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Assessing socio-economic impacts of parasitic weeds in rain-fed rice systems of Sub-Saharan-Africa


PARASITE project mid-term workshop
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Overview of PhD 3 project

1. Background PhD3 project
2. Project proposal
3. Research activities
4. Research Highlight
5. Difficulties
6. Updated proposal
7. Way forward

Background/Problem

- Rice consumption is steady increasing in SSA
- The highest share of locally consumed rice is imported
- Rice is becoming important strategic crop for food security in SSA
- Since 2008, increasing investment for domestic rice production
- Investment efforts are undermined by many constraints
- Constraints are grouped in biotic and abiotic



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Justification/Problem

- In rice production the most important constraint is weeding
- Among weed invading crops, the most important and damaging are the parasitic weeds
- Infestation of rain-fed rice fields by parasitic weeds reduces rice yield, farmers revenue and increases production cost
- However, to date, no reliable economics statistics on parasitic weeds infestation is available for SSA
- As a consequence, the level of awareness among rice stakeholders (farmers, extension services, decision-makers) is still relatively low



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PhD3 research, **Objective**

- Assess the economic and social impact of *parasitic weeds* and the control strategies in order to provide any further guidance for decision-making both for rice farmers, researchers and policymakers in weed management strategies development



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PhD3 research, **Sub-objectives**

- SO1. Assess current status of parasitic weeds infestation problem and coping strategies in rain-fed rice system
- SO2. Identify the key factors explaining the risk of parasitic weed infestation of rain-fed rice fields and the infestation severity
- SO3. Assess the efficacy of various weed management strategies used by rain-fed rice farmers and factors affecting the efficiency
- SO4. Assess the impact of parasitic weed infestation on rice yield, production cost and labour demand



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Research activities highlights

- TSP,
- PhD courses
- Research Proposal (1)
- Baseline survey in Benin, Cote d'Ivoire and Tanzania
 - Survey instruments
 - Collection of field data, farmer and community based data
- Data analysis and modelling and report
- Progress reports (quarterly)
- Conference papers/posters/workshop (2)
- Manuscripts writing and publication (4)
- Dissertation writing and publication (1)
- Thesis defence (1)



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Work progress

Activities	Period	status	Observation
TSP		Done	TSP submitted and approved
PhD courses	2011 and 2013	Done	Minimum requirement of TSP is achieved
Research Proposal		Done	Submitted and approved since 2011
Baseline survey	2011-2012	Done	Not all data collected for 3 countries
Benin	Oct 11-Jan 12	Done	All data collected
Cote d'Ivoire	Nov-Dec 12	Done	Under supervision of Louise Community base data not collected
Tanzania		Done	Implemented by Kayeke Field data not collected
Data analysis and modelling	2012-2013	On-going	Descriptive done for Benin Descriptive and modelling in progress for CI by MSc Students
Progress reports	Quarterly	update	4 progress report and 7 trip reports (5 Benin+2 Cdl) completed,
Manuscripts	2012-2014	In-progress	Paper1 circulating, Paper2 draft in progress, Paper3, analysis in progress and paper4 not started
Conference papers/posters	2013-2014	in progress	1. 12 th WC on PP 15-20 July-13, Sheffield, UK 2. 3 rd AfricaRice Congress, 21-24/10/13, Yaoundé, Cameroon 3. 1 st Int Conf Global Food Security, 29/09- 2/10-13, Netherlands
Workshop/PhD presentation	2011-2014	Done	3 PhD presentations, 2 workshops done



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Research Highlight

- Approved TSP [and](#) updated TSP
- Approved research proposal [\..\..\Working Files\Proposal\WASS Project proposal N'Cho June2011.pdf](#)
- Survey instruments, Benin, CI, Tanzania
- Enumerator guide
- Trip reports, Benin
- Trip reports Cote d'Ivoire
- Progress report
- Community base survey report, Benin
- Descriptive analysis report, Benin
- Revised Paper1, to be submit to Agricultural system
- Draft paper2
- Draft MSc thesis



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Difficulties

- Time constraint
 - Work load (many issues)
 - Cropping season overlap between Cote d'Ivoire and Benin
- Difficulties to implement baseline survey in Cote D'Ivoire (time, human resource and budget constraint)
- Data constraint
 - Few information gathered on social impacts
 - No field data were collected for Tanzania
 - Field data are un-complete for Cote d'Ivoire (data collection started late in the season)
 - Could not collect 3rd data year based on the PhD2 activities
- Budget limitation



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Updated PhD3 proposal

- The thesis book is focused only on Benin
- For PARASITE project report:
 - From Cote d'Ivoire data analysis with MSc students, two papers will be published independently from the current thesis in collaboration with Louise Akanvou
 - Tanzania data will be (re) entered in Access and descriptive analysis will be done



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Expected chapters of the thesis

- Chap1: General introduction
- Chap. 2: Farmers' perception and knowledge of parasitic weeds and choice of coping strategies
- Chap3. Factors affecting parasitic weeds infestation in lowland rain-fed rice systems : the case of *Rhamphicarpa fistulosa* in Benin
- Chap4. Assessing the efficiency of weed management strategies and factors affecting the efficiency
- Chap5. Assessing the impact of parasitic weed infestation on rice yield, production cost and labour demand
- Chap6. General conclusion



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Way forward & Timeline

PhD Project: Simon N'cho	Jan,13	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan,14
1. Data Analysis													
Baseline survey, Cote d'Ivoire													
2. First manuscript (Modelling infestation and severity)													
Paper revision and submission													
3. Second manuscript (Farmers perception& coping strategies)													
Review of literature													
Community /baseline data analysis, Benin													
Writing of paper													
4. Third manuscript (Efficacy of farmer)													
Survey data analysis, Benin													
Efficiency, bootstrap truncated regression													
Writing of paper													
4. Fourth manuscript (Impact assessment)													
Modelling impact on yield, production cost and labour demand													
Writing of manuscript													
5. Courses													
Writing and presenting Scientific papers													
Writing a grant proposal													
6. Seminars / Conferences and workshops													
International conferences													
PARASITE project Workshop at Dar-Es Salam, Tanzania													
Seminars													
2 Presentations at PhD Discussion group													
7. Dissertation compilation													



Thank you!

Merci!

