Tropentag 2023

International Research on Food Security, Natural Resource Management and Rural Development

Competing pathways for equitable food systems transformation: trade-offs and synergies

Book of abstracts

Editor: Eric Tielkes

Editorial assistance: Janna Pfister

Impressum

Bibliografische Information der Deutschen Nationalbibliothek
Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detailierte bibliografische Daten sind im Internet über http://dnb.ddb.de abrufbar.
1. Aufl. - Göttingen: Cuvillier, 2023
Tropentag 2023: Competing pathways for equitable food systems transfor-mation: trade-offs and synergies Tielkes, E. (ed.) - Witzenhausen, DITSL

Steinstrasse 19, 37213 Witzenhausen
Telefon: 05542-6070
https://www.ditsl.org

Online-Version: http://www.tropentag.de/

Nonnenstieg 8, 37075 Göttingen
Telefon: 0551-54724-0
Telefax: 0551-54724-21
www.cuvillier.de

1. Auflage, 2023
Gedruckt auf umweltfreundlichem, säurefreiem Papier aus nachhaltiger Forstwirtschaft.
ISBN 978-3-7369-7880-5
eISBN 978-3-7369-6880-6

Practising agroecology strengthens farmers' perceived ability to cope with climate change

Amritbir Riar[1], Alexander Heer[1], Rajwinder Riar [1], Leone Ferrari[1], Tanay Joshi[1], Ibrahim Hamadou[2], Veronica Massawe[3], Jous Clément[4], Etienne Basset[5], Monika Messmer[1]

[1]*Research Inst. of Organic Agriculture (FiBL), Switzerland*
[2]*University of Bern, Inst. of Plant Sciences, Switzerland*
[3]*SWISSAID Tanzania, Tanzania*
[4]*SWISSAID Chad, Chad*
[5]*SWISSAID, Switzerland*

Integrating agroecological practices into farming systems can improve farming systems' resilience, but reported effects vary across geographies and production systems. Enhancing the resilience of farming systems by introducing new agroecological practices comes with positive and negative tradeoffs. Farmers' decision to adopt new agroecological practices or additional agroecological practices is driven by factors such as other resource availability and/or return on investment. In addition, farmer decisions are sometimes driven by motivational factors rather than return on investment. We hypothesise that farmers' awareness about their ability to cope with climate change is correlated with the number of agroecological practices followed by farmers. To assess the farmers' perception of their ability to cope with climate change and which agroecological practices they followed, we surveyed 3038 farmers in rural regions of Chad, India, Niger, and Tanzania. Survey questions were standardised in preliminary focused group discussions with farmers and other stakeholders. Individual interviews were conducted with the respondents chosen through systematic sampling, irrespective of their farming practices or other demographic factors. Correlations between agroecological practices, gender, and the farmers' perspectives on climate change were investigated using the FactoMineR package in R. The share of female farmers' participation in the survey was 50.0 %. Prevalent production systems in the regions are rainfed and organic by default. Thus, most farmers mentioned a change in rainfall patterns as the most challenging adverse climate change in past years, followed by more disease incidences, increased temperatures, and droughts. Crop rotation, Intercropping, mulching, and crop diversification are the leading agroecological practices for farmers in the regions. About 70 % of farmers in the regions perceive that they cannot cope with climate change. Farmers' perception of their ability to cope with climate change strongly correlates with the number of agroecological practices they follow. On average,

Contact Address: Amritbir Riar, Research Inst. of Organic Agriculture (FiBL), International Cooperation, Ackerstrasse 113, 5070 Frick, Switzerland, e-mail: amritbir.riar@fibl.org

the perceived ability to cope with climate change was high for the farmers who practised one more agroecological practice than fellow farmers. This signifies the importance of integrating agroecological practices into farming systems to enhance their ability to cope with climate change. More country and gender-segregated results will be present to help site-specific decisions making by practitioners and policymakers.

Keywords: Agroecology, biophysical and socio-economic factors, climate change