

# **Biochar Fund Trials In Cameroon Hype And Unfulfilled Promises**

**by  
Benoit Anthony Ndameu  
and Biofuelwatch**

## **EXECUTIVE SUMMARY**

Biochar, fine grained charcoal added to soils, has been promoted with claims it can sequester carbon in soils for “hundreds to thousands of years”, improve soil fertility and hence increase crop yields and also provide renewable energy from pyrolysis production. Yet scientific research, particularly field trials, are woefully lacking. Field studies that have been done do not support these claims (for review see the accompanying report: “Biochar: A Critical Review of Science and Policy”).

A significant number of biochar “trials” and projects have been initiated in Africa by companies and NGOs. These trials are based on assumptions that biochar “works” and can contribute to improving livelihoods by boosting food production and providing income from carbon finance. This “win-win” poverty alleviation framing is used to advocate for scaling up production and use of biochar – and for inclusion of biochar in carbon markets. Some advocates are advancing biochar on a very large scale as a “climate geoengineering” technique.

Biochar Fund trials in Cameroon were expected to be the largest and longest lasting biochar trials to date, with potential to provide useful insights. Preliminary data were published in late 2009 indicating dramatic positive results on maize yields. Media headlines pronounced “Exceptional Results From Biochar Experiment in Cameroon”. However, the data were preliminary. It was indicated that further data were forthcoming but these were never made publicly available. Biochar Fund’s website was subsequently terminated.

Benoit Ndameu traveled to the area to assess the trials, and to interview participants about their experiences in April 2011. To our knowledge, this is the only independent assessment of any biochar trials.

Mr. Ndameu found that participating farmers had donated time and land to the trials. Biochar Fund and Key Farmers provided them with literature proclaiming the “benefits” of biochar. Of the 75 plots established, farmers failed to follow through to completion on 31, for a variety of reasons. Some interviewed participants reported enthusiasm for the maize yield results from plots with large amounts of biochar added - 20 tonnes per hectare. These yield increases could have been due to pH effects of biochar on soil, and/or to nutrients contained in ash associated with biochar – however long term yield increase was not demonstrated. The trials had been abandoned, with no indication they would be continued. Yet farmers were still being told that when funds arrived, the project would continue and some were still awaiting this 18 months later. In particular, participating farmers had been led to expect that the next phase of the project would result in income from the sale of carbon credits for biochar. Materials provided to them by Biochar Fund indicated these would be forthcoming, even though currently no carbon markets offer credits for biochar use.

Biochar had been produced for the trials by Biochar Fund and Key Farmers staff, using a (very inefficient) single barrel stove method which did not offer any chance for producing renewable energy. Farmers were not trained or equipped to carry forward with biochar production themselves. Data collected were not scientifically useful due to lack of replication and randomization in the trial design. While reports indicated that data were

to be collected from two maize harvests, the trials were halted following a single harvest. Soil analysis data, though apparently collected were never reported.

Laurens Rademaker, Biochar Fund's founder and director formerly ran a bioenergy web and consultancy service. He now offers his consultancy services, claiming on his website to have attracted over a million dollars in funding for projects since 2009 and to have established 9 NGOs mostly within Africa. He is also a cofounder of Green College Africa, as well as Equator Oils (now Agroils) which invests in jatropha projects.

Rademaker claimed in an interview in 2010 that the Cameroon trials were still ongoing, and used the proclaimed "success" of the Cameroon trials as leverage to obtain funding for another project in the same region (A project involving Cocoamasters, for which Rademakers serves advisory role). He also used the proclaimed success of the Cameroon trials to obtain support from the Congo Basin Forest Fund for biochar trials in DRC, a project in partnership with Congolese NGO ADAPEL. This project was based on the claim that using "slash and char" instead of "slash and burn" could reduce deforestation. Little information is available about the current status of these DRC trials.

Developing interest in biochar is similar to what occurred with biofuels, especially jatropha about which claims of remarkable productivity on "marginal" lands have proven false. Baseless claims resulted in major investment, speculative and otherwise, in jatropha - driving land grabs and displacement of peasant farmers rather than alleviating poverty.

With interest growing in using carbon and other forms of finance to spur development of improved agriculture practices in Africa, farmers are vulnerable to being drawn into participation in trials and feasibility projects that can be both costly to them and also may generate false expectations.