



Tropentag, September 17-19, 2013, Stuttgart-Hohenheim  
“Agricultural development within the rural-urban continuum”

## **Bokashi-Tha Bach Ma: Charcoal Fertiliser for Improving Rural Living and Nature Conservation in the Bach Ma National Park, Vietnam**

SONOKO DOROTHEA BELLINGRATH-KIMURA, MAYUMI TSUNODA, HARUO TANAKA, YOSEI OIKAWA

*Tokyo University of Agriculture and Technology, Graduate School of Agriculture, Japan*

### **Abstract**

Bach Ma National Park is located 40 km from Hue city, Central Vietnam. Central Vietnam is a very poor area, due to its extreme climate condition and poor soil productivity. Thus, urban citizens purchase food produced in remote areas, while rural farmers produce just enough for self-supply and cover their livelihood by invading into the national park and conducting uncontrolled timber harvests. To create alternative earnings for people living in the buffer zone of the urban area and Bach Ma National Park, a project was started to introduce the multi-purpose use of charcoal in that region. The charcoal was made not from natural forest trees but from agro-wastes such as branches of fruit or plantation trees, sawdust and rice husks. Our project contained 6 major activities: 1. Create an extension centre at the headquarters of the Bach Ma field station to organise surveys, workshops and follow-up activities; 2. Conduct of charcoal making workshops; 3. Establish organic fertilisers containing charcoal; 4. Grow vegetables together with farmers in on-farm experiments; 5. Introduce alternative methods for animal husbandry; 6. Raise awareness and conduct marketing in urban area. The project started in 2008 and was wrapped up in 2013.

Based on this activity, an organic fertiliser called “Bokashi-Tha Bach Ma” was established, which is made from cattle manure, rice bran and rice husk charcoal. Its use remarkably increased the soil cation exchange capacity and led to higher yields. Organic fertiliser mixed with charcoal had much higher yield compared to chemical fertiliser only. The product could be sold to the city with additional value. Constant production with sufficient amount would be the task to establish the product as a brand in this area.

**Keywords:** Buffer zone, charcoal, national park, soil fertility