Parasitic weeds in smallholder rainfed rice production

Parasitic weeds in rainfed rice production form a complex problem and threaten income and food security of smallholders in sub-Saharan Africa. Addressing complex agricultural problems requires:
- Understanding technological and non-technological problem dimensions
- Coordinated action across different levels
- Involvement of different actors and organisations

Rapid Appraisal of Agricultural Innovation Systems (RAAIS)

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Study sites and methods

RAAIS was applied across three study sites where parasitic weeds in rainfed rice are eminent (Fig. 1).

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RAAIS and parasitic weeds in rainfed rice

The RAAIS analysis of parasitic weed problems in rainfed rice production in Tanzania revealed:

1. Institutional constraints: E.g. parasitic weeds in rice receive little attention in agricultural research, extension and education. Consequently, parasitic weeds in rice are unknown to the majority of crop protection and extension officers.

2. Sectoral constraints: E.g. farmers generally access rice seed through informal seed systems. Parasitic weed seeds can easily spread through these informal seed systems. Access to high quality inputs and services is problematic.

3. Technological constraints: E.g. crop protection strategies focus on pest and disease control, not on weed prevention which is essential for addressing parasitic weed problems.

Opportunities for innovation

Technological and non-technological innovations are essential for effectively addressing parasitic weed problems in rainfed rice production. Promising entry points for non-technological innovation include:
- More structural attention for parasitic weeds in agricultural research, extension and education
- Improved informal rice seed systems
- Multi-level coordination of agricultural inputs and services provision to farmers

More information:
Email: marc.schut@wur.nl
Website: www.parasite-project.org