

SOIL CARBON MARKETS; SOS CALL FOR THE SMALL AND MARGINAL FARMERS

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Agricultural emissions have been a source of intense debates in the UNFCCC since Copenhagen COP 15. The main issue has been how to address emissions from agriculture. Developed countries see it as huge potential for mitigation in agriculture (agriculture contribute 13% of global GHG emission excluding land use change). Developing countries insist that adaptation rather than mitigation should be the focus of discussion, as farmers in developing country facing up the climate change impacts need adaptation support rather than the burden of mitigation. They also say that mitigation focus in agriculture debate diverts the discussion on reduction from source (in developed countries) and only talk about mitigation in developing countries. A large number of developed countries aim at using agricultural emissions as offsets, which provides them an opportunity to be able to reduce emission in their own countries without actually having to negotiate their consumptive and carbon intensive lifestyles. It is also alleged that 90% of the mitigation potential lies in soil carbon sequestration and in developing countries. That gives rise to a potential danger of brining soil in carbon markets.

Why soil carbon markets are dangerous for small farmers

The focus on soil carbon sequestration in developing and poor countries present real challenges for small and marginal farmers. The pressure to reduce emission from soil will add to the burden of adaptation that farmers have to face up in developing and poor countries. It will also threaten small farmers with further marginalization and loss of sovereignty. For example, small farmers in India which compose 83% of farming community have land holding of less than 2ha. It is unimaginable how they can reduce emission in their fields. A rush to reduce emission will essentially result in farmers being congregated and agricultural operations being carried out with primary objective of reducing emissions, which will be a big attack of farmer's sovereignty on their lands, their choice and means of production. Such an approach will also be dangerous for agro-ecology, diversity of seeds, and food security. It is extremely likely that this will be a huge opportunity for private agro business companies to cash on the carbon market rush. Small farmers and farmers' cooperatives will be placed precariously in terms of their bargaining power with these companies, with lion's share going to companies. Situation of small farmers in Africa and Latin American countries is also no different.

What has been the experience of farmers in soil carbon projects

A range of institutions developed countries and research institutions have touted soil carbon sequestration as triple win solution to address agricultural emissions, food security, and enhanced income for farmers. Some of the pilot projects to reduce soil carbon emissions promoted by World Bank and many international NGOs have fared poorly in African countries (Kenya, Ghana, Uganda, Ethiopia etc.). While they have accepted that financial benefits to individual farmers have been meager (US\$ 4 per ha per year), they have also failed to manifest emission reduction benefits and how it has enhanced food security.

What is the financial and technical viability of soil carbon markets

Many developing countries see soil carbon markets as an opportunity to get scare financial resources to invest in agriculture. However, that is extremely unlikely to happen. FAO estimates that some 17 billion Euro will have to be invested till 2030 to set up an effective soil carbon market. According to FAO, setting up soil carbon projects may require an investment of US\$ 12 to US\$60 per

ha. Looking at the global scenario, the proposition looks unlikely. Even best of the carbon markets, EUETS is facing insurmountable challenges with price of carbon dashed to less than a Euro per ton. Due to impermanence the price of soil carbon is extremely low as compared to other carbon avoided (viz solar or wind). Even when the carbon markets perform optimally (Euro 20 per CER), the price of soil carbon is estimated to be below 1 Euro per ton, making it highly unviable. The demand and price of carbon is likely to plummet as we move from legally binding reduction commitments to pledge and review, in which case most of the soil carbon will be destined for voluntary markets rather than compliance market, which will further depress its price.

Besides, soil carbon sequestration is a highly localized function depending on the nature and texture of soil, which presents challenges in terms of its measurement, reduction and verification. Scientists also allege that with time soils also tend to absorb less carbon. Therefore, technically speaking the scientific knowledge and methodology for soil carbon sequestration is still at best, premature.

What happened at Bonn SBSTA 38

Climate change negotiations post Copenhagen gave a mandate to SBSTA to work towards adoption of the Work Programme on agriculture. The SBSTA has not been able to reach a consensus through Cancun Durban and Doha COPs and many intersessionals. Developing countries fear that a Work Programme on agriculture, might ultimately promote mitigation in agriculture. In Bonn SBSTA 38th session, developing countries insisted that further discussion on agriculture be premised on three pillars of CBDR, adaptation and means of implementation. Parties agreed on a submission process, followed by a workshop to be held at SBSTA 39, on “the current state of scientific knowledge on how to enhance the adaptation of agriculture to climate change impacts while promoting rural development, sustainable development and productivity of agricultural systems and food security in all countries, particularly in developing countries. This should take into account the diversity of the agricultural systems and the differences in scale as well as possible adaptation co-benefits.” Parties will consider the report of the workshop at SBSTA 40 (2014).

What needs to be done

Agricultural emissions are definitely a cause of concern for global community. However, it should be a concern shared equally in developed world as well as developing and poor agricultural countries. It would be worthwhile to mention that estimation of emissions in agriculture does not include much of primary energy used in agriculture and food production systems, intensive fertilizer and pesticide production, and off farm (farm to consumer) energy use. If these were added, developed countries will stand with much higher emissions than they are right now. Emissions from livestock per capita, which is the biggest source of agricultural emissions (60%), is also much higher in developed countries. In the circumstances, a distinction needs to be created between **essential emissions** in developing countries and **luxury or lifestyle emissions** in developed countries. Developed countries, technically and financially equipped, insisting on mitigation in agriculture should lead the way rather than pushing the burden on poor farmers in developing countries. A lot of scientific and research work has been done on agricultural emissions, which unequivocally suggest that agro ecological approaches including mixed and integrated farming and family farming (in sharp contrast to industrial agriculture) is the only way to sustain food production, soil quality and reduce emissions. Farmers in poor and developing countries need immediate adequate, additional and predictable financial support with technology and capacity building support. Any delay will make the task of sustaining food production systems more unviable.

Comments and feedback are welcome at k.ajay.j@gmail.com