



Tropentag, October 9-11, 2007, Witzenhausen

“Utilisation of diversity in land use systems:
Sustainable and organic approaches to meet human needs”

Bovine Stock Breeding Systems Influence on the Farms' Technical Efficiency in Côte d'Ivoire

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Abstract

In 2001, Côte d'Ivoire counted 1 440 000 bovines. This production remains not sufficient for national consumption and its performance does not make it possible to face external competition. In order to determine and to compare the various systems of bovine stock breeding in terms of efficacy, a study was carried out in the north (Korhogo) and the centre (Toumodi). Ninety five (95) bovine stock breedings were implied.

A classification of stock breedings was made according to management criteria, livestock size and individual characteristics' of the stockbreeders. Then, we used the data envelopment analysis (DEA) method to determine their efficiency. The Tobit regression applied to the “slacks” resulting from the DEA calculation made it possible to evaluate the stock breeding systems influence on the inputs. A final DEA was applied to the adjusted inputs of the influences of the breeding systems.

We identified three stock breedings classes:

- nomads class, composed of stockbreeders coming from Burkina, Mali and Niger, was excluded from the data during efficiency calculations,
- community stock breedings with few animals and without care. This class seems to be a new system and contains few stockbreeders,
- individual stock breedings being usual and individually practised extensively.

The managerial efficiency evaluation led us to the determination of the global technical efficiency (69.77%) and pure technical efficiency (18.22%). That permits to know the rate of the inefficiency of scale (16.74%). Community system in Korhogo represents the most favourable environment and the individual system characterises the most unfavourable environment.

We can recommande all initiatives in favour of the popularisation of the community stock breeding system.

Keywords: Bovine, Côte d'Ivoire, DEA