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Distribution Experiment and Estimation of Willingness to Pay for Improved Bean Seeds in Madagascar

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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 from an improved variety called “Morombe” for the bean *pois du cap* (*Phaseolus lunatus*) have been distributed to households. Adoption of the beans could contribute to a less extended lean period between rice harvests and to a more diversified diet with higher nutritional quality and/or higher agricultural incomes since higher yields might increase selling of the beans.

To analyse the adoption process, we used a randomised treatment control design in which 168 randomly selected households out of the total panel of 354 households were receiving the beans. Of those receiving, 99 randomly selected households were given information on how to store, plant and cultivate the beans.

Existing panel data since 2009 is used to supplement the data on treatment and control households at the time they received the seeds and one year later. 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. A regression analysis is applied in order to analyse the variables influencing the WTP.

Adoption is rather low since the variety has not been cultivated in the area before, 55 per cent of the 168 households that received beans planted them. Preliminary results show that the WTP for improved bean seeds is higher than the price of beans purchased on the local market. This might arise from the fact that households were explained the benefits of improved bean seeds like higher yields, no need to sort seeds for cultivation, higher resistance against pests, diseases and drought. Determinants for the WTP are expected to be wealth, willingness to take risk, education and if the households received bean seeds and information.

Keywords: Food security, hidden hunger, improved bean seeds, Madagascar, Pois du Cap, willingness to pay