

## **The UBI concept: significant, timely climate change mitigation from thinly distributed feedstock in sustainable rural development using low tech biochar production**

Frogner, KJ

UB International, Kaneohe, Hawaii 96744, USA  
E-mail: pattamo\_kop@yahoo.com

*Key words: Climate Change Mitigation, Thinly Distributed Feedstock, Low Tech Production.*

### **Introduction**

In his keynote address for the '09 Asia Pacific Region Biochar Conference, Professor Lehmann indicated that he felt that the greatest potential for global warming mitigation through the sequestration of biochar lay in the utilization of distributed feedstocks. UBI (the Ulaanbaatar Biochar Initiative) is a program dedicated to testing the concept that these feedstocks can actually be utilized to significantly contribute to global warming mitigation. It is a program focused on significant climate change mitigation within the time limits set by the physics of climate change through initiating a geometric growth in sequestered biochar utilizing thinly distributed feedstock and low tech production available to 3rd world smallholders in sustainable rural development.

### **The UBI Concept**

UBI utilizes two drivers. The first is the well known soil enhancement qualities of sequestered biochar resulting in increased plant growth which generally maximizes at 10 to 20 tons/ha of sequestered biochar and, of course, the self interest of smallholders in enhancing crop production at less cost.

The second driver comes from the same self interest through income augmentation through carbon credits from sequestering additional biochar on crop land (up to as much as an additional 90 t/ha without damaging growth) and pasture as well as on other land where it is not disruptive to do so. As envisioned in UBI, carbon credits earned by an individual small scale producer would be marketed through their local marketing organization. This marketing organization would also assure the sustainable production of the biochar and verify the quantity and quality of the biochar as well as its having been properly mixed into the soil for sequestration purposes. The local marketing organization and intermediary organizations would aggregate the individual members' production credits for not-for-profit brokering on

the open market, insuring an equitable share passed back down to the individual producers. To date such a straight forward post sequestering marketing and pass-back of profit for primary work done does not seem to be the norm in the carbon trading markets. It will be one of the objectives of UBI to work with interested rural development and/or environmental organizations to facilitate the development of such market access in the current markets as well as getting a significant place for representatives at the table in upcoming conferences where the rules for future carbon trading &/or energy taxes are made.

The program itself relies on dedicated NGOs informing the smallholders of these possibilities and promoting them in such a way as to generate a geometric growth in the production and sequestration of biochar by them.

This geometric growth is to be initiated by demonstrating the concept in select pilot communities in given cultural and biological environments and then, once buy-in is achieved, using these communities in a communities-mentoring-communities program, starting a chain reaction.

As the program develops and proves itself, more and larger NGOs & INGOs will need to be involved, followed by GOs, RGOs and IGOs to handle the rapid growth and massive nature of a geometric increase. This kind of growth is necessitated by the narrow time window with which we are dealing to achieve meaningful climate change mitigation.

### **Program Developments**

A Not-for-Profit NGO, UB International (also UBI) [1] has been incorporated in Hawaii to serve as an umbrella organization to coordinate the establishment of local sib-projects. These local sib-projects instantiate the UBI concept adapted to the local cultural and environmental environments.

The Mongolian Biochar Initiative (MoBI) [2] is the initial sib-project set up under the UBI umbrella. It began as a consortium of 3 local

NGOs involved in local urban and rural community development working with the precursor of UB International and a research group of the Mongolian State University of Agriculture. These have been joined by an additional local NGO and a second research group from the Mongolian University of Science and Technology (Forestry). Initial funding was to have been from the accepted Mongolia program of IBI Nine Country Program [3] but, unfortunately, funding for the entire 9CP has been put on indefinite hold due to the current economic situation. Startup funding for the last 2 years has been coming from the Australian Embassy's ADAP program.

A second sib-project, the Thai Biochar Initiative (ThBI) [4] has been set up and another, the Hawaii Biochar Initiative (HaBI) is in the process of organizing and exploring the adaptability of the UBI concept in developed country urban and rural smallholder context.

We invite contact by others interested in developing sib-projects for appropriate cultural and ecological situations around the world as well as interested volunteers and those with appropriate training, especially in the other needed areas beyond biochar production and use. Additional information on UBI type projects can be found in 'Using Low-Tech Biochar to Mitigate Climate Change'[5].

<sup>1</sup><http://www.biochar-international.org/regional/ubi>

<sup>2</sup><http://www.biochar-international.org/regional/mongolia>

<sup>3</sup><http://www.biochar-international.org/9country>

<sup>4</sup><http://www.biochar-international.org/regional/thailand>

<sup>5</sup>Frogner, K. J.; Taylor, P. Ltd. Draft Edition. *In: The Biochar Revolution: Transforming Agriculture & Environment*, P. Taylor (Ed.) [www.biochar-books.com](http://www.biochar-books.com), pp. 287-298.