Senegal - Building Resilience and Adaptation to Climate Extremes and Disasters 2019

Initiative Prospective Agricole et Rurale (IPAR)

Report generated on: August 19, 2021

Overview

Identification

ID NUMBER
SEN_2019_BRACED_v01_EN_M_v01_A_OCS

Overview

ABSTRACT
This study is part of the policy dialogue on the issue of index-based livestock insurance for pastoral and agro-pastoral livestock in Senegal. Its objective was to provide a representative assessment of livestock farmers' perceptions of insurance in general and of potential index-based livestock insurance in particular.

To this end, different potential insurance offers were proposed to herders to enable them to decide on the amounts they are willing to invest in them. The contingent valuation method was used for this purpose. The results showed that the risk of rainfall deficits (delayed rains and insufficient rains in general) is the main risk that farmers feel they face. This is also the risk they would like to have index insurance for. Knowing that this type of risk is insured by CNAAS in the framework of index insurance for farmers and that for nearly seven years indexes have been designed in the framework of the development of these types of products, this provides an interesting opportunity for pastoral livestock. Indeed, all the knowledge gained from the development of index-based crop insurance products could also be mobilised to develop an index-based livestock insurance product by making economies of scale. In addition, in our study, we used as an example of an index insurance product during the explanations provided to farmers, a product whose index is linked to the level of development of the grass cover and which would reimburse in the event of a rainfall deficit without being based on the verification of damage to the herds, but on the rainfall. Most farmers preferred such index insurance to conventional insurance, which would require verification per head of livestock.

Finally, although theft of livestock was identified as an important risk, and often ranked second only to the risk of rainfall deficits, for the time being there is no consensus between CNAAS and the farmers on the possibility of covering it through a specific insurance product. Even if they need to be complemented with other qualitative studies, our results support the position of those stakeholders who believe that index-based livestock insurance is feasible and relevant for pastoral and agro-pastoral livestock. However, challenges remain and answers are still needed on major issues. Among these challenges, the question of how to design the indices in such a way as to embrace the mobility of livestock in the products that will be offered remains the most important.

KIND OF DATA
Sample survey data [ssd]

UNITS OF ANALYSIS
Households

Scope

NOTES
The scope covers the following topics:

- living conditions and assets owned by households

- the demographic characteristics of the household

- risks and coping strategies

- investment and income from livestock

- livestock numbers

- income

- knowledge and familiarity with insurance

- perception of the usefulness of insurance

- willingness to pay for index insurance.

Coverage

GEOGRAPHIC COVERAGE
National coverage.

The counties that were selected given the time and budget constraints of the study are:

- Dagana and Podor in the Saint-Louis region,

- Ranérou in the Matam region,

- Linguère in the Louga region, and

- Koumpentoum in the Tambacounda region.

The survey is representative of the six zones identified as being the predominantly pastoral agro-pastoral zone, the predominantly agricultural agro-pastoral zone, the livestock fattening and trading zone, and the transit zone.

UNIVERSE
The survey covers livestock keepers identified within households and resource persons who are either representatives of livestock keepers' organisations, staff of technical livestock services, staff of projects and programmes working in the pastoral field, or large-scale livestock keepers in the target areas.

Producers and Sponsors

PRIMARY INVESTIGATOR(S)

Name	Affiliation
Initiative Prospective Agricole et Rurale (IPAR)	

FUNDING

Name	Abbreviation	Role
BRAIST		

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
National Agency for Statistics and Demography	ANSD	Ministry of Economy, Planning and Cooperation	Metadata producer
Office of Chief Statistician	OCS	Food and Agriculture Organization	Metadata adapted for FAM

DDI DOCUMENT VERSION
SEN_2019_BRACED_v01_EN_M_v01_A_OCS

DDI DOCUMENT ID

DDI_SEN_2019_BRACED_v01_EN_M_v01_A_OCS_FAO

Sampling

Sampling Procedure

All the pastoralist communes identified in the 5 counties are divided into 6 strata. Each stratum comprises a group of communes. The strata are defined according to the type of livestock farming (pastoral zone, predominantly pastoral agro-pastoral zone, predominantly agricultural agro-pastoral zone, fattening and livestock trade zone, transit zone). Thus, we chose a three-stage random sample in each of these six (6) defined strata.

- First stage
In the first stage, a sample of 15 communes corresponding to the primary units is drawn at random and distributed proportionally to the number of communes in each stratum.

- Second stage
In the second stage, a sample of 60 villages is drawn at random, with 4 villages in each commune. Let mih be a sample of villages drawn in commune i of stratum h (mih = 4 in the case of our study) is the probability of inclusion of the master villages. It should also be noted that if a selected village has fewer than 5 households, is difficult to access or is not found by the interviewers, then it had to be replaced. Thus, replacement villages were drawn and sequenced since they had to be selected progressively in case a village had to be replaced in a commune.

- Third stage
In the third stage, the list of households in each village drawn allows the agents to select a systematic sample of households. This consists of drawing 5 households in each sample village. Before proceeding with the draw, a list of households in the village is necessary to allow a random selection of sample households. The selected heads of households are then interviewed for the survey.

Response Rate

100%

Questionnaires

Overview

Questionnaire Livestock index insurance in Senegal: perception and willingness to pay of livestock farmers.

The information collected concerned the socio-demographic characteristics, agricultural and socio-economic activities of livestock farmers.

Data Collection

Data Collection Dates

Start	End	Cycle
2019-08-01	2019-08-12	N/A

Data Collection Mode

Face-to-face paper [f2f]

Data Collection Notes

Our data collection was carried out by first recruiting and training the interviewers, and then mobilising them in the field for a period of 6 days. We then carried out a remote control based on the data collected daily and the GPS coordinates collected automatically.

Training and deployment of interviewers

Firstly, for the recruitment of interviewers, we identified a group of 12 interviewers with the following characteristics:
- Each of them had at least 7 years of survey experience;
- Each spoke the most common Fulani dialect in the area correctly;
- Each was almost 100% ethnic Fulani, so they were able to establish a relationship of trust with the respondent;
- Each had already carried out at least one survey in a pastoral environment, during which questions on the size of the herd were asked.

After recruiting the interviewers, we trained them over a two-day period. During these two days, we shared with them the objective of the study, the principle of index-based agricultural insurance, its methodology in terms of contingent valuation of willingness to pay and the identification of the person to be surveyed in the household after having identified the household to be surveyed. The questionnaire was converted into a data collection application or electronic questionnaire. This application was tested on the last day of training through simulated survey exercises that also allowed for the oral translation of all questions into Fulani. This exercise enabled the understanding of the questions to be harmonised between the interviewers to reduce the risk of discrepancies in the explanations given to the farmers.

The stages of the training were as follows:
- Detailed explanation of the methodological aspects;
- Presentation of the objectives of the survey;
- Silent reading of the paper questionnaire "Survey Yourself": in this exercise the agents, while reading the questionnaire, play the role of both the interviewer and the respondent. This pedagogical exercise allows the interviewers to ask themselves different questions even before reading the questionnaire in plenary;
- Reading the questionnaire, question by question;
- Training of interviewers on smartphones and the collection application;
- Translation of the questionnaire into the local language (Pulaar);
- Paired survey: during this exercise, the interviewers will be paired up; one agent plays the role of the interviewer and the other plays the role of the respondent. Then the roles are reversed.

Coordination of surveys and data control

After the training, the teams were divided into groups of four people. In each team, there were three interviewers and a supervisor responsible for coordinating the team's actions and reporting regularly on the field situation to the study coordinator and statistician who are based in Dakar. As 15 communes were chosen for the surveys, they were divided into three, with five communes to be surveyed per team. To give each team freedom of movement, a vehicle with a driver was provided for each team. Mission orders and letters of introduction to be presented to the local authorities were also made available to them to facilitate their first contact with the local population and to have elements of proof of their good faith.
The team supervisor was responsible for reporting to the statistician in charge of the survey and the survey coordinator any difficulties or issues identified in the execution of the survey by their team. The team's statistician ensured that the data were reported daily and, on the basis of this, debriefed the supervisors on the quality of the data collected. The data collected through the tablets was uploaded via the Internet to a web platform set up for this purpose. The technology we used for mobile data

collection is called ODK Collect. It is a suite of tools that allows data to be collected using mobile devices such as smartphones and/or tablets (running Android) and to submit the same data to an online server.

Questionnaires

Questionnaire Livestock index insurance in Senegal: perception and willingness to pay of livestock farmers.

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Data Processing

No content available

Data Appraisal

Other forms of Data Appraisal

Checks on the application allowed the identification of implausible information.

The control of the data was done at several levels:

- firstly, at the level of the collection application, a number of checks were integrated on the limit of the range of quantitative variables, on the filters, etc.
- then, before sending the data, the supervisors went through all the questionnaires with the interviewers to ensure the quality of the responses (completeness, consistency)
- Finally, quality control also consisted of structural and consistency checks and then the reconciliation and correction of the data files using STATA. It should also be noted that the GPS coordinates made it possible to verify that the villages and communes chosen were really those covered in the field.