

Collective Action Effects on Farm Productivity and Efficiency of Rice Producers in Vietnam

Deutsche
Forschungsgemeinschaft

DFG

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¹ RTG 1666: “GlobalFood” - Transformation of Global Agri-Food Systems,

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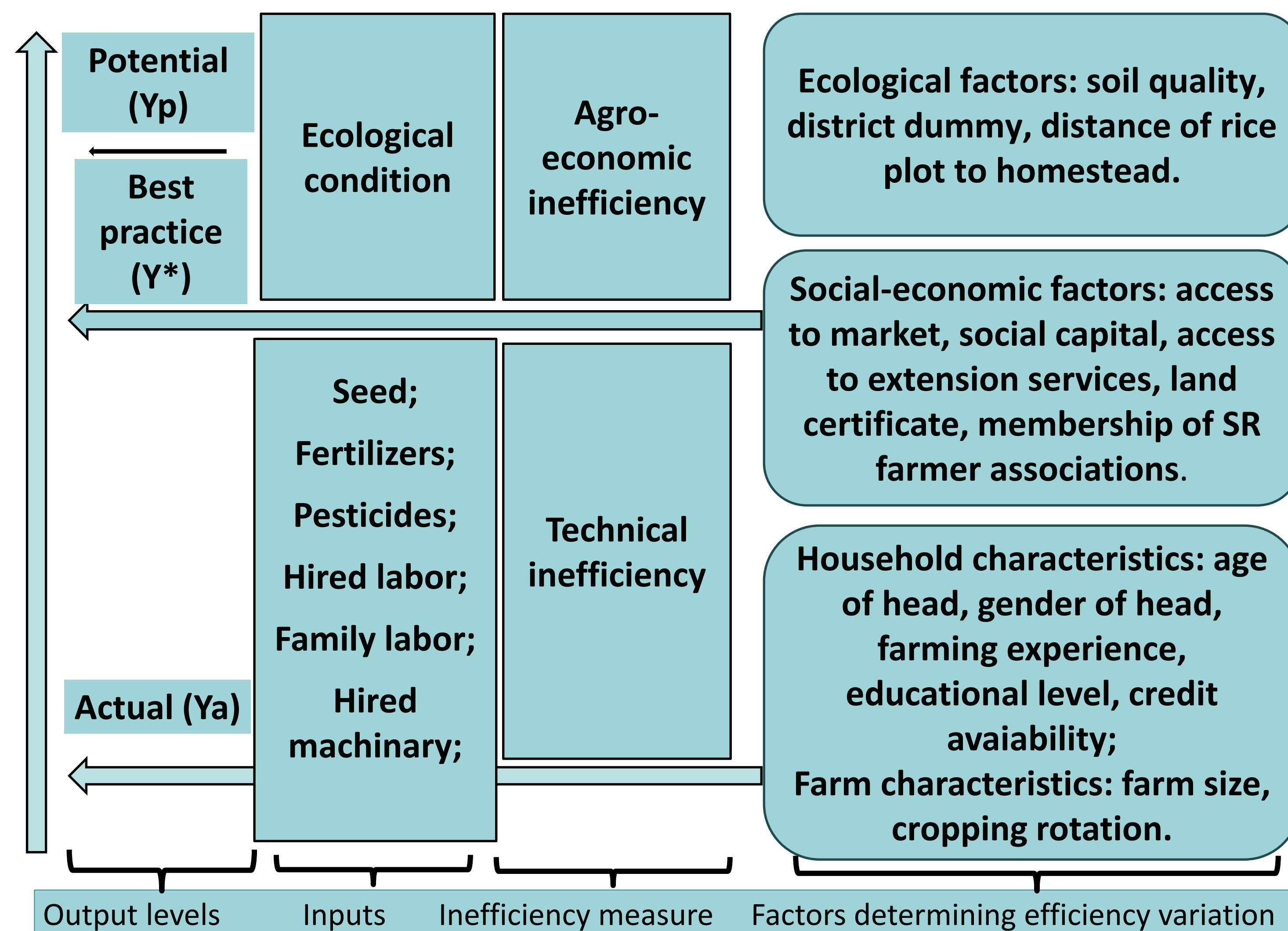
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Introduction

- Rice is the staple food to more than a half of the world’s population;
- Increasing rice productivity might be a suitable tool for reducing poverty and food insecurity;
- There is no study proving the effect of collective action through farmer associations for the Vietnamese rice sector.

Novelty and analytical framework

- To contribute to the body of literature on the role of collective action in agricultural production in developing and transition countries;
- To contribute to the improvement of rural livelihood and food security in Vietnam;
- Analytical framework adapted from Hoang (2013).



Materials and Methods

- Household survey was conducted in the Red River Delta (RRD) of Vietnam from October to December 2014;
- 280 specialty rice (SR) farmers were randomly chosen from 18 villages and surveyed using a structured questionnaire;
- Applying stochastic frontier analysis to measure technical efficiency (TE); using a translog model, Coelli et al. (2005);

$$\ln y = \beta_0 + \sum_{n=1}^N \beta_n \ln x_n + \frac{1}{2} \sum_{n=1}^N \sum_{m=1}^N \beta_{nm} \ln x_n \ln x_m + v_i - u_i$$

- TE measured by Y_a divided by Y^* ($TE = \frac{Y_a}{Y^*}$)

(Y_a - actually observed output; Y^* - the best practice output level);

Result and discussion

- The TE of SR farmers in the RRD region can be increased by 30% at the current input level and technology;
- The magnitude of effects of SR association membership on TE is rather small, by 9.4%;
- Higher labor costs have significant positive effect on SR yield whereas other input costs have negative effect.
- Sociodemographic characteristics significantly influence TE.

Technical efficiency scores for specialty rice producers

TE score	N	Mean	Var	SD	Min	Max
Full sample	280	0.771	0.009	0.095	0.504	0.978
Members	170	0.794	0.008	0.090	0.534	0.978
Non-members	110	0.736	0.008	0.091	0.504	0.945



Policy implications

- To support SR farmer associations by training farmers on best production practices, reducing transaction costs in production and marketing of SR, up scaling adoption of SR varieties and stabilizing TE in SR production;
- To support SR farmer associations based extension services and improving access to productive inputs such as quality seeds, fertilizers, and pesticides.

Acknowledgement

The authors acknowledge financial support from the Stiftung Fiat Panis, Göttingen Graduate School of Social Sciences (GGG), and the German Research Foundation (DFG). We are also grateful to the Center for Agrarian Systems Research and Development (CASRAD/FCRI), Rural Development Center (RUDEC/IPSARD) and Hung Vuong University (HVVU) for their support in fieldwork coordination.

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