**Organic Agriculture, Climate Change and the Environment***

**by**

**Tewolde Berhan Gebre Egziabher**

**Director General, Environmental Protection Authority, Ethiopia**

It is my great honour to stand in front of you and talk to you on "Organic Agriculture, Climate Change and the Environment". This means that I will give you my views on how we can mitigate climate change and adapt to it while we eat and live well.

Fortunately it is all easy. Even we, Ethiopians, living in one of the least developed countries, are making progress in achieving it. We are doing this by respecting the environmental rights that are enshrined in our Constitution and thus by implementing our Environmental Policy that emanated from those rights.

Paragraph 1 of Article 44 of the Constitution of the Federal Democratic Republic of Ethiopia stipulates, "All persons have the right to a clean and healthy environment."

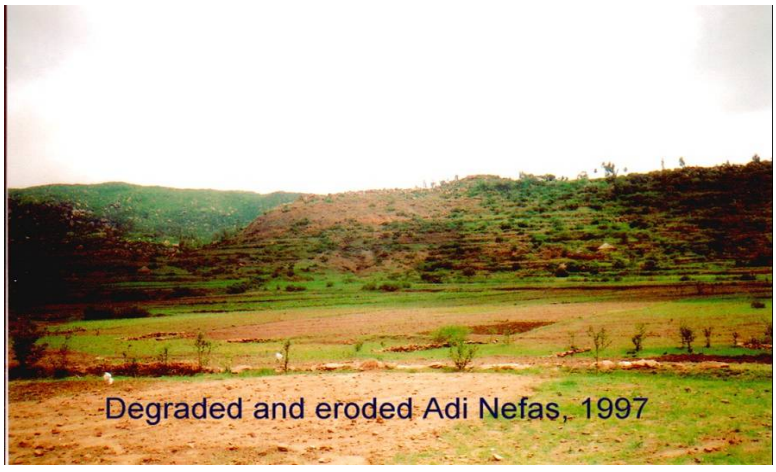
Article 3.9 of the Environmental policy of the Federal Democratic Republic of Ethiopia details how we must combat climate change.

* Speech presented at a FAO, Danish Government and IFOAM side event to the 21st Session of the Committee on Agriculture, FAO, Rome, 22 April 2009.

Ethiopia's green house gas emission is limited almost entirely to the relatively few vehicles and aeroplanes that the country runs. Even the generation of electricity is almost entirely from hydropower. Virtually all household energy is derived from biomass. The firewood and cow dung that are burnt become new firewood and new grass and hence new cow dung during the subsequent rainy season. Virtually all our climate change is thus imposed on us from outside.

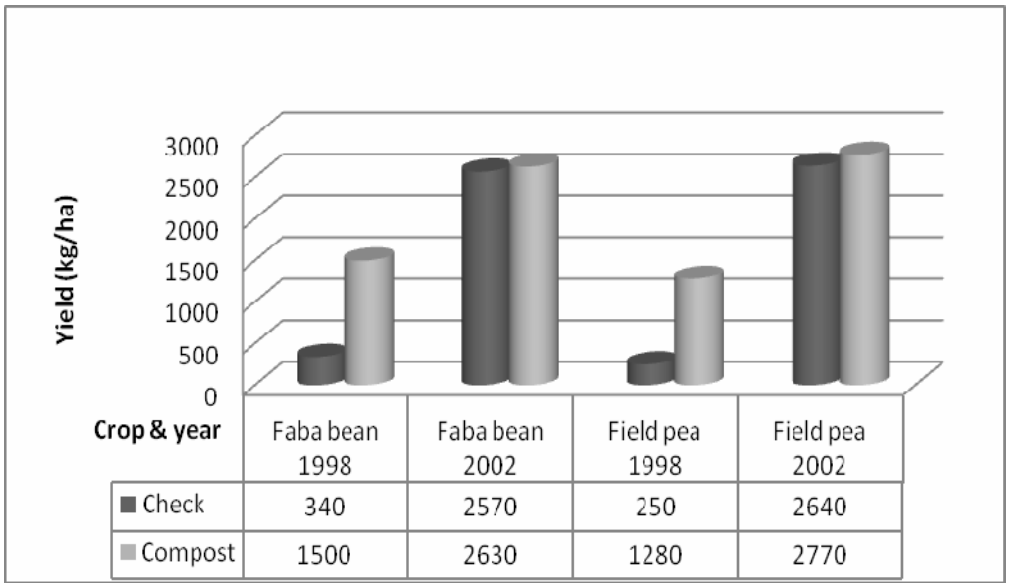
Nonetheless, our climate adaptation is our own affair, and virtually the whole of the Environmental Policy directly or indirectly deals with it together with combatting land degradation to improve the environment and to sustainably raise agricultural production for eradicating poverty.

Our focus is thus on effective management and use of local environmental resources, including soil, water, vegetation, and agricultural and other forms of biodiversity. Environmental management can be effective only when the local communities that live in and use each locality are each well informed and organized. Paragraph 4 of Article 50 of the Constitution emphasizes this fact. It states, "... Adequate power shall be granted to the lowest units of government to enable the People to participate directly in the administration of such units." Articles 4.2 and 4.5, of the Environmental Policy aim to empower local communities of men and women that enjoy equal rights and equal access to information on environmental management so that they can organize themselves on equal terms.



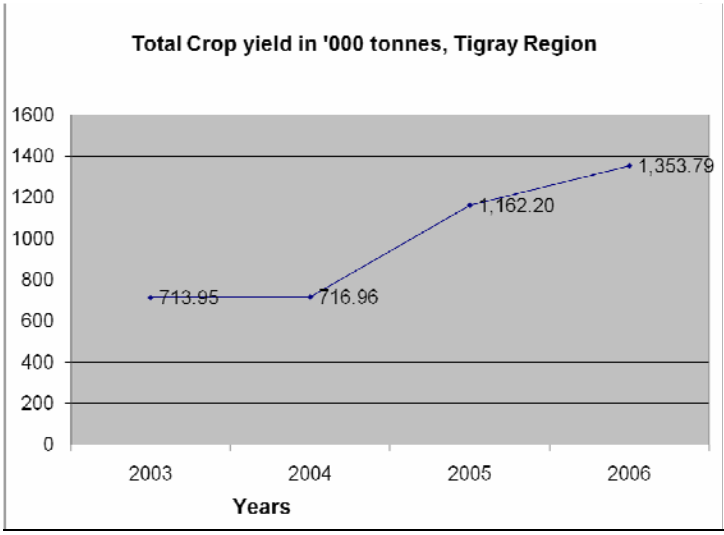

Agriculture is the backbone of Ethiopia's economy. As you may know, Ethiopia is mountainous, and about 90% of us live above 1700 m. in altitude. Agriculture has been going on in Ethiopia for thousands of years, making our country not only a major global centre of crop genetic diversity that can adapt our agricultural production to climate change, but also a victim of land degradation. Fortunately we have started to successfully reverse land degradation. It all started in 1996 by implementing the essence of the then draft Environmental Policy in 4 willing farming communities in the semi-arid parts of Tigray in Northern Ethiopia. How does this process of reversal go?

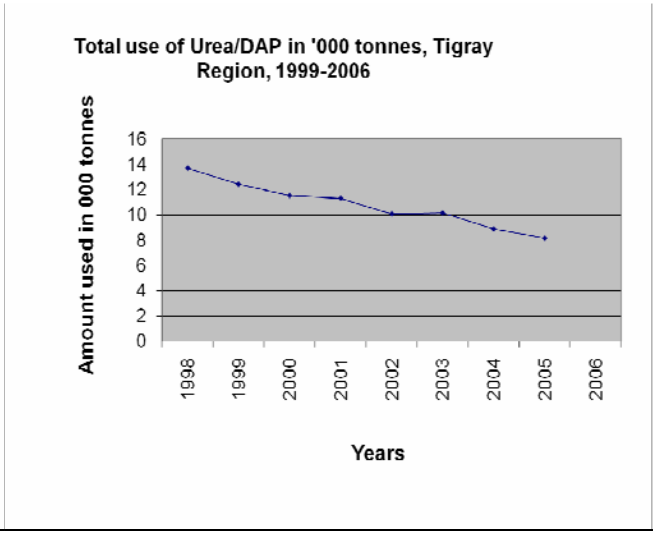
The people in a village meet. They discuss their own local ecosystem. Nobody knows its dynamics better than they do. Nevertheless, like any of us, they benefit from additional knowledge given and suggestions made by experts. They thus agree from the most informed position what to do to reverse their land degradation. They develop their own set of bylaws and action programmes to ensure the coordination of the activities of an individual with those of the rest of the members of the local community. They elect their leadership to steer the implementation of the bylaws and action programmes. Consequently, they terrace hillsides to minimize soil erosion. They build check-dams to reverse gullying. They keep domestic animals in stalls or in small grazing areas to enable the land to grow the maximum amount of fodder that it can. They cut the fully grown grass and lope shrub and tree branches to feed their animals. They learn how to make compost out of the dung and other biomass wastes, including weeds from cultivated fields, trampled fodder, household waste, etc. They make and apply the compost on farms to raise soil fertility and to sequester carbon.



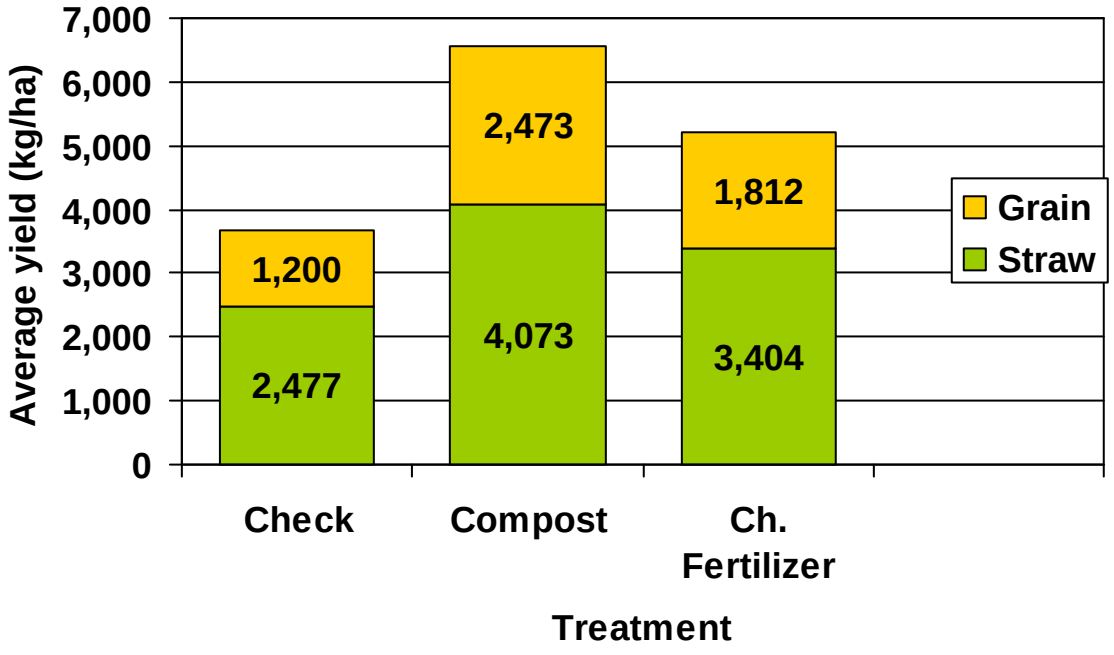

| Crop & year | Faba bean 1998 | Faba bean 2002 | Field pea 1998 | Field pea 2002 |
|---|---|---|---|---|
| Check | 340 | 2570 | 250 | 2640 |
| Compost | 1500 | 2630 | 1280 | 2770 |

Crop yields improve, and often more than double. This frees them from having to buy agrochemicals. As we know, agrochemicals are mostly made from petroleum which, besides accelerating climate change, is due to run out relatively soon and thus, in the mean time, to become even more prohibitively expensive. As a result, the soil stays in place. Grass and woody biomass increase. Tree and shrub species that had disappeared come back. Selective replanting further enriches the biodiversity of the resurgent vegetation. More than 700,000,000 tree seedlings were planted in the year between the middle of 2007 and the middle of 2008. Rain water percolates into the soil more fully than hitherto. The water table rises and springs and brooks strengthen in the dry season. Irrigation water increases especially in the dry season. Flooding reduces or even stops in the rainy season. Children stop herding domestic animals and go to school. In short, both human and environmental wellbeing improve.



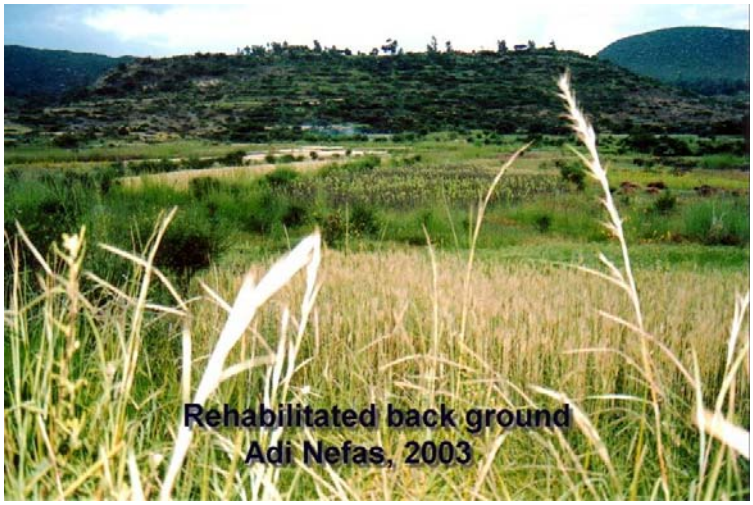




These practices are now spreading throughout Ethiopia. The majority of farmers in Tigray now depend on compost for food production. Recent data based on a comparison of past and recent photographs show that, in Northern Ethiopia including Tigray, which had perhaps recently been the most degraded part in the country, vegetation cover is back to what it was like in the second half of the 19th century. Data obtained from the Ministry of Agriculture and Rural Development show that in the year between the middle of 2007 and the middle of 2008, about 1,864,000 ha of land (about 16% of the total cultivated in the country), belonging to approximately 2,000,000 farm families (also about 16% of the total in the country), were fertilized with compost.



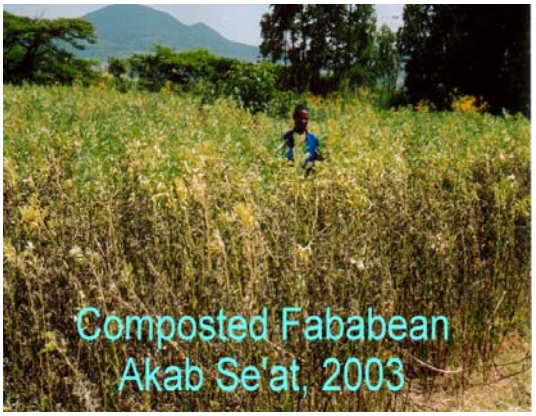
It should also be recalled that a piece of land requires no additional compost for 2-3 growing season. This means that, in that year, at least 1/3 of Ethiopian cultivated land was fertilized with compost. Only a small portion of this, consisting of 137,822 ha cultivated by 110,861 farmers, is certified organic. Nevertheless, it constitutes the largest hectarage of certified organic crop production in Africa.

At the end of November 2008, the African Union organized field visits to Northern Ethiopia and a Conference in Addis Ababa to start spreading the practices to the rest of Africa. Obviously a lot of work lies ahead in Ethiopia, in the rest of Africa, and in the rest of the world for agriculture to become fully carbon sequestering as well as truly sustainable, and for land degradation to stop. But stop it will, or else, stop we will. For, soil erosion is now taking place globally at rates ranging from 16 to 300 times its rate of formation from the bedrock. Therefore, bedrock will inevitably emerge everywhere on Earth, and yet food cannot grow on bare bedrock anywhere on Earth.




Ethiopia is also industrializing fast. Fortunately, its energy production can indefinitely continue to remain renewable. Its existing tiny contribution to atmospheric pollution is thus set to diminish further as increasing industrialization shifts energy use in the homestead from burning biomass to lighting, cooking, heating and cooling with electricity. Transportation infrastructure will also be powered by electricity. Plans are already afoot to start this in Addis Ababa. But, of course, industrialization needs investment. The immediate suggestion that springs to mind is that Ethiopia can raise investment funds through carbon trading. Unfortunately, the Kyoto Protocol enables trading the carbon dioxide that a country used to produce only to clean up that pollution. If a country is not already polluting the atmosphere, it cannot raise money for having stayed, and continuing to stay, clean. Also unfortunately, existing forests and ecological agriculture that continually sequester carbon, as is usual in Ethiopia, do not even figure in the Kyoto Protocol.

The Kyoto Protocol completely ignores agriculture, and allows trading in the carbon sequestered only by recent forest plantations. If you have had forests that have been sequestering carbon and you want to be involved in carbon trading, you better burn and replant them!


Renegotiating the Kyoto Protocol will be finalized in Copenhagen at the end of this year. Will the treaty that replaces it correct these failings? Indications from the negotiations that took place in Bonn this April are that it will. Humanity can then continue developing the cleanest of options. I wish our children global harmony among themselves, and biospheric harmony with all other life forms. The treaty which will replace the Kyoto Protocol will then contribute towards fulfilling my wish, our wish.

Thank you for hearing me through.