

Index-based insurance: a new tool to control vector-borne diseases under climate change in West Africa ?

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From all agro-ecological zones of West Africa, sub-humid zone is the one with the greatest potential of livestock production. However, animal diseases represent the major constraint to livestock production and intensification, in particular vector-borne diseases such as animal trypanosomosis. Furthermore, it is well acknowledged that climate change will impact the distribution and prevalence of vector-borne diseases and thus will increase the risk of diseases. There are many tools available to livestock keepers to manage the risk of livestock diseases among which the use of better livestock management practices and the use of indemnity based insurance contracts. The main problem is the difficulty to combine these two coping mechanisms. In fact, individual insurance is known to diminish the effort of livestock owners to save their animal since they can be compensated for any loss. Therefore, in order to cope with the increasing risk of livestock vector-borne diseases due to climate change, there is a need to develop an ex-ante risk management mechanism that can compensate herders in case of loss and encourage them to improve their management practices. Index insurance has the potential to be such a tool and the purpose of this paper is to investigate the feasibility of index-based insurance to control vector-borne livestock diseases under climate change. In this paper, we will present the steps to develop an Index-Based Animal Disease Insurance (IBADI) and we will discuss the index-based insurability of vector-borne livestock diseases and animal trypanosomosis in particular. A framework based on epidemiological modeling and remote sensing data will be used in order to reduce the basis risk and provide a scalable contract. We will conclude by the limit of this research and how this work can be extended and improved. In the context of animal health on developing countries, these types of index insurance products have not been yet adapted to hedge against the risk of disease and the implementation of such financial products represents therefore an exciting methodological challenge.

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