



Tropentag, October 5-7, 2011, Bonn

“Development on the margin”

## Wood Ash Microdosing as Fertiliser Strategy for Subsistence Oriented and Resource Poor Sahelian Farmers?

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### Abstract

Agriculture in the Sahel is still dominantly subsistence oriented. Though market orientation needs to be developed in the long-term in order to increase income, also strategies for the marginal resource poor farmers are requested to assure food security. One successful strategy developed in 1990ies was fertiliser microdosing, meaning placed application of fertiliser close to the seeds in the wide spaced planting scheme as it is frequent *i.e.* for pearl millet under Sahelian conditions.

Given the still difficult access to fertiliser for many Sahelian farmers and the high price fluctuation during the last years, an alternative was searched for in the frame of the BMZ financed CODE-WA R4D project. After testing several options including local rock phosphates, wood ash was chosen as most promising.

Using a multidimensional experimental approach, which was developed especially for this purpose with the dimensions scale, crops, and management the wood ash technology was developed, tested and evaluated within one year. Success of the technology depends on the four factors soil texture, soil fertility, crop type, and timing of application. Received rainfall and rainfall distribution may influence also the crop response to ash. Applied at sowing to small grain cereals like pearl millet and sorghum it increases yield variables; applied at flowering to legumes it increases quality (grain size, *Aspergillus* infection, aflatoxin contamination).

Target groups are specifically women, since they are at the source (fire wood consumption in the household) and usually crop less surface (restricted wood ash availability) on the least fertile land (highest effect).

**Keywords:** Fertiliser, gender, multidimensional experiment approach, Sahel, woodash