the North and the South to ensure an outcome that can benefit the environment, rural communities, and farmers themselves.

Politically, enormous prospects exist for developing rural clean energy state sponsored programs, but this requires building political alliances among rural and urban policymakers. We can help accomplish this by demonstrating that both constituencies stand to benefit from renewable energy development.

But for farmers to utilize their renewable resources, they must first know what those resources are, and their economic value. Partnerships should be formed with state and local governments and universities to do regional Renewable Resource Assessments. And farmers must be provided education and technical assistance, given access to local value-added cooperative projects, and be provided with the initial support needed to get these ventures off the ground.

Developing agriculture-based renewable energy has the potential to boost farmer income, create jobs in rural communities, diversify energy markets, and protect the environment. Yet, as with many renewable energy technologies, agricultural-based renewable energy faces several challenges ranging from technological to financial.

By making the most of the renewable resources on farmers' working lands, we can generate electricity, fuel our vehicles, and create a variety of products, all of which can provide additional careers to our rural communities and new ways for our farmers to not only help the environment, but to earn a decent living.

REDUCTION OF GREENHOUSE GAS EMISSIONS THROUGH RENEWABLE SOURCES OF ENERGY, NON-FOOD PRODUCTION AND CARBON STORAGE

- Developing sustainable sources of energies is without any doubt, one of the key answers to mitigating climate change and its adverse effects. Concerns about global warming and production of greenhouse gases from fossil fuels are stimulating increasing interest in renewable energies.
- Renewable energy is intimately and inextricably bound together with farmers and farming activities. All sources of renewable energy require large land areas to gather relatively large collectors in order to gather meaningful amounts of energy. Farms are generally the only places where large enough areas are available to construct large wind generators, large solar power voltaic cells or grow large areas of suitable biomass for energy.
- Farmers are therefore well placed to take advantage of the growing attention to renewable

energy supplies. Increased utilization of renewable energy will have a significant impact on agriculture in both the short and long term. Agricultural sources of energy are becoming the new paradigm for the food and energy business.

- Renewable energies include: biomass for fuel (wood and straw), biogas, bio-fuel (bio-ethanol and bio-diesel), co-generation of electricity from biomass residue, solar energy, wind energy, thermal-hydro-electricity, and fuel cells. Bio-energy can be marketed, depending on the needs of the customer, as a source of electricity, heat or fuel.
- Farmers are in favour of giving higher priority to this renewable energy production. They are willing and able to produce feedstocks for biofuels and have the potential to produce much more than what they are already doing. Besides, it is more efficient to reward energy conservation rather than simply penalize energy use. Some apex farmers' organisations already promote an alternative carbohydrate-based renewable energy policy. Adaptation measures should be focused on efficiency and conservation.

KEY OBSTACLES/BARRIERS AND CHALLENGES TO OVERCOME FOR FARMERS IN THE USE OF RENEWABLES ENERGIES

- **Lack of understanding and awareness** about renewable opportunities from biomass, heat and biofuels non-food agricultural opportunities among the general public.
- At the governmental level, there are **disparate regional and local government with differing skills**, awareness and knowledge. Responsibility is often divided between multiple government departments.
- Most renewables demand **large initial investments in both new commercial agricultural enterprises and in biofuel production facilities**.
- The number of entrepreneurs who possess sufficient technical know-how to run a biodiesel refinery as well as experience to develop new commercial agricultural projects is very low, and they generally cannot provide equity capital. The challenge is to raise sufficient venture capital and **to identify a sufficient number of knowledgeable entrepreneurs to take up the opportunity to develop the agricultural sectors and run biodiesel refineries in remote rural areas**. Should this obstacle be overcome, agriculture in poor Southern countries could play a significant role in revitalizing local economies, and contribute significantly towards the replacement of dwindling crude oil supplies.

ECONOMIC ADVANTAGES AND BENEFITS OF RENEWABLE ENERGIES

- A study commissioned by South Africa proved that the production of feedstocks for biofuels does not reduce food production in African countries, but rather increases it.
- Renewable energies are a viable alternative for farmers to producing food and to buying energy. Thus creating commercial opportunities even from by-products (glycerol, oilcake.). They have positive effect on countries balance of payments and reduced import dependency
- **Strengthening of domestic, rural agricultural economies** by actively contributing to IRDP (Integrated Rural Development Planning). In fact, renewable energies can provide an economic impetus for agricultural and rural development and help rejuvenate rural economies with a significant financial impact on farmers and agricultural businesses.
- Renewable sources of energy allow a more **efficient use of the farming potential of land and plants**. Increased production of agricultural crops for non-food purposes offers the opportunity to utilise land that would have otherwise been an unexploited resource.

- The cropping of oilseeds takes place annually, thereby reducing long-term investment requirements. Annual crop residues (including pressed seedcake) can be burnt throughout the year in local electricity generation plants, thereby smoothing out the production income cycle. Existing agricultural distribution facilities can also be utilised to convey increased oil seed production, unlike with any other sustainable transport fuel.
- **Creation of additional employment.** The utilisation of set-aside and under-utilised land by the agricultural sector have been shown to increase employment potential by one person per twenty hectares dedicated to energy crops. Studies in Ireland and France indicate that the resultant regeneration of the agricultural sector can create between 11 and 15 jobs per 1,000 tons of biodiesel produced. Given that most of the production processes involved are carried out in rural areas, this provides a much-needed boost to rural agricultural economies where new job opportunities would be created.

Conclusion:

This shows progress accomplished by farmers in order to mitigate and adapt to climate change effects by increasing the efficiency of their farming practices, reducing emissions, and adopting carbon sequestration practices. It also shows farmers' willingness to use renewable energies as a new opportunity for rural development and income generation.

Farming is not only one of the sectors most affected by climate change but it is also as a sector with a huge potential in the design of instruments and tool to address this problem, particularly through providing renewable sources of energies. Participation of farmers is vital through representative professional organizations, which must play an essential role in decision-making, design and implementation of actions related to climate change strategies.

However, no matter how significant their efforts are, farmers and their organisations cannot bear the responsibility of adaptation and mitigation alone. The contribution of all stakeholders is of utmost importance. Farmers are ready to propose policy orientations and provide part of the answers to different stakeholders, but they must be involved as key actors and real protagonists.

ACHIEVEMENTS IN TERMS OF CLIMATE CHANGE MITIGATION AND ADAPTA TION

A FEW FARMERS' DRIVEN INITIATIVES AS NEW OPPORTUNITIES TO EXPEDITE IMPLEMENTATION

- Farmers are already making a lot of efforts to responding positively to climate change mitigation by increasing the efficiency of their farming practices and through substitution of fossil fuels, continued energy efficiency and carbon sequestration thus reducing emissions. However, their actions are not enough recognized and documented.
- Some apex farmers' organisations already promote renewable energy policies and support agricultural initiatives aimed at mitigating and adapting to climate change adverse effects, as they are aware of climate change as a threat to the farming sector.
- The use of sustainable farm management techniques such as no till or minimum tillage, and conservation agriculture methods help generate carbon storage, while combating land degradation and desertification and reduce fuel consumption. Crop management strategies such as crop rotation, crop diversity, and integrated pest management systems are adopted by farmers to mitigate climate change impacts. Besides, the sustainable management of forests is also source of carbon sequestration. Such practices as afforestation, reforestation, improved silvicultural practices, and agroforestry...) can increase carbon accumulation in forests by increasing carbon sinks.

CHALLENGES FOR FARMER S IN TERMS OF MITIGATION AND ADAPTATION TO CLIMATE CHANGE AND ITS EFFECTS

- One of the key challenges farmers have to deal with is to meet food demands while protecting the environment through minimising the use of fossil fuels and providing bio-energy, carbon sinks...

- Farmers are faced with barriers that prevent them sometimes, from adapting and mitigating climate change effects and also from using sustainable sources of energy. The main challenge for farmers is to have policy makers remove these barriers and provide them with incentives to adopt alternatives. This would facilitate farmers' efforts to minimise greenhouse gas emissions.

Main barriers are:

- Lack of financial resources and policy regulation to develop climate-friendly farming practices.
- Lack of guidance such as detailed regional information for climate change impacts and lack of capital make predictions and adaptations difficult to realise.
- Lack of communication between research and farming communities as well as pro-poor farming research. Researchers fail to address the full scope of challenges farmers face and therefore do not bring adequate solutions that would meet farmers' needs.
- Appropriate policies and regulations needed to create incentives and remove barriers to climate change mitigation and adaptation have not always been fully implemented.
- In rural areas, deteriorating and outdated infrastructure has lost its resilience to climate related extreme events. There is also a lack of general services hindering knowledge access.
- Traditional insurance markets and informal arrangements between farmers and community members are inadequate in preparing for climate change.
- Farmers lack the financial capital to invest in new sustainable practices to prepare for climate change e.g. Switching from traditional till agriculture to a more climate-friendly agriculture practice such as conservation agriculture, may result in decreased crop yields for the first few seasons while farmers perfect their techniques. Therefore, farmers are faced with a conflict between long-term investment and short-term food security.

NEW OPPORTUNITIES AND CHALLENGES FOR FARMERS TO MITIGATE AND TO ADAPT TO CLIMATE CHANGE

- To encourage farmers to use biofuels as a response to climate change, governments must help to provide access to the necessary infrastructure and markets.
- To reduce anticipated negative effects of climate change, preventive measures need to be developed and implemented.
- It is essential to recognize the important role of farmers and growers both as representing one of the most affected sectors by climate change but also as a sector with a huge potential in the design of instruments and tool to address this problem. Participation of farmers is vital through representative professional organizations, which must play an essential **role in decision-making, design and implementation of actions** related to climate change strategies.
- There is a **need to continue to expand scientific research on global climate change** in order to deepen knowledge on the impacts of climate change and also to come up with new approaches and agricultural practices that are 'climate-friendly' and at the same time with a view to better production efficiency and the development of bioenergy sources.
- There is also a need to develop links from research communities to farming communities to allow information to reach them in a farmer-friendly format. There is a vital need for better-focused **farm-specific climate change information**.
- Increased funding opportunities are needed for climate change adaptation as well as mitigation measures.

- Many farmers believe that climate change offers them a real opportunity to develop new crops. They are ready to adapt to new conditions provided it benefits their economic income.