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**An analysis of a bean seed distribution experiment and  
estimation of willingness to pay for improved bean  
seeds in Madagascar**

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Hohenheim, June 2015

M.Sc. Organic Agriculture and Food Systems

This work was financially supported by the Foundation fiat panis and Stiftung  
Energieforschung Baden-Württemberg.

## **Abstract**

Madagascar is facing exacerbated poverty and food insecurity especially in rural areas due to low agricultural productivity, low household incomes as well as climate hazards. Malnutrition is prevalent and calories are mainly obtained from staple food such as rice and cassava which leads to widespread hidden hunger.

In 2013, in the framework of an ongoing research project in the province of Fianarantsoa, seeds called "Morombe", an improved variety of the bean *Pois du Cap* (*Phaseolus lunatus*) were distributed. A randomized treatment control design was used in which 170 randomly selected households out of the total panel of 354 households received the beans. Out of the selected households 99 were randomly chosen and given information on how to store, sow and cultivate the beans. Existing panel data since 2009 was used to supplement the obtained data from the household survey and focus group discussions and to analyse the adoption process. Adoption of this new bean, in cultivation and consumption, could contribute to a less extended lean period between rice harvests, lead to a more diversified diet with higher nutritional quality and higher agricultural income, due to higher yields.

Via the contingent valuation method the willingness to pay (WTP) for these improved bean seeds was investigated by asking respondents to state how much they would be willing to pay for improved bean seeds with the help of a payment card. A regression analysis was applied in order to analyse the variables influencing the WTP. The variables found influencing WTP were: the households' willingness to take risk, age of household head, amount of total assets, knowledge about the seed quality of the agricultural companies and about the seed market, the purchased price for beans and the amount of bean types the households cultivated.

Cultivation of the distributed bean seeds was rather low, only 54% of the 170 households that received bean seeds cultivated them. There were problems with storage and cultivation and cultural taboos might have impacted adoption as well. The average WTP for improved bean seeds is about 42% higher than for beans purchased on the local market.