Potential of crop diversification of organic cotton-based farming systems in India to increase farmers livelihoods

Background
• Continuous trends towards specialization in cotton-based farming systems in India
• Strong dependency of farmers on cotton production for income generation
• 47% of global organic cotton production stems from India
• > 220,000 ha
• > 140,000 farmers, mostly small-holders (< 2 ha) ¹

Aim
To assess the agronomic, environmental and economic benefits of different crop diversification options, through crop rotations and intercropping, for organic-cotton farmers in India to increase their livelihoods

Methods
We applied a mixed methods approach: a situation analysis (problem tree method), a literature review (scientific publication, government data and recommendations, extension service publications), and a strong focus on stakeholder involvement through interviews (>40 participants) and workshops.

Results
• Different crop combinations for a two year crop rotation are suitable for organic cotton-based farming systems:
  1. year: Cotton – Legume
  2. year: Legume/Cereal/Oilseed – Legume/Cereal/Oilseed

Challenges
• Risk bearing capacity of farmers
• Know-how to manage multi-cropping systems
• Little produce amount – pooling is required to reach marketable quantities
• Infrastructure to link farmers to markets is missing
• Lack of market opportunities for organic produce

Conclusion
• Different suitable crop combinations
• More know-how needed on the management of multi-cropping organic-cotton based systems
• Potential of crop combinations is determined by farm performance and price
• To positively contribute to farmers’ livelihoods market access needs to be granted
• Action from all stakeholders is needed

Figure 1: Major organic-cotton producing states in India. Comprising more than 80% of total Indian organic cotton production ¹

Figure 2: Benefit cost ratio of different crop rotations suitable for organic cotton-based farming systems ²,³

Literature
³ Systems Comparisons Trial in the Tropics (SysCom) unpublished data

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