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Willingness to Adopt New Storage and Conservation Technologies: Case of Farmers from North-central Benin

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Abstract

The aim of the study is to use the joint analysis methodology, especially that of discrete choices to identify the attributes of storage structures sought by maize farmers. Experimental processes took place in the maize production areas of northern and central Benin. The sample consisted of 365 maize farmers (80.55 % of which were male and 19.45 % female) randomly selected from 40 villages. The collected data was analysed using the latent class logit model to study the heterogeneous preferences for key attributes of the storage structures. The results show that men and women are ready to change their current practices and adopt new storage technologies. The study identifies four (4) potential producer segments, including three (3) large farmers segment that have access to credit and are particularly attracted to structures related to metal silos. Of the three (3) segments, two (2) are also attracted to improved traditional silos. Another segment of poor farmers who do not have access to credit prefer to have a very efficient structure (loss rate inferior to 5 %) that will be designed with local materials. Preferences were heterogeneous regarding the capacity of the structures. Structures allowing the conservation of maize grain for a period exceeding four (04) years are highly sought. They were comfortable with the idea of a willingness to pay (WTP) to get highly efficient structures in terms of reduction losses, conservation stock and obtained good quality of maize. The study suggests that knowledge of the heterogeneity of preferences, as well as the preferred attributes, are important for the development and dissemination of better technologies by agribusiness firms, institutions and policymakers.

Keywords: Attributes, Benin., grain storage and conservation structures, joint analysis, latent class logit model, maize, mixed logit, preferences, willingness to pay

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