**Tropentag, September 17-19, 2018, Ghent**

"Global food security and food safety:
The role of universities"

# Agroecology as a Pathway to Build up Sustainable Food Systems - Experiences from the Semiarid Regions in Brazil, India and Senegal

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**Abstract**

Agroecology has much to offer to the more than 500 million smallholders worldwide. Despite the socio-economic and environmental challenges that smallholder farmers face, they play a unique role and pose immense potential for constructing more sustainable food systems. Increasingly, elements of stewardship, mitigation, approaches embracing sociocultural diversity and biodiversity, and sustainable and dignified livelihoods are all coming together under the heading of agroecology.

To assess the potential of agroecology for smallholders in semi-arid regions, the cooperation agency MISEREOR conducted three country studies together with local NGOs from Brazil (Centro Sabiá), India (SSP) and Senegal (Enda Pronat). The studies compared farmers adopting agroecological practices with a control group (non-adopters). Per country, about 200 agroecological farmers and 200 farmers from the control group were interviewed. The main field phase of the first study started in India in April 2016, the second study followed in July in Brazil and the third study was conducted in March 2017 in Senegal. After the field phase, the data was analysed and the preliminary results were discussed at country workshops with farmers on site.

The studies provided consistent information that farmers working under agroecological approaches are performing considerably better than their peers. In all countries, agroecological farmers produced more food than the control group and had an increased yearly income. Such production also reflects on food security, as the first group presented better results for food self-consumption and a more diverse diet (percentage of increase in the value for self-consumption in comparison to control group: Brazil: 100 %, India: 67 %, Senegal: 14 %). Therefore, the families need to buy less food on the market and are less vulnerable to volatile food prices. Also, earnings from selling agricultural produce increased considerably: in Brazil 177 %, India 79 % and Senegal: 36 %. The poorest households benefitted most from increased incomes.

In sum it is possible to sustain that agroecological systems have a promising potential in rural development and are 'pro-poor', particularly if oriented to vulnerable populations living in regions susceptible to climate change impacts.

**Keywords:** Agroecology, climate change, resilience, rural development

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