

# **Introducing risk management tools to a large-scale agricultural development programme in Senegal**

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**Process evaluation report**

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## About 3ie

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## About this study

This process evaluation was submitted in partial fulfilment of the requirements of grant TW13.I.1049 awarded under Agricultural Insurance Evidence Programme. This version of the report is technically sound and 3ie is making it available to the public in this final report version as it was received. No further work has been done.

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## Summary

This report concerns the process evaluation of index-based insurance take-up by producers grouped into associations in two regions of Senegal: Tambacounda and Kolda. In 2014, farmers in Koumpentoum, in the Department in the Tambacounda in Senegal, suffered major harvest losses due to a period of drought. Following the requests of Producer Organizations, PADAER with support from the IFAD's Weather Risk Management Facility (WRMF), considered whether a weather-indexed insurance could be introduced into the package of services offered to Producer Organizations so as to better control the risks incurred on the main cereal crops due to climatic conditions. The main objective of the research is to evaluate the effectiveness of the crop insurance implementation mechanism, in order to determine ways to improve this risk management tool, as integrated in the service package. The question is whether the various steps of implementation, including raising awareness about the existence of this type of insurance, its marketing, sales quantities, and claims handling and management, require an improvement to overcome the challenges PADAER identified during the pilot stage. The ultimate objective is to improve the living conditions of farmers who subscribed to a crop insurance policy.

A process evaluation aims at checking whether implementation was carried out as planned. The quasi-experimental method known as Propensity Score Matching Method is used to determine the impact of the take up of the index-based insurance on agricultural investment, income source diversification and farmer's annual income. Various interviews were carried out, both with major stakeholders as well as 1441 farmers from 131 Producer Organisations. The key findings drawn from this study are: The payouts are not given in a timely manner and the implementation model is not constant across the two regions of Tambacounda and Kolda. Various challenges with program implementation and delivery includes farmer's lack of understanding or awareness of how insurance and especially pay-out computation works. Additionally, the delay in payout after the last cropping season from 2016-2017 discourages some farmers. The take-up during the 2015-2016 cropping season was 22% while the take-up during the 2016-2017 cropping season was 41%. In the sample, 916 respondents confirmed that they were introduced to PADAER insurance. Variables which determined the decision to take up the insurance in 2016 included: Location by region, type of commune (from 5 types), frequency a farmer gets his/her information from television, access to medicine in the last 12 months, and happiness level in the last 12 months. The impact of insurance take up on insured farmers' investment resulted in 10,79 F CFA on average in 2016-2017. Further, the impact of insurance take up on the insured number of source of diversification was -0.26 on average in 2016-2017. Furthermore, the impact of insurance take up on the insured farmers' annual income resulted in the average of 816,981 F CFA during the 2016-2017 cropping season. At the end of the study, several recommendations were made for PADAER: Communication must be reinforced to better inform producers of the index-based crop insurance product's characteristics; It is crucial that the activity schedule is followed and the subscription and compensation periods adjusted to meet producers' expectations; We also suggest further study be done on the behavior of Producer Organizations who have left PADAER's degressive subsidy system. We would also recommend redefining the insurance period sequence into two phases. It is important to extend the insurance to be continuous from seeding to harvest? It is necessary to reflect on the possibility of trying out harvest-based insurance. It will also be important to assess the long term impact of index-based insurance on producers' livelihoods.

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## **Abbreviations and Acronyms:**

ANACIM	:	Agence Nationale de l'Aviation Civile et de la Météorologie
ANCAR	:	Agence Nationale du Conseil Agricole et Rural
BAMTAARE	:	Base d'Appui aux Méthodes et Techniques pour l'Agriculture, les Autres Activités Rurales et l'Environnement
CNAAS	:	Compagnie Nationale d'Assurance Agricole du Sénégal
CREA		Centre de Recherches Economiques Appliquées
IFAD	:	International Fund for Agricultural Development
IRI	:	International Research Institute for Climate and Society
ISRA	:	Institut Sénégalaise de Recherche Agronomique
PADAER	:	Programme d'Appui au Développement Agricole et à l'Entreprenariat Rural
PO		Producers Organisation
WFP	:	World Food Program
PG	:	Planet Guarantee

## **1. Introduction**

This report concerns producers grouped together into associations in two regions of Senegal: Tambacounda and Kolda. In 2014, farmers in the Koumpentoum Department in the Tambacounda region of Senegal suffered heavy harvest losses due to a period of drought. Following requests from Producer Organizations, PADAER with support from IFAD's Weather Risk Management Facility (WRMF) considered whether a weather-indexed insurance could be introduced into the package of services offered to Producer Organizations so as to better control the risks incurred on the main cereal crops due to climactic conditions.

PADAER is a program that supports agricultural development and rural entrepreneurship through interventions aiming at improving farmers' ability to produce, store, and sell agricultural products. An index-based insurance was developed and proposed to the Producer Organizations. Consequently, farmers were granted access to inputs and to PADAER's traditional services including seeds, fertilizer, pesticides, farming equipment, agricultural extension services, and a financial weather risk management tool.

An impact evaluation research project was financed by the International Initiative for Impact Evaluation (3IE) and jointly carried out by the African School of Economics (ASE) and PADAER with support from IFAD. The project aimed to evaluate the effectiveness of the crop insurance implementation mechanism, in order to determine ways to improve the this risk management tool, as integrated in the service package. The question is whether the various steps of implementation, including raising awareness about the existence of this type of insurance, its marketing, sales quantities, and claims handling and management, require an improvement to overcome the challenges PADAER identified during the pilot stage. The ultimate objective is to improve the living conditions of farmers who subscribed to a crop insurance policy.

## **2. Context**

In the framework of the R4 Senegal project, the World Food Program (WFP) in partnership with the Compagnie Nationale d'Assurance Agricole du Sénégal (CNAAS) and other stakeholders, developed several insurance products in Senegal. These products allow the transfer of agricultural risk away from smallholder farmers. The products aim to mitigate the consequences of natural disasters in order to secure farmers' income and assets. IFAD aims to introduce financial risk mitigation as a large scale agricultural development program in Senegal.

Through the co-financed programs and projects such as PADAER, IFAD also aims to introduce financial weather risk mitigation tools in order to mitigate the consequences of the natural disasters that jeopardize farmers' agricultural income and assets.

In conjunction with the WFP, PADAER integrated the index-based crop insurance into its support package to Producers Organizations in 2015. Information pertaining to the three agricultural seasons is presented in Table 1.

**Table 1: Pilot Test index-based insurance years 2015-2018**

	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
<b>Communes</b>	3	10	10
<b>Producers</b>	7	36	54
<b>Organizations</b>			
<b>Members</b>	233	636	354
<b>Surface area</b>	252 ha	622 ha	278 ha
<b>Premium paid to the insurer</b>	4 591 683 FCFA (7650 USD)	10 022 744 FCFA (16 700 USD)	6 943 955
<b>Compensation received</b>	12 311 937 FCFA (20 500 USD)	14 962 668 FCFA (24931.13 USD)	-

Source: ASE, 2017

In 2015-2016, IFAD pilot tested the inclusion of insurance products to PADAER in seven agricultural Producer Organizations (PO) in the communes of Sinthiou, Maleme, and Koussanar in the department of Tambacounda. As a side note, PADAER only proposed the product to PO's and not to individual farmers.

By 2016-2017, this risk transfer component of PADAER's services had been extended to 36 PO's: fifteen PO's in Tambacounda and 21 PO's in Kolda. In total, ten communes were covered. In the ongoing crop growth season of 2017-18, the insurance covers 54 PO's in the Kolda and Tambacounda regions.

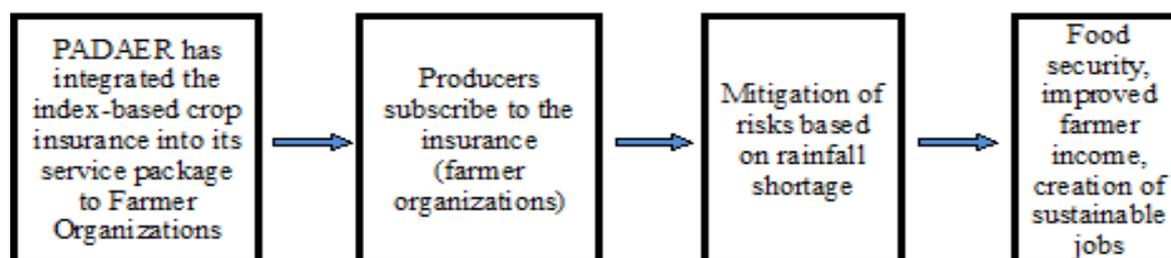
The index insurance product is based on a weather index, which utilizes climate data from satellites and rain gauges from a period of 21 years to produce rainfall estimates. This data is available for all regions in Senegal. The insurance covers risks related to droughts and excessive rainfall and as such is not focused on any particular crop. In detail, the time periods covered by insurance are divided in two phases: Phase 1 provides coverage of 80% of the insured sum during the planting and growth period which takes place from June 21 to July 31. Phase 2 provides coverage of 80% of the insured sum during the flowering phase which takes place from September 11 to October 20. The premium rates are defined by the village (cluster), and each cluster is defined as having a radius of 3km.

The government in Senegal subsidises 50% of the premium. Furthermore, PADAER offers a tapering subsidy on the remaining amount of the premium. If the PO belongs to the first generation, PADAER offers 90%. For second and third generation PO's, PADAER offers 70% and 50% respectively. When a PO reaches the 4th generation, members are required to pay half of the premium themselves.

The main objective of this work is to analyse the efficiency of the different stages of implementation.

### 3. Intervention description and theory of change

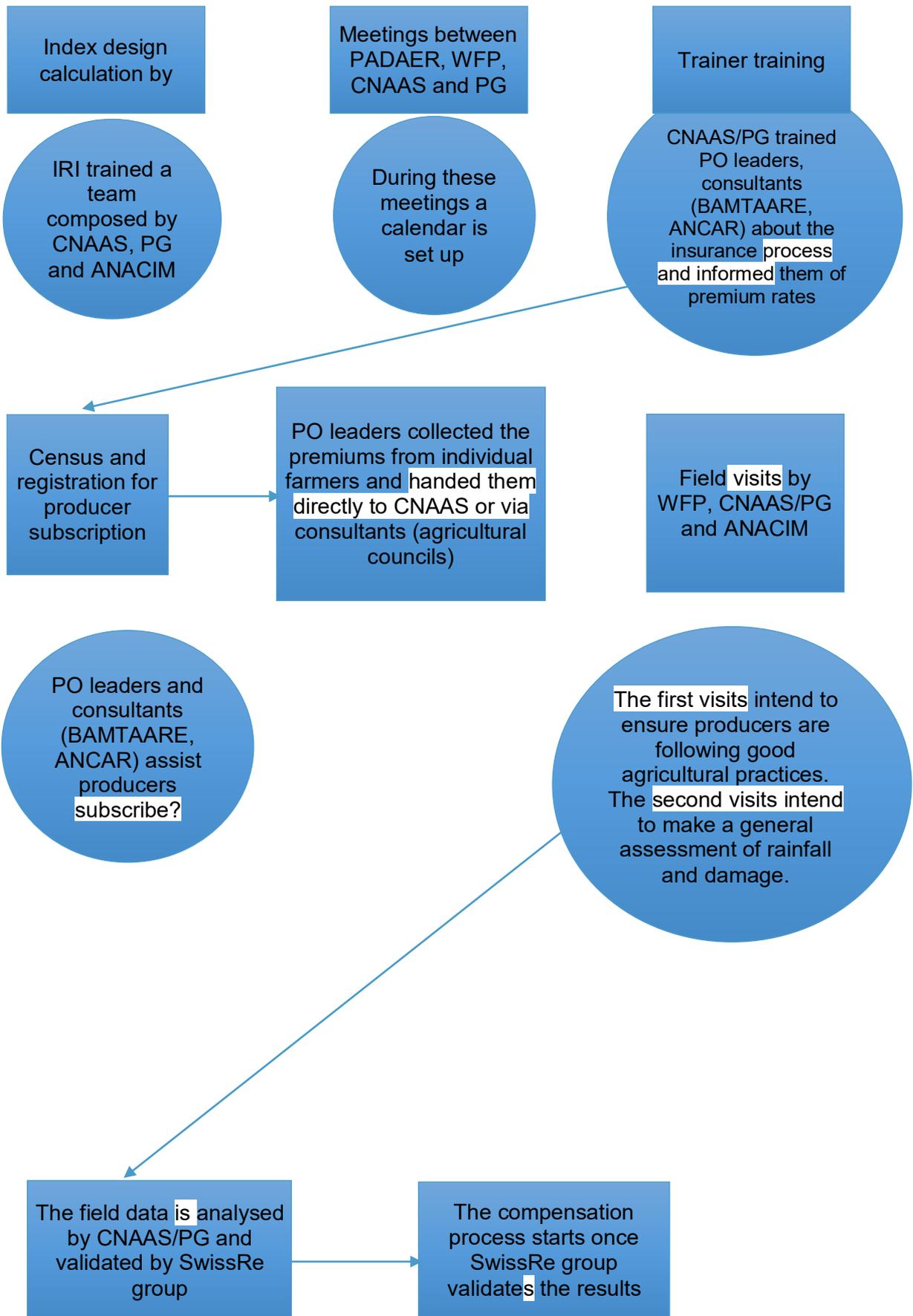
The theory of change (TOC) of index-based crop insurance for PADAER Producer Organizations is as follows:



Presented in this section are the key steps of the index-based insurance implementation process. There are several organizations involved in the index-based insurance implementation process in the areas of Kolda and Tambacounda include PADAER, WFP, CNAAS, SwissRe, ANACIM, PG, IRI, ANCAR, BAMTAARE and the Producer Organizations.

The following steps were identified during program implementation: installation of pluviometers and index design, meetings between PADAER and WFP, trainer training on index-based insurance, producer awareness raising, on training, ensuring census and registration of producers interested in insurance subscription, collection of insurance premiums, PADAER payment of additional premiums, CNAAS commission payment, a field visit to supervise producer activities, a field visit for damage assessment and rainfall-related data collection, field data analysis and validation by CNAAS and the reinsurer, and final compensation to the insured when necessary.

A graphical representation is presented below to summarise the relationships between shareholders to better illustrate the system in place. Consequently, each step is described and presented.



### **3.1 Index design and installation of pluviometers**

There is a difference in rainfall measurement between the Tambacounda and Kolda regions. Rainfall is based on the satellite index in the Tambacounda region, whereas automatic pluviometers measure the volume of precipitation in the Kolda region.

#### **a) Index design**

IRI is centrally charged with designing the satellite index in Tambacounda. Every year, a new index is designed for each crop (corn and rice). To improve index reliability over the years, IRI goes on field visits in Tambacounda in order to facilitate the design of the following campaign's index. Additionally, to transfer index design skills to the local level, IRI has trained a team composed by CNAAS, ANACIM and PG officials. IRI still collaborates with the team. Villages are also chosen by those who design the index.

#### **b) Installation of pluviometers**

In the Kolda Region, pluviometers are installed by ANACIM and its broker, PG. For a broad index-based insurance coverage of the area, CNAAS secures automatic pluviometers thanks to funding from its partners such as the WFP. Villages where a pluviometer is installed are regarded as 'central villages'. Any village within a 3km radius of a pluviometer is a village covered by the index-based insurance.

### **3.2 Meetings between PADAER and the WFP**

WFP has initiated an index-based insurance program in the Kolda and Tambacounda regions. Although the two bodies' insurance programs differ, PADAER drew on expertise regarding infrastructure acquired by the WFP. There are two considerable differences between the WFP and PADAER models. Firstly, regarding the distribution of the insurance product, the WFP relies on private services while PADAER holds Producer Organizations responsible for distribution and receiving commissions in return. Additionally, in the case of WFP, subscription to the program is made by farmers individually, while for PADAER subscription is done through Producer Organisations. Also, while PADAER subsidizes the index-based insurance, WFP requires farmers to subscribe to the insurance in return for work done. Despite these differences, both programs aim at reducing producer vulnerability vis-à-vis climate risks, and regularly meet to share experiences and ideas in order to increase efficiency and sustainability of insurance programs.

### **3.3 Trainer training on the index-based insurance**

CNAAS, PG, WFP and PADAER work towards strengthening the capacities of index-based insurance beneficiaries prior to each insurance campaign. Due to budgetary and logistical constraints, this workshop trains trainers, generally community workers or members of Producer Organizations or officials from the agricultural councils who can read, write and convey the information received to others. PADAER recruited two agricultural council bodies, ANCAR in Tambacounda and BAMBARE in Kolda.

### **3.4 Producer sensitization and insurance training**

After receiving the training, community workers supported by agricultural counselors carry out the transmission and awareness raising activities for PO producers. This was carried out through a series of meetings organized with each association during which members were given information about the index-based insurance and its benefits, and the climate induced risk faced by producers.

### **3.5 Census and registration towards the subscription of producers**

Following the information session, producers who wish to subscribe to the insurance inform the leaders of their association. The community worker then creates a list of all the producers interested in subscribing to the insurance. The agricultural council official then proceeds to validate the member list during an association meeting. Subsequently, the agricultural council official assists community workers in filling out membership forms. They are also responsible for filling out the reporting file that contains all the insurance information pertaining to each policy-holder.

### **3.6 Collection of insurance premiums**

Association leaders act as premium collectors for their members. Premiums are collected by leaders within the associations and handed over to CNAAS directly or via the agricultural council officer.

### **3.7 Payment of additional premiums by PADAER**

Regarding the subsidy system, Producer Organizations receive a double subsidy to acquire the index-based insurance. The State of Senegal subsidizes the index-based insurance to producers up to a total value of 50%, and in addition to that, PADAER offers a graduated subsidy to Producer Organizations. PADAER does not subsidize Producer Organizations after the third generation since by this stage they are supposed to be self-sustaining. The subsidy from PADAER is directly paid to CNAAS on behalf of the associations.

### **3.8 Commission payment by CNAAS**

CNAAS transfers 10% of the premiums (contribution from the associations + subsidy from PADAER) to PADAER. Each association receives this amount as a commission for premium collection. The community worker or the treasurer and the president of each association are responsible for collecting the commission from PADAER. This commission should ease premium payments for the following campaign.

### **3.9 Field-trip and producer activity supervision mission**

In partnership with ANACIM and PG, CNAAS carries out field visits in the midst of the crop year to ensure that producers observe good agricultural practices. During crop insurance training sessions, CNAAS gives instructions on ideal periods for agricultural activities. Any farmer found to be acting contrary to those instructions is penalized during the compensation stage.

### **3.10 Field-trip, damage assessment and rainfall-related data collection mission**

A team made up of the WFP, ANACIM and PG carried out a field mission at the end of the crop year. The purpose of this mission was to make a general assessment of rainfall over the previous season and the damage recorded. Also, ANACIM and PG used the opportunity to gather information related to rainfall in the areas covered by the automatic pluviometers.

In a bid to validate index results, CNAAS and its partners organized field visits in order to validate the data from the pluviometers and satellites with the information on the ground. A multi-field and multi-institutional team was established in the Tambacounda Region to facilitate the knowledge transfer of satellite index design to local actors. Previously, index calculation was carried out by International Research Institute for Climate and Society (IRI) located in the Columbia University. The WFP and its partners wish to create a channel for knowledge transfer regarding index-based insurance to local actors. The design team was comprised of 4 local experts: CNAAS, PlaNet Guarantee (PG), ISRA and ANACIM. The design team carried out a campaign monitoring mission, the objectives of which were:

- To gather information from the farmers regarding the beginning of the season, specifically during the first window of product coverage.
- To validate satellite indexes with information on the ground.
- To write a report focused on the end of the season (second window of insurance coverage).

### **3.11 Field data analysis and validation by CNAAS and SwissRe**

The rainfall data collected by ANACIM and PG were transmitted to CNAAS. CNAAS then carried out the validation of the rainfall data and the satellite index, thanks to the support from its reinsurer, SwissRe. Once these data were validated, the results were shared with the other partners.

### **3.12 Payment compensation**

CNAAS and SwissRe computed the compensation. They came up with the compensation for each insured producer available to PADAER. Association leaders were responsible for collecting the compensation from PADAER and distributing it to the producers concerned.

Following the monitoring of the campaign and index calculation, a workshop to present and validate the campaign results was organized by CNAAS and its partners. During this workshop, CNAAS gave out information about the Producer Organizations which are insured, then they were compensated and given symbolic checks. The process of calculating compensation was explained to Producer Organization leaders who in turn explained it to the member producers.

## **4. Evaluation plan**

We obtained some data from the insurance partners or stakeholders like PADAER, CNAAS and WFP in addition to qualitative data in order to analyse the efficiency of the different implementation stages. We also conducted a survey to collect quantitative and qualitative data at the member/farmer level in order to assess their characteristics and the context of insurance buyers and non-buyers.

## **5. Evaluation questions and primary outcomes**

The primary objective of this research project is to follow through the project processes and understand whether things are done as they are planned. Furthermore, it is about to explore whether PADAER can improve how index-based insurance is included in the package of services provided to farmers.

The questions are as follows:

1. How and when can farmers best raise the capital required for premium payments?
2. Which distribution channels are best adapted to the context in terms of registering insured farmers and collecting insurance premiums?
3. Does the availability of financial risk management tools affect the use of non-financial (agricultural) risk management practices such as income diversification or the use of resistant crop varieties?
4. Do the insured farmers modify their behavior (investment, activities, etc.)?
5. What is the take up during the last cropping year?

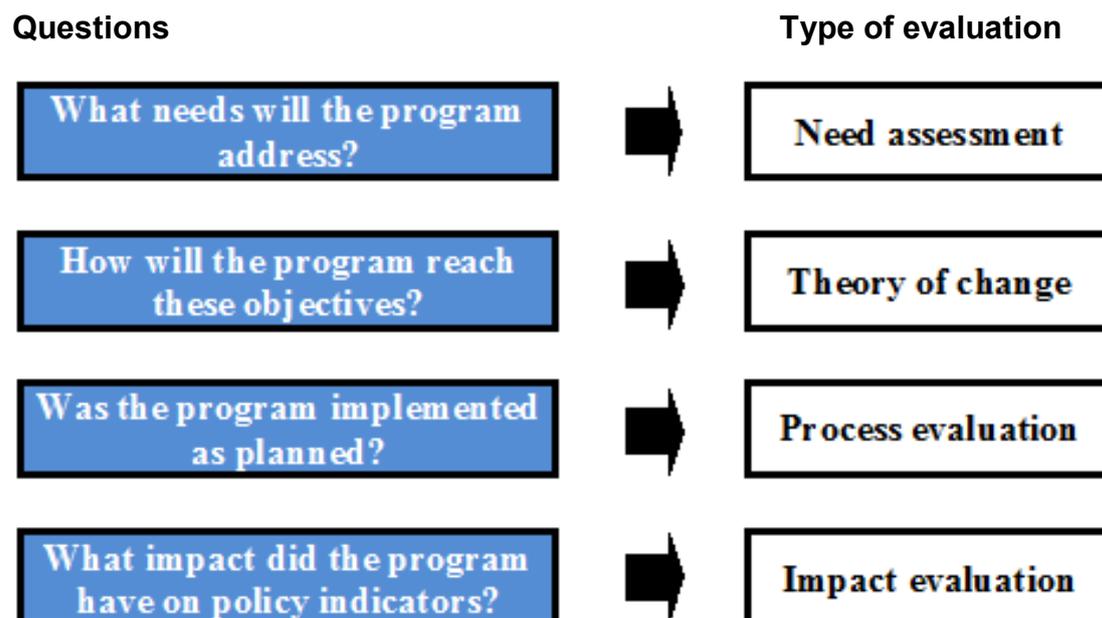
The variables of interest include: socio-economic characteristics, investment variables, income amount and sources, insurance take-up, and access to credit.

We conducted this study using two different approaches. First, we gathered qualitative and administrative data through a process evaluation to analyze whether the different implementation stages (i.e. awareness creation for the insurance, its marketing, sales, claims handling and claims verification) need to be altered to overcome challenges PADAER identified during the pilot stage. These challenges include distribution of the insurance product and the farmers' capacity to raise the capital required to pay the premium. Second, quantitative and qualitative data was collected at the farmer level to assess the characteristics and context of farmers who requested access to the financial risk management tool in addition to PADAER's agricultural services and those who did not.

Through a triangulation of the two approaches, we aim to better understanding how to provide a relevant insurance product and how to increase its demand and uptake.

## **6. Evaluation design, data and methods**

A process evaluation aims at checking whether implementation could be carried out as planned. Various types of evaluation follow one another during a project cycle:



We evaluated the project's process to determine whether it is suitable and enables the project to carry out its objectives, and whether the process should be adjusted if compliance is not possible during implementation. We also evaluated which implementation approach should be chosen out of the various ones available. Some potential policy indicators for the process evaluation are: the agricultural returns (kg/ha) of the various crops (millet, rice, corn, cowpea, etc.); income generating activities; income (agricultural and non-agricultural incomes); expenditure (expenditure for food and non-food consumption); and surface cultivated (ha).

This project was carried out on the basis of interviews with both insured and non-insured beneficiaries and with insurance companies. The kick-off workshop took place in Tambacounda in April 2017. The principal data sources consulted include mission statements, administrative data, and discussions with key partners involved in the insurance implementation process (PADAER, WFP, PG, BAMTAARE Services and CNAAS). Additionally, 119 semi-structured interviews with Producer Organization leaders and general advisors were organized with the assistance of PADAER in January and June 2017. In June 2017, a survey was carried out on 1441 producers (both insured and uninsured) with CREA's assistance. Qualitative and quantitative data and administrative reports were then analyzed through the evidence-based decision-making method, descriptive statistics and econometric tools. Phase 1 of the research project lasted from October 2016 to September 30 2017.

A non experimental method, Propensity Score Matching, was used to assess the take up of the insurance in the years 2015 and 2016, and its impact on farmers' income of the respective cropping seasons.

### 6.1 Administrative and qualitative data collection.

We collected administrative data through the PADAER's Monitoring and Evaluation (M&E) system, in addition to data from WFP and CNAAS. We also collected qualitative data through interviews with all stakeholders involved in the index insurance process, including PO leaders, farmers, IFAD local team, PADAER team in charge of index

insurance, WFP, CNAAS, and PG among others. The goal of collecting such data was to understand in detail the shortcomings of the index-based insurance process and farmers' perception of index-based insurance. During the data collection stage, it is important to note that we always requested the consent of the individual or organization before conducting any interviews.

## **6.2 Quantitative data collection**

### **a) Sampling design**

Primarily, we wish that Producer Organizations (PO) benefit from the technical and financial support PADAER offers in addition to of the index insurance. The PO's are located in the two regions of Tambacounda and Kolda and belong to one of the 10 communes covered by index insurance. In the sampling framework, we first selected a PO and then randomly selected 11 respondents from that PO. We created a list of 36 PO's supported by PADAER for index insurance either during the 2015-2017 or 2016-2017 seasons. Those PO's belong systematically to the treatment group. In our context, we considered a treatment PO, one who received support from PADAER at least once for index insurance. During the period of data collection, PADAER had yet to decide whether its support for index insurance would be extended to PADAER PO's in 2017-2018. We then selected 35 PO's to form a potential treatment group, as those POs might receive the treatment or not. We also randomly selected 60 PADAER PO's (30 from each region) to form a control group. Those PO's did not receive support from PADAER index insurance and are not in the list of the potential PADAER PO's that might benefit from PADAER's insurance support for the 2017-18 season. However, those PO's are located in the communes of index insurance. The sample was comprised of all 36 PO's with index insurance support (treatment group), 35 PO's who might receive index insurance support in 2017-18 (potential treatment group) and 60 PO's without index insurance support from PADAER (control group). This amount totaled 131 PO's in total and in each PO we randomly interviewed 11 farmers, resulting in a sample size of 1441.

### **b) Survey in Tambacounda and Kolda**

We administered two (2) questionnaires: (1) a household questionnaire and (2) a questionnaire administered to the PO leader (facilitator). All the questionnaires were administered with participant's consent. We asked questions related to the knowledge of index-based insurance and the payout modalities per season, total area cultivated (ha), total area insured (ha), and in the case that there was a difference between the two areas to provide us with those. Other questions included: Why did you buy the insurance premium? What is the crop produced, crop insured, per speculation total production (kg), investment (FCFA), sales (FCFA), did you receive an indemnity? What was the total amount of the pay-out (FCFA)? Are you planning to subscribe to the index insurance for the coming season? We also asked questions related to the process and farmer perceptions regarding it: What do you think about the subscription period? Is it the best period for you to pay the premium? Do you have any suggestions about the period? What do you think about the pay-out period? What do think about the price of the premium? Is it affordable? Without the PADAER subsidies, would you be able to pay the insurance premium? The full questionnaires used for producers interviews as well as PO and general advisors interview can be found in the appendix.

## 7. Study timeline

Administrative and qualitative data collection took place from mid to late January 2017. The qualitative interviews with stakeholders involved in the process took place at the end of February. The workshop and meeting for all implementation partners was held in Tambacounda in early April. Quantitative and qualitative data collection was performed from June 10-25, 2017. Data management and data analysis as well as the report writing was done in July, August and September of 2017.

## 8. Analysis and findings from the evaluation

### 8.1 Producers' perception of PADAER's index-based crop insurance

The analysis of discussions with Producer Organization leaders and advisors is presented in this section.

The organizations of producers working with PADAER are organized into associations called Producer Organizations or EIG (Economic Interest Groups). Each PO generally consists of a president, a community worker, a secretary, and a treasurer. The president often acts as the community worker or secretary within the Producer Organizations/EIG. In the Kolda Region, Producer Organizations are gathered into producer unions or federations, which uphold the same structure: president, community worker, secretary and treasurer. The community worker's specific role is to convey and transmit information to the producers (members of Producer Organizations). Generally, the community worker speaks French at an intermediate level or above and hence can take part in meetings where French is spoken.

In order to understand the index-based insurance implementation process in the PADAER area, namely the Tambacounda and Kolda Regions, discussions were held with Producer Organization leaders. The objective of those discussions was to understand and evaluate the process in order to make recommendations towards its improvement.

In this section, we conduct a statistical analysis of the qualitative data that originated from discussions held during the second qualitative data acquisition mission with the Producer Organization leaders and BAMTAARE Services' advisors. BAMTAARE Services is PADAER's strategic partner responsible for providing consultancy services and sensitizing producers in the Kolda Region. Additionally, during this second collection mission, interviews were carried out with 4 BAMTAARE advisors operating in the Kolda Region's communes where the index-based insurance is operated.

#### **8.1.1 Producers' perception on the index-based crop insurance and its operation**

Our discussions with the Producer Organization leaders and general advisors began with an initial description of how the index-based insurance product operates. We presented a summary table with the response options provided for this question. We observe in Table 2 that the Producer Organization leaders and BAMTAARE's general advisors are well aware that index-based insurance is based on rainfall shortage. Nevertheless, we recognized that some leaders do not stress the periods considered by CNAAS as periods of rainfall shortage. It must be noted that the index-based insurance product mainly considers two periodic intervals as regards the rainfall shortage. When there is a

rainfall shortage between June 21 and July 31 (vegetative growth stage) but also between September 11 and October 30 (flowering and grain filling stage), then CNAAS can pay allowances to Producer Organizations provided that the producers observed the batch and the technical itinerary. It is crucial to sow during the recommended period. We also observed that few leaders mentioned anything about how rainfall shortage is calculated. Some know that rainfall is estimated thanks to satellites in the Tambacounda Region, while in the Kolda Region, automatic pluviometers are installed in reference villages covering a 5 to 7 km radius. Thus, it would be helpful to communicate to the producers a better understanding of how rainfall is estimated by satellites in the Tambacounda Region and calculated by an automatic pluviometer in the Kolda Region so that they are aware of the a basic risk (though infinitesimal).

**Table 2: Description of the index-based insurances operation**

<b>Response options</b>	<b>Percentages</b>	<b>Frequencies</b>
Insurance based on rainfall shortage	78%	21
Insurance based on productivity	14.81%	4
Insurance based on the satellite-assessed rainfall shortage	18.51%	5
Insurance based on the rainfall shortage calculated by an automatic pluviometer	3.7%	1
Insurance based on the rainfall shortage observed at periodic intervals	33.33%	5
<b>Total</b>	<b>100</b>	<b>36</b>

**Source:** ASE, 2017

Rare are the leaders who mistakenly linked the insurance operation with productivity. Thus, we observed that a majority of leaders recognize that index-based insurance facilitated by PADAER is an insurance based on rainfall shortage. The large majority (80 percent) of Producer Organization leaders were aware that the compensation (as part of the index-based insurance) is based on rainfall shortage.

Some Producer Organizations refused/lacked interest in joining the index-based insurance program because the product was unknown to them and they wanted to take time to study it before subscribing. This observation can be analyzed along two dimensions: As a trust issue producers had with respect to the insurance company and/or a marketing issue with the product. Some leaders reported subscribing to the index-based insurance during the first year because they fully trusted PADAER and believed the organization had always worked to better their welfare.

Through their leaders, producers were aware of the weather variations. The Producer Organization leaders reported that they subscribed to the index-based insurance to avoid having bad harvests due to rainfall shortages. The index-based insurance helped secure the campaign's agricultural income in case of bad harvests due to rainfall shortages. Producers know they cannot expect 100% of their investments following a rainfall shortage but they believe it very satisfactory to recover 80% of the investments.

**Table 3: Assessment of the index-based insurance**

<b>Response options</b>	<b>Percentages (in %)</b>	<b>Frequencies</b>
Good	80.00	16
Fairly good	5.00	1
Good, but need improvement	3.00	6

**Source:** ASE, 2017

In most cases, producers communicated through their Producer Organization leaders and general advisors that the index-based insurance is a good product (Table 3). About 80% of the Producer Organization representatives interviewed in January and June responded that the product is good. However, some said that the product needs to be improved as it does not reflect reality. They explained that the product's approach was good but they cannot understand why they were not compensated during the last campaign in 2016-2017, considering the situation that prevailed in their region with regards to rainfall shortage. Some producers are utterly dejected with the product. When we asked Producer Organization leaders whether their interest with respect to the product had changed over time or remained the same, many answered that they were dejected. Producer dejection is related to the fact that they were not compensated for the past campaign. However, a proportion of producers said they had a better understanding of the product and that their interest for the product has systematically and positively evolved after they were compensated or after they witnessed the payment of compensation to Producer Organizations that had subscribed to the index-based insurance.

### **8.1.2 Interaction of the crop insurance with PADAER's other products**

One of the unique characteristics of the index-based insurance product facilitated by PADAER is that the product is integrated into a package of services offered by PADAER. Thus, PADAER Producer Organizations receive a certain number of services from PADAER, namely training sessions on agricultural techniques and subsidies regarding seed, inputs, farm equipment, etc.

The index-based insurance product must provide a catalyst for accessing credit and other financial services to the benefit of Producer Organizations. All consulted Producer Organization leaders confirmed they knew that index-based insurance could help them get loans from microfinance institutions.

### **8.1.3. Resource mobilization towards the subscription to the index-based insurance**

With this rundown, we mainly observe two modalities of resource mobilization in view of paying the insurance premium. On the one hand, there are Producer Organizations who pay the premium for the index-based insurance using members' cash money. In other words, each member must pay to their Producer Organization's treasury the amount of the insurance premium equivalent to the surface they wish to insure. This modality of resource mobilization is most widespread, but producers have difficulties mobilizing their own funds to pay the insurance premium. Investigations have revealed that the insurance premium is inexpensive, thanks to subsidies granted by PADAER and the State of Senegal, but the period when the premium is due is not favorable to producers. The results can be found in the Table 4.

**Table 4: Modality of resource mobilization in view of paying the subscription premium**

Response options	Percentages (in %)	Frequencies
Members' financial contribution	88.23	15
Mobilization of part of the production after harvest by members	11.76	2
Total	100	17

Source: ASE, 2017

The second modality of resource mobilization consists of each member making a contribution of a quantity of their production to the Producer Organization's storeroom. The stock collected will be marketed, and the income thus generated is intended to pay not only for the contribution in inputs and seeds for the next campaign, but also for the Producer Organizations' insurance premium. According to the community workers in Producer Organizations, the difficulty is related to harvest. Producers have difficulties mobilizing their contribution whenever the harvest is poor (as Table 5 shows).

**Table 5: Difficulties in mobilizing resources to pay the premiums**

Do you have difficulties mobilizing the premium?	Percentages (%)	Frequencies
Yes	64.70	11
No	35.29	6
Total	100	17

Source: ASE, 2017

**Recommendation 1:** It would be desirable that Producer Organizations conform to the resource mobilization system that consists of bringing a quantity of the production. This makes it easier for the producers and when the need arises they can market the stock or part of it.

#### **8.1.4 Subscription to PADAER's index-based insurance**

We observe that the majority of producers responded that the price of the index-based insurance subscription premium is affordable. According to the investigation conducted with Producer Organization leaders in June 2017, about 70% (who attended the index-based insurance training and information meetings) agreed that the price is affordable, while 23%, a relatively small proportion disagreed (Table 6).

**Table 6: Assessment of the amount of the index-based insurance premium**

Response options	Percentages (%)	Frequencies
Not affordable at all	22.86	8
Somehow affordable	5.71	2
Affordable	65.71	23
Fairly affordable	5.71	2
Total	100	35

Source: ASE, 2017

During discussions held with the general advisors BAMTAARE, we can assert that the price of the index-based insurance subscription premium is indeed affordable. According to the data collected during discussions, the general advisors said that the price of the subscription premium is affordable. On the other hand, producers said that the period of payment of the insurance subscription premium is not good. It is clear from the discussions and producers' suggestions that the harvest marketing period should be the same as that of insurance premium payment.

### **8.1.5 Assessment of the payment period and deadline of the index-based insurance's premium**

Generally, the subscription period for the index-based insurance takes place at the end of July. In 2017, during the retraining sessions of transmission agents, it was decided that Producer Organizations would pay their contribution before July 25, 2017 in the Tambacounda Region and before July 30, 2017 in the Kolda Region. The Producer Organizations' retraining sessions took place for one day after which Producer Organization leaders were asked to sign the insurance contract. Between the day set for training and the day set for effective subscription to the insurance, there was roughly a 3-week interval. This means that the transmission agents, namely the Producer Organization leaders and general advisors, had less than 3 weeks to inform producers about the index-based insurance product, fill out the reporting file and the membership forms, and mobilize resources for the index-based insurance subscription. The period set for subscribing to the insurance is a fairly difficult time for producers to mobilize resources to subscribe to the index-based insurance. It is a lean season during which harvest stocks are reduced. During this same period, producers must pay their contribution towards procurement of inputs, seeds, and farm equipment. It should be noted that during the 2016-2017 crop year, some Producer Organizations in the Sare Bidji and Bagadadji communes (Kolda Region) did not subscribe to the index-based insurance because they had to simultaneously pay their contribution towards input procurement and index-based insurance. Considering that the index-based insurance was in its first year and also that the producers had budgetary constraints, they therefore chose not to subscribe to the index-based insurance but rather to pay their contribution in inputs. All the transmission agents agreed that the period from January to March was a good period to pay the insurance premium, as it is the harvest marketing period meaning that producers have the financial capacity to pay the insurance premium (see the results in Table 7 below).

**Table 7: Assessment of the payment period of the index-based insurance premium**

<b>Response options</b>	<b>Frequencies ( %)</b>
Good period for subscription	98
Bad period	2

**Source:** ASE, 2017

Finally, we observed that transmission agents responded that the premium's payment deadline was rather short or too short. 36.17% of community workers responded that the deadline set for the subscription to the index-based insurance is too short and 29.79% responded that the deadline is rather short (Table 8). Therefore, we observed a small proportion of Producer Organization leaders (only 32%) who are satisfied with the deadline set for the subscription to the index-based insurance.

**Table 8: Assessment of the deadline set for subscribing to the index-based insurance**

<b>Response options</b>	<b>Percentages</b>	<b>Frequencies</b>
Too short	36,17	17
Fairly short	29,79	14
Satisfactory	31,91	15
Too long	2,13	1
Total	100	47

**Source:** ASE, 2017

**Recommendation 2:** It would be beneficial to rethink the index-based insurance subscription time window. We observed that a Producer Organization in the Sare Bidji commune was able to mobilize resources to subscribe to the index-based insurance premium. But unfortunately, this Producer Organization paid for the insurance premium late. Therefore, we believe that a later deadline will allow transmission agents to convey information effectively and also give more time to Producer Organizations to subscribe.

**Recommendation 3:** In order to help producers pay the insurance premium easily, it would be advisable to rethink the payment schedule of the index-based insurance policy's subscription premium. The best period is that of harvest marketing (January to March).

#### **8.1.6 Reasons why some members did not subscribe to the index-based insurance**

One of the difficulties that eventually jeopardized the index-based insurance subscription process was the lack of information. In Table 9, up to 57% of the respondents highlighted this point. Several Producer Organizations in the Kolda Region, specifically in the Tankanto Escale, Sare Yoba Diega, Bagadadji and Sare Bidji communes, could not subscribe to the index-based insurance program during the 2016-2017 crop year due to the fact that the village names did not appear on the list of eligible villages sent to BAMTAARE Services by Planet Guarantee (PG). However, these villages were included in the index-based insurance's coverage radius. The communication system between the two bodies failed and this situation was unable to be resolved. During the process orientation workshop organized by the African School of Economics (ASE), the situation arose again and a resolution was made. The resolution sought not only to find a solution to integrate Producer Organizations into the 2017- 2018 insurance program but also to rethink the communication system between the bodies involved in the index-based insurance. During the 2016-2017 campaign, only two PO's in the Tankanto Escale and Sare Yoba Diega communes were able to subscribe to the insurance, yet for the most recent campaign, 21 PO's in the same communes signed the index-based insurance policy.

In order to avoid this problem, during the retraining and transmission phase, Producer Organization leaders and general advisors were requested to immediately bring to attention any village name that was omitted in the CNAAS/PG list. Thus, we were able to integrate a certain number of villages that did not initially appear in the list. After the fact, Producer Organization leaders and general advisors could not return and integrate any additional villages. This was not optimal as some villages on the list might have been skipped.

**Table 9: Reasons why some members did not subscribe to the index-based insurance**

Response options	Percentages (%)	Frequencies /Total
Lack of financial resources	5.45	6/110
The insurance premium is expensive	0.91	1/110
Not interested in the product	0.91	1/110
Lack of information	56.36	62/110
Coincidence with input payment	0.91	1/110

Source: ASE, 2017

**Recommendation 4:** It would be advisable to map Producer Organizations within area covered by the index-based insurance. This would allow PADAER to easily identify the Producer Organizations in need support with regard to their budget.

### **8.1.7 Training of transmission agents on the index-based insurance**

We observed that almost all Producer Organization leaders who took part in training sessions needed additional training in order to have an adequate understanding of the index-based insurance (Table 10, 11 and 12). According to the investigation with Producer Organization leaders in June 2017, we observe from the data that 94% of Producer Organization leaders expressed the need for additional training (Table 13). It should be noted that the investigation was carried out after the retraining of transmission agents on index-based insurance. Moreover, discussions with general advisors and Producer Organization leaders confirm the need for additional training.

**Table 10: Assessment of the index-based insurance trainings' course content**

Do you think the course content best addressed producers' questions?	Percentages (%)	Frequencies
Yes	86.21	25
No	13.79	4
Total	100	29

Source: ASE, 2017

**Table 11: Perception on multiple training**

Do you need additional training on PADAER's index-based insurance?	Percentages (%)	Frequencies
No	6.90	2
Yes	93.10	27
Total	100	29

Source: ASE, 2017

During the discussions with Producer Organization leaders and general advisors, we observed that Producer Organization leaders in a commune did not partake in the June 2017 transmission agents' retraining sessions. Producer Organizations were deterred from partaking primarily because they had expected compensation for the last crop year.

Undoubtedly, since Producer Organizations were unaware of the index-based insurance activity schedule, they were unlikely to subscribe to insurance for the 2017-2018 crop year. It would therefore be beneficial if CNAAS and its partners could organize field visits to the various communes covered by the insurance in order to inform producers, all with the support of Producer Organization leaders and general advisors.

**Recommendation 5:** It will be necessary to stress the training of transmission agents. The training of transmission agents is critical in informing producers' understanding of the product. The transmission agents must inform producers about the product and consequently teach them to address issues pertaining to the index-based insurance.

#### ***8.1.8 Sensitization of producers on the index-based insurance product***

After the training, transmission agents should inform producers about the index-based insurance product facilitated by PADAER. Producer Organization leaders who partook in the training sessions should also organize meetings to relay the information to producers, and organize the collection of insurance premiums within their organizations. In addition to informing producers, the general advisors should support community workers with awareness raising activities.

We observed that a very small proportion of Producer Organization leaders who partook in training sessions did not organize awareness raising activities on the insurance product.

**Recommendation 6:** It would be wise to set up a monitoring system to ensure Producer Organization leaders who were trained effectively inform producers about the insurance. Follow-up for training sessions should also be conducted with the support of the general advisors.

We observed that Producer Organization leaders need further training. 40% of the Producer Organization leaders reported having major difficulties in addressing producers' concerns during informational meetings about the index-based insurance (40%).

Two out of three community workers responded that informational sessions were insufficient for the producers to fully understand the index-based insurance product (Table 13). Nevertheless, community workers utilized other methods to inform the producers. These methods were generally discussions organized and held under the palaver tree as well as one on one discussions.

**Recommendation 7:** It would be beneficial if CNAAS and its partners supported transmission agents in disseminating product information. This support could be in the form of increasing commissions to further motivate agents. Discussions with Producer Organization leaders in January revealed that community workers felt their commissions were not motivating enough and suggested a revaluation of commissions.

**Table 12: Difficulties encountered during index-based insurance awareness-raising activities**

Difficulties during sensitization sessions	Percentages (%)	Frequencies
No	60	18
Yes	40	12
Total	100	30

Source: ASE, 2017

**Table 13: Assessment of awareness-raising activities**

Do you think the sensitization sessions have been sufficient for producers to fully understand the index-based insurance?	Percentages (%)	Frequencies
No	63.33	19
Yes	36.67	11
Total	100	30

Source: ASE, 2017

#### **8.1.9 Satisfaction with the amount of compensation**

According to our surveys, only a relatively small amount of respondents felt the amount compensated was satisfactory. About 30% of the community workers who had an opinion about the amount compensated thought it was satisfactory, while 5.45% were not satisfied (Table 14). These statistics should be approached with caution however, as nearly 63% of respondents did not have an opinion about the compensation amount .

During the various discussions held with Producer Organization leaders and general advisors, we found that the amount of compensation is not satisfactory. Most respondents, especially Producer Organization leaders who were compensated at least one time, claimed the amount compensated was not satisfactory and needed to be increased.

Additionally, some PO leaders did not understand how the amount compensated was computed. They reported that during training they were told that the community with the highest risk rate would receive the highest compensation by hectare. For example, when community A has a 15% risk rate while community B has a 9% risk rate, community A will have to pay a higher subscription premium than community B. However, when comes to compensate these two communities then A will receive a higher compensation amount per hectare than B. We have had cases where the Producer Organization representatives made their own calculations and found the opposite is true.

**Recommendation 8:** It is necessary to explain how the amount of compensation is determined in detail to the community workers in Producer Organizations, and also how to present the amounts received by hectare in each community compensated.

**Table 14: Opinion on the amount of compensation**

<b>How would you assess the amount of compensation?</b>	<b>Frequencies</b>	<b>Percentages (%)</b>
Not satisfying at all	2	1.82
Somehow satisfying	4	3.64
Satisfying	32	29.09
Fairly satisfying	3	2.72
Don't know	69	62.73
Total	110	100

**Source:** ASE, 2017

### **8.1.10 Assessment of the compensation payment period**

During the last crop year, we observed an almost 5 month delay in compensation . According to the index-based insurance's activity schedule, Producer Organizations should be compensated in November. During the last crop year, the CNAAS waited until early April to organize a workshop to disseminate the results of the campaign and inform Producer Organizations whether or not they would receive compensation. This delay created uncertainty and contributed to consolidating the pessimistic attitude held by some producers, especially those who were first time users of the index-based insurance product.

Subsequently, investigations were carried out to understand the causes of the delay in compensation of Producer Organizations. According to CNAAS, the delay occurred primarily because CNAAS could not compensate producers until the reinsurer validated the results of the campaign and indexes. In actuality, the process of validating the results by the reinsurer, namely Swiss-Re, takes time. The second reason for the delay could be attributed to the partner organization responsible for collecting rainfall data, which was always behind schedule. Index calculation thus cannot take place without rainfall data.

**Recommendation 9:** Partners involved in computing compensation amounts should carry out their tasks more efficiently in order to avoid delays in payment, which can foster mistrust among producers in regards to the index-based insurance product. The partner organization ANACIM should collect rainfall data on time so the index design team, comprised of CNAAS, PG, ANACIM, and ISRA, can make index calculation on time.

We also took interest in the producers' opinions about the compensation payment period. In a survey carried out with Producer Organization leaders, we observed that a great majority, two thirds of Producer Organization leaders, did not have an opinion regarding the compensation payment period. In addition, we observed that a great majority of Producer Organizations' community workers who attended training sessions on index-based insurance, believed the compensation payment period was satisfactory. Nearly 20% of the community workers were satisfied with the compensation payment period, while close to 55% of the community workers partook in training sessions on index-based insurance.

**Table 15: Thoughts on the compensation payment period**

Thoughts on the compensation payment period	Percentages	Frequencies
Too short	0.91	1
Short	1.82	2
Satisfying	19.09	21
Long	7.27	8
Too long	5.45	6
Don't know	65.45	72
Total	100	110

**Source:** ASE, 2017

We realized during discussions with Producer Organization leaders that the compensation payment experienced delays, but nevertheless they thought the payment period was acceptable considering that it comes right before the farming period when inputs and seeds are paid for. Once Producer Organizations are compensated, they will be able to use the money to pay for their contribution inputs and seeds and for the subscription premium for index-based insurance simultaneously.

## 8.2 Insurance Uptake Rate and determinants

The take-up during the 2015-2016 cropping season was 22% (Table 16) while the take-up during the 2016-2017 cropping season was 41% (Table 17). In the sample, 916 respondents confirm that they were exposed to PADAER insurance.

**Table 16: Insurance take-up Rate in 2015**

Insurance take up (2015)	Frequencies	Percentage (%)
<b>Yes</b>	198	22
<b>No</b>	667	73
<b>Total respondents</b>	865	95
<b>Total exposure</b>	916	100

**Source:** ASE, 2017

**Table 17: Insurance take-up Rate in 2016**

Insurance take up (2016)	Frequencies	Percentage (%)
<b>Yes</b>	380	41
<b>No</b>	488	53
<b>Total respondents</b>	865	94
<b>Total exposure</b>	916	100

**Source:** ASE, 2017

Table 17 presents the determinants of the decision to take up the insurance. During the 2016-2017 cropping season, nine out of twenty variables determined the decision to take up the insurance. The variables included determine the decision to take the insurance: Region location, the types of commune (out of five), the frequency of information absorbed from television, the lack of access to medicine and health facilities during the last 12 months, and the happiness level during the last 12 months.

**Table 18: Insurance Uptake determinants during the cropping season 2015-2016**

VARIABLES	CHARACTERISTICS OF BENEFICIARIES
Region location (Tambacounda=1)	-0.426* (0.219)
Be in commune DIOULACOLON	0.189 (0.185)
Be in commune SARE_BIDJI	-0.262 (0.212)
Be in commune SARE_YOBA_DIEGA	-0.487* (0.283)
Be in commune KOUSSANAR	0.653*** (0.194)
Be in commune MAKА_COLIBANTANG	-1.831*** (0.335)
Be in commune MERETO	-0.285 (0.334)
Be in commune SINTHIOU_MALEMA	-0.542** (0.249)
Be in commune TANKANTO_ESCALE	-0.591*** (0.222)
Age of respondent	0.00551 (0.00361)
Frequency of information coming from radio	-0.0279 (0.0399)
Frequency of information coming from television	0.101*** (0.0319)
Lack to have drug and medicament access during the last 12 months (yes=1)	-0.160*** (0.0534)
Lack to have combustible for cooking access during the last 12 months (yes=1)	-0.0134 (0.0435)
PADAER beneficiary (yes=1)	0.110 (0.0917)
Poor harvesting due to Rainfall lack in the pass (yes=1)	0.0110 (0.125)
Trust in Producers Organization's relay (yes=1)	-0.0443 (0.0518)
Trust in Producers Organization's secretary (yes=1)	0.0481 (0.0544)
Trust in any member of Producers Organization (yes=1)	-0.0329 (0.0458)
Happiness level the last 12 months	0.0726*** (0.0210)
Constant	-0.298 (0.437)
Observations	864

**Source:** ASE, 2017

Standard errors in parentheses

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

### 8.3 Impact of insurance on agricultural investment and source of income diversification

The main questions to answer are :

- Do the insured farmers modify their behavior like increase agricultural investment?
- Does the availability of financial risk management tools affect the use of non-financial (agricultural) risk management practices such as income diversification?

#### a) Agricultural investment

The investment in agriculture in this research includes the purchase of agricultural inputs such as fertilizers and pesticides during the 2016-2017 cropping season. The propensity score matching method highlights that the insurance take up had a positive impact on agricultural investment during 2016-2017 cropping season. Table 19 shows the impact of insurance take up on investment was on average 10,786 F CFA in 2016-2017.

**Table 19: Impact of insurance on farmers' investment during the cropping season 2016-2017**

VARIABLES	(1) neighbor matching	(2) Radius Matching	(3) Kernel Matching
atnd	10,786* (5,630)		
attr		10,438*** (3,660)	
atrk			9,363** (4,546)
Observations	868	868	868

**Source:** ASE, 2017

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### b) Income source diversification

The result of the propensity score matching method highlights that the insurance take up had a negative impact on income source diversification during the 2016-2017 cropping season. Table 20 shows that the impact of insurance take up on the source of diversification was on average -0.263 in 2016-2017, meaning that while their farms are insured, producers are more confident and thus do not diversify their income sources. This impact however, is not significant.

**Table 20: Impact of insurance on farmers' source of income diversification during the cropping season 2016-2017**

VARIABLES	(1) neighbor matching	(2) Radius Matching	(3) Kernel Matching
atnd	-0.263 (0.216)		
attr		-0.188 (0.118)	
atnk			-0.216* (0.123)
Observations	868	868	868

**Source:** ASE, 2017

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### 8.4 Impact of insurance on farmers' annual income

The result of the propensity score matching method highlights that the insurance take up had a positive impact on farmers' annual income during 2016-2017 cropping season. Table 21 shows that the impact of insurance take up on farmers' annual income was 816,981 F CFA on average during the 2016-2017 cropping season. Again, this impact is not significant.

**Table 21: Impact of insurance on farmers' annual income**

VARIABLES	(1) neighbor matching	(2) Radius Matching	(3) Kernel Matching
atnd	796,077 (615,979)		
attr		806,768 (1.026e+06)	
atnk			816,981 (750,819)
Observations	868	868	868

**Source:** ASE, 2017

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 9. Implications of study findings

The study aims to analyse the efficiency of the different implementation stages of PADAER index-based insurance. This report concerns producers grouped together into associations in two regions of Senegal: Tambacounda and Kolda. The key findings drawn from this study are:

Payouts are not done in a timely manner; The implementation model is not the same across the two regions, Tambacounda and Kolda; In the study area, there is also another insurance managed by WFP. Furthermore, in the study area, the two groups of PADAER

farmers (eligible and control) are similar with regard to variables such as age, gender and level of education. The rate of insurance uptake is 40%. Many variables explain the decision to take up this insurance. At the end of the study, several recommendations have been formulated to PADAER. There is a need to reinforce communications to make the characteristics of the index-based crop insurance product known to the producers. It is also necessary to comply with the activity schedule and adjust the subscription and compensation periods to meet producers' expectations. We suggest further study on the behavior of the Producer Organizations who have left PADAER's graduated subsidy system. It would also be beneficial to redefine the sequence of the insurance period into two phases, to be continuous from seeding to harvest. Lastly, it is necessary to reflect on the possibility of trying out harvest insurance.

## **10. Major challenges and lessons learnt**

We found several challenges with program implementation and delivery. Primarily, some farmers lacked an overall understanding of how the insurance works, particularly regarding the computation of the compensation amount. The delay in the pay-out after the last cropping season 2016-2017 discouraged some farmers from subscribing in the program. Regarding the study implementation and challenges, we are still missing some information from the implementation institution, particularly on how indexes are being calculated and whether it is an index-based insurance. Collecting data on electronic tablets was also a big challenge for the partner which collected data in Senegal. The lessons learnt include the importance of the clarity regarding the pay-out in the take up of the insurance.

## Appendices

Questionnaire for producers – June, 7, 2017

<b>EVALUATION OF THE IMPLEMENTATION PROCESS OF AGRICULTURAL INSURANCE IN THE PADAER ZONE</b>
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<b>PRODUCER QUESTIONNAIRE</b>
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Respondent number				Interviewer number				Site number			
[Reserved to the Secretariat]								[Chosen by the Secretariat]			

[Reserved to the Supervisor]		
<b>Household post-control</b>		Questionnaire verified by:
Yes	1	[Supervisor's signature]
No	2	

[Interviewer: Choose the code for the Region and Department. Write the names of regions, departments, cities/communes, neighborhoods, communes of neighborhoods/ rural communities, quarter of city or commune, village and number of the ZD in the cases]			
<b>Region</b>			
Kolda	100	<b>City / Commune</b>	_____
Tambacounda	101	<b>Neighborhood</b>	_____
		<b>Commune/Neighborhood/Rural community</b>	_____
		<b>Quarter of city/commune/village</b>	_____

When you find a household with someone in the house: present yourself with the text below. You will have to learn to present yourself in this manner in order to maintain it the proper format.

<p><b>Hello. My name is _____ . I am an agent at the African School of Economics (ASE) and the XXXX, an independent research center. I do not represent the government nor any political party. We are carrying out a study evaluating the process of implementation index in the PADAER zone. We would like to discuss certain questions with you, relative to the agricultural insurance. Actually, your Producer Organization (PO) was selected randomly to participate in our study. All of the information will be confidential. Would you like to participate in this study? Yes 1 No 2</b></p>
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Note: The person should give his/her consent in positively responding to the above question. If he/she refuses to participate in the study, leave the household. Substitute the household by making another random selection from the PO members list. If the consent is obtained, proceed with the rest of the questionnaire.

<b>DATE INTR</b>	Day	Months	Year
Date of the interview [Interviewer: Take note of the day, the month, and the year]			

<b>STR TIME</b>	Hour	Minute
Time the interview begins [Interviewer: Take note of the hour and minutes, use the 24 hour time]		

Interviewer: If a respondent firmly refuses to answer a question, write "REFUS" in the response space after which you can continue on to the following question.

**BEGINNING OF THE INTERVIEW**

**Let's begin with a few questions about yourselves.**

<b>1. How old are you?</b> [Interviewer: Take note of a 3-digit number. Doesn't know= 999]			
---	--	--	--

<b>2. Which Senegalese language do you speak in the household?</b> [Interviewer: Indicate if necessary. This has to do with the language of your ethnic group]			
French	2	Diola	665
Wolof	660	Manjack	666
Pulaar/Toucouleur	661	Bainouk	667
Serer	662	Bassari	668
Mandinka/Bambara	663	Other [Specify]: _____	Post code
Soninke	664	Doesn't know [Illiterate]	999

<b>3. How many times do you receive information from the following sources?</b> [Interviewer: Read the answer options out loud]						
	Every day	A few times a week	A few times a month	Less than once per month	Never	Don't know [NPL]
<b>Radio</b>	4	3	2	1	0	9
<b>Television</b>	4	3	2	1	0	9
<b>Written press</b>	4	3	2	1	0	9
<b>Internet</b>	4	3	2	1	0	9
<b>4. In the course of the last 12 months, how many times have you (or a member of your family) had to face the following situations:</b> [Interviewer: Read the answer options out loud]						
	Never	Once or twice	Several times	Oftentimes	Always	Don't know [NPL]

<b>A. Insufficient food to curb your hunger?</b>	0	1	2	3	4	9
<b>B. Lack of drinking water for domestic needs?</b>	0	1	2	3	4	9
<b>C. Lack of medicine or medical treatment?</b>	0	1	2	3	4	9
<b>D. Lack of fuel to cook meals?</b>	0	1	2	3	4	9
<b>E. Lack of money?</b>	0	1	2	3	4	9

**4F.** [Interviewer: Identify the highest number code (culminating) encircled in Q4. If it is 2, 3, or 4; i.e. if the respondent lacks one of the elements in Q4 “several times”, “oftentimes” or “always”, consider the most frequent response and ask: Since you said that a lack of [element] [frequency], would you say that this produces: [Read in a loud voice the below options]. [Take note, if the respondent gave several responses with the highest code, then choose one of the elements to insert in the question.] [If the respondent said he/she had never experienced a lack of the elements in Q8a-e at least “several times”, record (code2) or record code 7 “Non Applicable”.

Around every second or third month	1
Around one time per month	2
Two or three times per month	3
Around once per week	4
Several times per week	5
Everyday	6
Non Applicable [NPL]	7
Doesn't know [NPL]	9

**5. Given ALL your livelihood activities, how much, if any, do you depend on remittances from friends or relatives working outside the country??**  
[Interviewer: Read the answer options out loud]

Not at all/ doesn't receive money transfers [NPL]	0
A little	1
Somewhat	2
A lot	3
Doesn't know [NPL]	9

**6. Do you benefit from PADAER's assistance?**

No [Interviewer : If the response is No, continue to Q127]	0
Yes	1
Illiterate [NPS] Interviewer : If the response is No, continue to Q127	9

**7.** [Interviewer: If “Yes” to Q6]. **Since when have you benefitted from PADAER's assistance?** [Interviewer: Read the answer options out loud]

2014-2015 Crop season (first generation)	0
2015-2016 Crop season (second generation)	1

2016-2017 Crop season (third generation)	3
Non applicable [If the response to Q5 is No] [NPL]	7
Refused to respond [NPL]	8
Doesn't know/Doesn't remember [NPL]	9

<b>8. In the past, have you been the victim of a poor harvest due to the lack of rain?</b>	
No	0
Yes	1
Illiterate [NPL]	9

<b>8A.</b> [Interviewer: If "yes" to Q8]. Has this phenomenon worsened over the years?	
No	0
Yes	1
Illiterate [NPL]	9

<b>9. Have you heard about the agricultural insurance PADAER facilitates to PO's?</b>	
No	0
Yes	1
I do not remember [NPL]	9

<b>10.</b> [Interviewer: If "yes" to Q9] Who told you about this agricultural insurance for the first time? [If the response to Q9 is "No" or "I do not remember", circle 7 = Non applicable] [Interviewer: Read the answer options out loud]	
President/ Relais of the PO	1
Agricultural advisor	2
PADAER	3
PAM	4
In the radio	5
Non applicable [Only if the response to Q9 is "No" or "I do not remember"]	7
Other [Specify]: _____	Post code
I do not remember [NPL]	9

<b>11. To what extent do you trust each of the above mentioned persons?</b> [Interviewer: Read the answer options out loud]					
	Do not trust at all	Trust a little	Trust partially	Trust a lot	Don't know/Have never heard of them [NPL]
<b>A.</b> The PO President	0	1	2	3	9
<b>B.</b> The PO relais	0	1	2	3	9
<b>C.</b> The PO secretary	0	1	2	3	9
<b>D.</b> A PO member	0	1	2	3	9

<b>12A. Taking into account your past, how would you evaluate your level of satisfaction with life (well-being) now compared to the last twelve months?</b> [Interviewer: Read the answer options out loud]	
Much worse	1
Worse	2
Identical	3

Better	4
Much better	5
Don't know [NPL]	9

<b>12B. Thinking about the future, do you foresee that your level of satisfaction with life (wellbeing) in two years will be better or worse?</b> [Interviewer: Read the answer options out loud]	
Much worse	1
Worse	2
Identical	3
Better	4
Much better	5
Don't know [NPL]	9

### Section A: 2015-2016 Crop Season

Let's talk about the 2015-2016 Crop Season

<b>13. Had you subscribed to agricultural insurance for the 2015-2016 season?</b>	
No	0
Yes	1
Non applicable [ONLY if the response to Q9 is "No", "Don't remember", [Illiterate/NPL]	7
Refused to respond [NPL]	8
Doesn't remember [NPL]	9

<b>14. [Interviewer: If responded "No" to Q13] Could you please indicate to us reasons why you chose not to subscribe to the insurance?</b> [Do not read the responses. Code after the respondent answers]	
There was no agricultural insurance available during this time	1
The insurance premium was expensive	2
I did not understand agricultural insurance very well	3
The insurance did not cover my seeds	4
The insurance was not important	5
I was not interested in agricultural insurance	6
I did not have money during the time period for subscription	7
Our PO had debt with PADAER	8
Non applicable [If the respondent answers "Yes" to Q13] [NPL]	97
Refused to respond [NPL]	98
Other [Specify]: _____	Post code

<b>15. [Interviewer: If "Yes" to Q13]. Which agricultural insurance did you subscribe to?</b>	
Agricultural insurance offered by PADAER	1
Insurance offered by the 4R Project with PAM	2
Non applicable [ONLY if the response to Q13 is "No", "I do not remember" "Refused to respond" or "Non applicable"]	7
Refused to respond [NPL]	8
Doesn't know/Doesn't remember [NPL]	9
Others (to be specified)	

<b>16. [Interviewer: If “Yes” to Q13] What was the subscription method?</b>	
Cash	1
Insurance by work (APT Assurance Par le Travail)	2
Non applicable [If the respondent said “No” to Q13] [Illiterate]	7
Other [Specify]: _____	6

<b>17. [Interviewer: If “Yes” to Q13]. What was the crop covered by the agricultural insurance? [Interviewer: Read the answer options out loud] [Accept multiple responses]</b>	
Corn	1
Rice	2
Peanut	3
Millet	4
Sorghum	5
Cowpea	6
Cotton	7
Watermelon	8
Non applicable [If the respondent said “No” to Q13] [NPL]	97
Other [Specify]: _____	Post code
	<input type="text"/>

Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25
<p><b>Did your household grow ... during the 2015/2016 crop year?</b></p>	<p><b>What was the total area of ... that you grew during the 2015/2016 crop year?</b></p> <p>[Interviewer: Read answer options out loud]</p> <p>[Interviewer: please indicate to respondent that this is the total acreage farmed by the grower and not the total acreage supported by PADAER]</p>	<p>[If yes to Q13] What was the area insured for the ... during the 2015/2016 crop year? [Interviewer: Read the answer options out loud]</p>	<p>[Interviewer: If Q19 Q20 ≠, that is to say, if the total cultivated area is different from the insured area] Can you tell us the reasons for the discrepancy between the acreage and the insured area...? [If the answer to Q19 or Q20 is "NSP/ Do not remember", Circle 7 = Not applicable.] [Do not read answer options. Code with answers]</p>	<p><b>How much ... did you produce during the 2015/2016 campaign ?</b></p>	<p><b>How much ... did you store during the 2015/2016 crop year?</b></p>	<p><b>How much of ... did you sell?</b></p>	<p><b>How much did you invest in fertilizer and pesticide inputs for the production of ... during the 2015/2016 crop year?</b></p>
<p>0: No 1: Yes</p>	<p>1: Less than 0.5 ha 2: Between 0.5 ha and 0.99 ha 3: Between 1 ha and 1.49 ha 4: Between 1.5 ha and 1.99 ha 5: Between 2 ha and 3 ha 6: More than 3 ha 8: Refusing to answer [Do not read] 9: Do not know / Do not remember [Do</p>	<p>1: Less than 0.5 ha 2: Between 0.5 ha and 0.99 ha 3: Between 1 ha and 1.49 ha 4: Between 1.5 ha and 1.99 ha 5: Between 2 ha and 3 ha 6: More than 3 ha 8: Refusing to answer [Do not read] 9: Do not know / Do not remember more [Do</p>	<p>1: The insurance premium was expensive 2: Lack of means to cover the whole 3: Lack of information related to the subscription 4: The insurance was new to me 5: The insurance did not allow me to cover the entire field 7: Not applicable [ONLY</p>	(Kg)	(Kg)	(Kg)	(FCFA)

		not read]	not read]	if the answer to Q19 or Q20 is "NSP / Do not remember anymore"] Other(s) to be specified.....				
Corn								
Rice								
Peanut								
Millet								
Sorghum								
Cowpea								
Cotton								
Watermelon								

Q18	Q26	Q27	Q28	Q29	Q30	Q31
<p><b>Did your household grow ... during the 2015-2016 crop season?</b></p>	<p><b>What was the amount in FCFA of the insurance premium during the 2015-2016 crop season?</b></p>	<p><b>Would you say that the insurance premium amount was affordable in 2015/2016?</b> [Interviewer: Read out response options] [Probe strength of opinion]</p>	<p><b>How do you assess the payment period for insurance premiums during the 2015/2016 crop year?</b> [Interviewer: Read out response options] [Probe strength of opinion]</p>	<p><b>Have you received compensation for the 2015/2016 crop season?</b></p>	<p>[Interviewer: If "yes" to Q29] <b>What was the amount of compensation received in FCFA during the 2015/2016 season?</b> [Investigator: Enter a 5-digit number. Do not know / Do not remember = 99999] [Not applicable if respondent answered "No" to Q29. Enter 99997]</p>	<p>[Interviewer: If "yes" to Q29] <b>How do you assess the amount compensated during the 2015/2016 season?</b> [Interviewer: Read aloud answer options] [Probe strength of opinion]</p>
<p>0: No 1: Yes</p>	<p>(FCFA)</p>	<p>1: Not at all affordable 2: Somewhat affordable 3: Affordable 4: Pretty affordable 5: Very affordable 8: Refused to answer [Do not read] 9: Do not know / Do not</p>	<p>1: Too short 2: Short 3: Satisfactory 4: Long 5: Too long 7: Non applicable [ONLY if the answer to Q13 is "DK / Do not</p>	<p>0: No 1: Yes 7: Not applicable [if the respondent answered "No" to Q13] 9: Do not know</p>	<p>(FCFA)</p>	<p>1: Not at all satisfactory 2: Somewhat satisfactory 3: Satisfactory 4: Quite satisfactory 5: Very</p>

			remember [Do not read]	remember anymore"] 8: Refusing to answer [Do not read] 9: Do not know / Do not remember [Do not read]	/ Do not remember [Do not read]		satisfactory 7: Not applicable [if the response for Q25 is "No" or "Do not Know / Do not remember" or "Not Applicable"] 9: Do not know [Do not read]
Corn							
Rice							
Peanut							
Millet							
Sorghum							
Cowpea							
Cotton							
Watermelon							

Q18	Q32	Q33	Q34	Q35
<b>Did your household grow ... during the 2015/2016 crop year?</b>	[Interviewer: If "yes" to Q29] <b>How do you rate the payment period for the 2015/2016 campaign?</b> [Interviewer: Read aloud answer options] [Probe strength of opinion]	[Interviewer: If "no" to Q29] <b>Do you think that you should normally have received compensation for the ... during the 2015/2016 crop year?</b>	[Investigator: If "yes" to Q33] <b>If yes, why?</b> [Investigator: Do not read answer options. Code from the answers.]	<b>Do you know any producers who received compensation for the first speculation for the 2015/2016 crop year?</b>
0: No 1: Yes	1: Too short 2: Short 3: Satisfactory 4: Long 5: Too long 7: Not applicable [if respondent answered "No" or "Do not Know / Do not remember" for Q13] 9: Do not know [Do not read]	0: No 1: Yes 7: Not applicable [if respondent answered Yes to Q29] 8: Refused to answer [Do not read] 9: Do not know / Do not remember [Do not read]	1: Our locality received practically the same amount of rainfall as a compensated area 2: Insufficient rainfall received compared to a compensated area 3: Insufficient rainfall 4: I paid the insurance premium 7: Not applicable [if respondent answered No to Q33] 8: Refused to answer [Do not read] 9: Do not know / Do not remember [Do not read]	0: No 1: Yes 8: Refused to answer 9: Do not remember
Corn				
Rice				
Peanut				
Millet				
Sorghum				
Cowpea				
Cotton				
Watermelon				

**Section: 2016/2017 Crop Season.**

Let's talk about the 2016/2017 Crop Season.

<b>36. Did you subscribe to agricultural insurance for the 2016/2017 crop season?</b>	
No	0
Yes	1
Not applicable [ONLY if the response to Q9 is "No" or "I do not remember"]	7
Refused to respond [Do not read]	8
Does not remember [Do not read]	9

<b>37. [Investigator: If "No" to Q36] Can you provide us with reasons for not taking out insurance? [Do not read responses, code from answers]</b>	
The insurance premium was expensive	1
I do not understand agricultural insurance very well	2
Agricultural insurance is not important	3
Agricultural insurance does not cover my crops	4
There was no insurance at the moment	5
I did not have money during the subscription period	6
Our PO had debt with PADAER	7
Not applicable [if respondent answered "Yes" to Q36]	97
Refused to answer	98
Other [Specify]: _____	Post code

<b>38. [Interviewer: If "Yes" to Q36] Which agricultural insurance did you subscribe to?</b>	
Agricultural insurance offered by PADAER	1
Insurance offered by the 4R Project with PAM	2
Non applicable [ONLY if the response to Q13 is "No", "I do not remember" "Refused to respond" or "Non applicable"]	7
Refused to respond [NPL]	8
Doesn't know/Doesn't remember [NPL]	9
Others (to be specified)	

<b>39. [Interviewer: If "Yes" to Q13] What was the subscription method?</b>	
Cash	1
Insurance by work (APT Assurance Par le Travail)	2
Non applicable [If the respondent said "No" to Q13] [Illiterate]	7
Other [Specify]: _____	

<b>40 [Interviewer: If "yes" to Q36] What were the crops covered by agricultural insurance? [Do not read, code from answers] [Accept multiple answers]</b>	
Corn	1
Rice	2
Peanut	3
Millet	4
Sorghum	5
Cowpea	6
Cotton	7
Watermelon	8
Not applicable [If the respondent said "No" to Q36]	97
Other [Specify]: _____	Post code

Q41	Q42	Q43	Q44	Q45	Q46	Q47	Q48
<p><b>Did your household grow ... during the 2016/2017 crop year?</b></p>	<p><b>What was the total area of ... that you grew during the 2016/2017 crop year?</b>  [Interviewer: Read answer options out loud]  [Please indicate to respondent that this is the total acreage farmed by the producer and not the total acreage supported by PADAER]</p>	<p>[If yes to Q36] <b>What was the area insured for the ... during the 2016/2017 crop year?</b>  [Interviewer: Read the answer options out loud]</p>	<p>[Investigator: If Q42 ≠ Q43, i.e. if the total area under cultivation is different from the area insured] <b>Can you give us the reasons for the discrepancy between the area cultivated and the area insured for?</b> [If the answer to Q42 or Q43 is " Do not remember", Circle 7 = Not applicable.] [Do not read answer options aloud. Code from the answers]</p>	<p><b>How much ... did you produce during the 2016/2017 campaign ?</b></p>	<p><b>How much ... did you store during the 2016/2017 crop year?</b></p>	<p><b>How much of ... did you sell?</b></p>	<p><b>How much did your investment amount in inputs, fertilizers and pesticides for the production of ... increase during the 2016-2017 crop year?</b></p>
<p>0: No 1: Yes</p>	<p>1: Less than 0.5 ha 2: Between 0.5 ha and 0.99 ha 3: Between 1 ha and 1.49 ha 4: Between 1.5 ha and 1.99 ha 5: Between 2 ha and 3 ha 6: More than 3 ha</p>	<p>1: Less than 0.5 ha 2: Between 0.5 ha and 0.99 ha 3: Between 1 ha and 1.49 ha 4: Between 1.5 ha and 1.99 ha 5: Between 2 ha and 3 ha 6: More than 3 ha</p>	<p>1: The insurance premium was expensive 2: Lack of means to cover the whole 3: Lack of information related to the subscription 4: The insurance was new to me</p>	(Kg)	(Kg)	(Kg)	(FCFA)

		8: Refusing to answer [Do not read] 9: Do not know / Do not remember [Do not read]	8: Refusing to answer [Do not read] 9: Do not know / Do not remember [Do not read]	5: The insurance did not allow me to cover the entire field 7: Not applicable [ONLY if the answer to Q19 or Q20 is " Do not remember"]  Other(s) to be specified.....			
Corn							
Rice							
Peanut							
Millet							
Sorghum							
Cowpea							
Cotton							
Watermelon							

Q41	Q49	Q50	Q51	Q52	Q53	Q54
<p><b>Did your household grow ... during the 2016/2017 crop year?</b></p>	<p><b>What was the amount in FCFA of the insurance premium during the 2016-2017 crop season?</b></p>	<p><b>Would you say that the insurance premium amount was affordable in 2016/2017?</b>  [Interviewer: Read out response options]  [Probe strength of opinion]</p>	<p><b>How do you assess the payment period for insurance premiums during the 2016/2017 crop year?</b> [Interviewer: Read out response options] [Probe strength of opinion]</p>	<p><b>Have you received compensation for the 2016/2017 crop season?</b></p>	<p>[Interviewer: If "yes" to Q52]  <b>What was the amount of compensation received in FCFA during the 2016/2017 season?</b>  [Investigator: Enter a 5-digit number. Do not know / Do not remember = 99999] [Not applicable if respondent answered "No" to Q52. Enter 99997]</p>	<p>[Interviewer: If "yes" to Q52]  <b>How do you assess the amount compensated during the 2016/2017 season?</b>  [Interviewer: Read aloud answer options]  [Probe strength of opinion]</p>
<p>0: No  1: Yes</p>	<p>(FCFA)</p>	<p>1: Not at all affordable  2: Somewhat affordable  3: Affordable  4: Pretty affordable  5: Very affordable  8: Refused to answer  [Do not read]</p>	<p>1: Too short  2: Short  3: Satisfactory  4: Long  5: Too long  7: Non applicable  [ONLY if the answer to Q36 is "DK / Do</p>	<p>0: No  1: Yes  7: Not applicable [if the respondent answered "No" to Q36]</p>	<p>(FCFA)</p>	<p>1: Not at all satisfactory  2: Somewhat satisfactory  3: Satisfactory  4: Quite satisfactory  5: Very</p>

			9: Do not know / Do not remember [Do not read]	not remember anymore" 8: Refusing to answer [Do not read] 9: Do not know / Do not remember [Do not read]	9: Do not know / Do not remember [Do not read]		satisfactory 7: Not applicable [if the response for Q52 is "No" or "Do not Know / Do not remember" or "Not Applicable"] 9: Do not know [Do not read]
Corn							
Rice							
Peanut							
Millet							
Sorghum							
Cowpea							
Cotton							
Watermelon							

Q41	Q55	Q56	Q57	Q58
<b>Did your household grow ... during the 2016/2017 crop year?</b>	[Interviewer: If "yes" to Q52] <b>How do you rate the payment period for the 2016/2017 campaign?</b> [Interviewer: Read aloud answer options] [Probe strength of opinion]	[Interviewer: If "no" to Q52] <b>Do you think that you should normally have received compensation for the ... during the 2016/2017 crop year?</b>	[Investigator: If "yes" to Q56] <b>If yes, why?</b> [Investigator: Do not read answer options. Code from the answers.]	<b>Do you know any producers who received compensation for the first speculation for the 2016/2017 crop year?</b>
0: No 1: Yes	1: Too short 2: Short 3: Satisfactory 4: Long 5: Too long 7: Not applicable [if respondent answered "No" or "Do not Know / Do not remember" for Q52] 9: Do not know [Do not read]	0: No 1: Yes 7: Not applicable [if respondent answered Yes to Q52] 8: Refused to answer [Do not read] 9: Do not know / Do not remember [Do not read]	1: Our locality received practically the same amount of rainfall as a compensated area 2: Insufficient rainfall received compared to a compensated area 3: Insufficient rainfall 4: I paid the insurance premium 7: Not applicable [if respondent answered No to Q56] 8: Refused to answer [Do not read] 9: Do not know / Do not remember [Do not read]	0: No 1: Yes 8: Refused to answer 9: Do not remember
Corn				
Rice				
Peanut				
Millet				
Sorghum				
Cowpea				
Cotton				
Watermelon				

**Section: Consumption**

Let's talk about your current consumption of your household

Q59	Q60	Q61	Q62	Q63	Q64	Q65
<b>Did your household consume ... during the course of the last year?</b>	For a two week-period, during the last dry season, how much ... in kg on average did your family buy?	How much did this quantity cost you in total?	For a one-month period, during the last dry season, how much ... in kg on average did your family consume relative to what you produced?	For a two-week period, during the last rainy season, how much ... in kg on average did your household buy?	How much did buying this quantity every two weeks cost you in total?	For a one-month period, during the last rainy season, how much ... in kg on average did your family consume from its own production?
0: No 1: Yes	[specify the number]	(FCFA)	[specify the number]	[specify the number]	(FCFA)	[specify the number]
Corn						
Rice						
Peanut						
Millet						
Sorghum						
Cowpea						
Cotton						
Watermelon						
Potato						

**Section: Income**

Now I will ask you a few questions in detail about your sources of household income.

Q66	Q67	Q68
<b>In the course of the last year...</b>	How much income did your household receive from ...?	Who earned this money (income)?
	(FCFA)	0: Respondent 1: His/her spouse 2: First wife [of the husband] 3: Other wife 4: Brother/Sister 5: Son/Daughter 6: Son-in-law/Daughter-in-law 7: Father/Mother 8: A child 9: Other family member 88: Multiple members 96: Other, not a family member 99: N/A
Salary		
Agricultural manual labor		
Other manual labor		
Microenterprises or via other services		
Sale of uncooked grains (corn and rice specifically)		
Sale of uncooked grains (all excluding rice and corn)		
Sale of raw garden produce		
Sale of raw meat		
Sale of other agricultural products (shea butter, honey, etc.)		

Sale of processed agricultural products (including grain flour, preserved jam, fruit juice, <i>gari</i> , etc.)		
Sale of animals		
Sale of meat		
Sale of dairy products		
Rental of houses or plots of land		
Gifts from members of the family living in the Commune		
Money received from family members living elsewhere		
Informal loan (from family or friends)		
Loan from a microcredit program		
Social service assistance		
Other (Specify) _____		

<b>69. Does your household cultivate one (or more) plot(s) of land?</b>	
No	0
Yes	1
Refused to respond [Doesn't read]	8

<b>70. How many plots of land do you cultivate?</b> [Interviewer: Write a 2-digit number. Don't know/Don't remember=99]		
--	--	--

	Q71	Q72	Q73	Q74	Q75	Q76	Q77	Q78
<b>For each plot of land...</b>	What is the area of the plot of land (in hectares)?	Which crop did your household cultivate on this plot of land last year?	Does the household/family own it?	Do you have traditional or civil documentation of your right to this land?	Could you sell the land if you desired to do so?	What is the annual cost of the land?	What is the distance between your house and the plot of land?	What is the source of water used for this plot of land?
	(hectares)	[write down]	1: Ownership (individual) 2: Ownership (in a cooperative) 3: Rented [Go to column (Q75)] 4: Borrowed [Go to column (Q76)]	0: No, none 1: Yes, traditional 2: Yes, civil 3: Yes, both 98: Don't know 99: N/A	0: No 1: Yes 99: Don't know 97: N/A	(FCFA)	(km) Less than 5 km Between 5 and 7 km Between 7 et 10 km More than 10 km	1: Rain water 2: Traditional irrigation 3: Drip irrigation
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

**Let's discuss the value chains of PADAER.**

Questions Q79 to Q102 solely concern PADAER PO's.

Let's begin with the rice.

<b>79. Do you cultivate rice?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8

<b>80. [Interviewer: If "yes" to Q79] Do you know the period recommended by the insurance for planting rice?</b>	
No	0
Yes	1
Not applicable [if the response to Q79 is "No" or the respondent refuses to answer]	7
Refusal to respond [Do not read]	8
Do not remember plus [Do not read]	9

<b>81. [Interviewer: If "Yes" to Q80] Do you believe this period is suitable for rice seeds?</b>	
No	0
Yes	1
Not applicable [if the response to Q80 is "No" or the respondent refuses to answer]	7
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>82. [Interviewer: If "yes" to Q79] Could you specify the month during which you sowed your rice seeds last crop season? [Interviewer: Read aloud answer options]</b>	
January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8
September	9
October	10
November	11
December	12
Not applicable [if the response to Q79 is "No" or the respondent refused to answer] [Do not read]	97
Refusal to respond [Do not read]	98
Doesn't know/doesn't remember [Do not read]	99

<b>83. During which month did the first rains arrive in your locality? [Interviewer: Read aloud answer options]</b>	
January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8
September	9
October	10
November	11
December	12
Refusal to respond [Do not read]	98
Doesn't know/doesn't remember [Do not read]	99

<b>84. [Interviewer: If "yes" to Q79] Was there enough rain for planting rice?</b>	
No	0
Yes	1
Not applicable [if the response to Q79 is "No" or the respondent refuses to answer]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>85. [Interviewer: If "yes" to Q79] Was there enough rainfall during the flowering period of the rice?</b>	
No	0
Yes	1
Not applicable [if the response to Q79 is "No" or the respondent refuses to answer Q79] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>86. [Interviewer: If "yes" to Q79] What was the total area of rice sowed prior to having insurance? [Interviewer: Read aloud answer options]</b>	
Less than 0,5 ha	1
Between 0,5 ha and 0,99 ha	2
Between 1 ha and 1,49 ha	3
Between 1,5 ha and 1,99 ha	4
Between 2 ha and 3 ha	5
More than 3 ha	6
Not applicable [if the response to Q79 is "No" or the respondent refuses to answer Q79] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>87. [Interviewer: If “yes” to Q79] What is the total area of rice sowed now with agricultural insurance? [Interviewer: Read aloud answer options]</b>	
Less than 0,5 ha	1
Between 0,5 ha and 0,99 ha	2
Between 1 ha and 1,49 ha	3
Between 1,5 ha and 1,99 ha	4
Between 2 ha and 3 ha	5
More than 3 ha	6
Not applicable [if the response to Q79 is “No” or the respondent refuses to answer Q79]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

**Now, we are interested in hearing about corn.**

<b>88. Do you cultivate corn?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8

<b>89. [Interviewer: If “yes” to Q88] a</b>	
No	0
Yes	1
Not applicable [if the response to Q88 is “No” or the respondent refuses to answer]	7
Refusal to respond [Do not read]	8
Do not remember plus [Do not read]	9

<b>90. [Interviewer: If “yes” to Q89] Do you think this time is suitable for corn planting?</b>	
No	0
Yes	1
Not applicable [if the response to Q80 is “No” or the respondent refuses to answer]	7
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>91. [Interviewer: If “yes” to Q88] Could you specify the month during which you sowed your corn last crop season? [Interviewer: Read aloud answer options]</b>	
January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8

September	9
October	10
November	11
December	12
Not applicable [if the response to Q88 is “No” or the respondent refused to answer] [Do not read]	97
Refusal to respond [Do not read]	98
Doesn't know/doesn't remember [Do not read]	99

**92. During which month did the first rains arrive in your locality?** [Interviewer: Read aloud answer options]

January	1
February	2
March	3
April	4
May	5
June	6
July	7
August	8
September	9
October	10
November	11
December	12
Refusal to respond [Do not read]	97
Doesn't know/doesn't remember [Do not read]	98

**93. [Interviewer: If “yes” to Q88] Was there enough rainfall for planting corn?**

No	0
Yes	1
Not applicable [if the response to Q88 is “No” or the respondent refuses to answer] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

**94. [Interviewer: If “yes” to Q88] Was there enough rain during the flowering period of the corn?**

No	0
Yes	1
Not applicable [if the response to Q88 is “No” or the respondent refuses to answer Q79]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>95. Interviewer: If “yes” to Q88] What was the total area of corn sowed prior to having insurance? [Interviewer: Read aloud answer options]</b>	
Less than 0,5 ha	1
Between 0,5 ha and 0,99 ha	2
Between 1 ha and 1,49 ha	3
Between 1,5 ha and 1,99 ha	4
Between 2 ha and 3 ha	5
More than 3 ha	6
Not applicable [if the response to Q88 is “No” or the respondent refuses to answer Q88] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>96. Interviewer: If “yes” to Q88] ] What is the total area of corn sowed now with agricultural insurance? [Interviewer: Read aloud answer options]</b>	
Less than 0,5 ha	1
Between 0,5 ha and 0,99 ha	2
Between 1 ha and 1,49 ha	3
Between 1,5 ha and 1,99 ha	4
Between 2 ha and 3 ha	5
More than 3 ha	6
Not applicable [if the response to Q88 is “No” or the respondent refuses to answer Q88]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

**Now let's discuss the automatic rain gauges.**

<b>97. Did you know that there was an automatic or manual rain gauge in your village or surrounding villages?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>98. Were you aware of which automatic rain gauge covered your area?</b>	
No	0
Yes	1
Not applicable [if the respondent is from Tambacounda] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>99. Are you informed about the quantity of rainfall recorded by the automatic rain gauge or the satellite?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>100. The automatic rain gauge that covers you, is it representative of rainfall you receive in your area?</b>	
No	0
Yes	1
Not applicable [if the respondent is from Tambacounda] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>101. Do you think the satellite measures well the amount of rainfall in your locality?</b>	
No	0
Yes	1
Not applicable [if the respondent is from Kolda] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>102. Do you know how to read data from a manual rain gauge?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

### Section: Organizational Information and Empowerment of Group Members

<b>103</b>	In your household, who has the final word concerning:	1: Head of household 2: Respondent 3: Other family member 4: Respondent and head of household 5: Respondent and other members of the household 88: A group of family members 96: Other individuals outside of the household 98: Don't know
<b>A</b>	...if you have to work to make money?	
<b>B</b>	...if you have to utilize a method of contraception?	
<b>C</b>	...decisions regarding the children's education?	
<b>D</b>	...what to do if a member of the family falls ill?	
<b>E</b>	...how to discipline the children?	
<b>F</b>	...to have or not to have another baby?	

<b>104. What do you do when you are not working in your fields?</b>	
Nothing	0
I work in small-scale business (selling food etc.)	1
I work in others' fields	2
I work for someone else but not in the fields	3
I do housework	4
I spend time at the house and with the children	5
Others (to specify)	
Refusal to respond	8
Don't know	9

<b>105. How do you spend your money gained from the harvest?</b> [Do not read the response options. Code the respondent's answers] [Code more than one answer]	
Household expenses	1
Food	2
Medicine	3
School fees	4
Microenterprise (buying things to resell)	5
Clothing	6
Travel costs	7
Equipment for the business (mills, sewing machines ...)	8
Animals	9
Ceremonies	10
Investment in inputs, pesticides...	11
Payment for the insurance premium for the next crop season	12
Savings	13
Others (to specify)	

<b>106. In your opinion, does your Producer Organization (PO) work well?</b>	
No	0
Yes, a little	1
Yes, the PO works very well	2
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>107. Do you feel respected in your PO?</b> [Interviewer: Probe strength of opinion]	
No	0
Yes, a little or sometimes	1
Yes, always	2
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>108. In your opinion, is agricultural insurance useful?</b> [Interviewer: Probe strength of opinion]	
No	0
Yes, a little	1
Yes, very useful	2
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

**Economic information**

<b>109. From which materials are the walls of your house made of?</b> [Interviewer: Read aloud answer options]	
Land alone	0
Earth covered with cement	1
Sheets of metal	2
Cement, concrete, brick	3

Straw, thatch	4
Other	96

<b>110. What is the primary material your roof made of?</b> [Interviewer: Read aloud answer options]	
Sheet metal, sheet metal	0
Straw, thatch	1
Cement, concrete	2
Other	96

<b>111. What material is the floor of your bedroom made of?</b> [Interviewer: Read aloud answer options]	
Earth	1
Brick, stones	2
Cement, tiles	3
Other	96

<b>112. Does the house belong to the family?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>113. What is the tenure of your home?</b> [Interviewer: Read aloud answer options]	
Family use	1
Leasing	2
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>114. Do you have a bank account?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>115. Did you apply for credit for the 2016-2017 crop season?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>116. [Interviewer: If "yes" to Q115] How much (in FCFA) did your credit increase by?</b>							
	[Interviewer: Write down a 6-digit number. Don't know/Don't remember= 999999]						

<b>117. [Interviewer: If “yes” to Q115] From which institution did you borrow this credit? [Interviewer: Read aloud answer options]</b>	
Crédit Mutuelle du Sénégal	1
Bank	2
Caisse Nationale de Crédit Agricole	3
Family/Parent/Friend	4
Not applicable [If the respondent said “No” to Q115] [Do not read]	7
Refusal to respond [Do not read]	8
Other [Specify] _____	Post code <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

<b>118. [Interviewer: If “yes” to Q115] Did you pay back the credit?</b>	
No	0
Yes	1
Not applicable [If the respondent said “No” to Q115] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>119. [Interviewer: If “yes” to Q118] What is the frequency of repayment for this credit? [Do not read the response options. Code the respondent's answers]</b>	
Monthly	0
Quarterly	1
Biannual	2
Annual	3
At the end of the harvest	4
Others to specify [Do not read]	5
Doesn't know [Do not read]	9

<b>118. [Interviewer: If “yes” to Q118] What is the amount (in FCFA) that you must pay back? [Interviewer: Write a 6-digit number. Don't know= 999999]</b>	<input type="text"/>					
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<b>121. Compared to last year, how would you assess your current financial situation? [Interviewer: Read out response options] [Probe strength of opinion]</b>	
Much worse	1
Worse	2
Unchanged	3
Better	4
Much better	5
Don't know	9

### Challenges and suggestions.

<b>122. Did you have any difficulties when subscribing to agricultural insurance?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know/do not remember [Do not read]	9

<b>123.</b> [Interviewer if “Yes” to Q122] <b>What were these difficulties?</b> [Interviewer: Read out response options]	
I didn’t have the financial means to subscribe during the time of subscription	0
I didn’t have enough information regarding the advantages of such a subscription	1
Not applicable [If the respondent answered “No” to Q122] [Do not read]	7
Others to specify	8
Doesn’t know/do not remember [Do not read]	9

<b>124. Are you willing to subscribe to agricultural insurance for the 2017-2018 crop season?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn’t know [Do not read]	9

<b>124A.</b> [Interviewer: If “yes” to Q124] <b>If no, why not?</b> [Interviewer: Code from the responses. Do not read the answer options]	
The insurance premium is too expensive for me and I cannot pay	1
I had a bad harvest last year and the insurance did not compensate me	2
I had a bad harvest and the insurance compensated our PO but not me personally	3
Our PO is not covered by insurance	4
The PADAER does not support our PO for the payment of the insurance premium	5
Not applicable [If respondent answered Yes to Q124] [Do not read]	7
Refusal to respond [Do not read]	8
Do not know [Do not read]	9
Other(s) to be specified	

<b>124B.</b> [Interviewer: If “yes” to Q124] <b>If yes, why?</b> [Interviewer: Code from the responses. Do not read the answer options]	
I had a poor harvest last year and the insurance helped me	1
I was not insured last year but I know someone who was insured and compensated	2
I trust the insurance	3
Not applicable [If respondent answered No to Q124] [Do not read]	7
Refusal to respond [Do not read]	8
Do not know [Do not read]	9
Other(s) to be specified	

<b>125. Are you ready willing to subscribe to agricultural insurance for the 2017-2018 crop season, even if PADAER does not subsidize the insurance?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn’t know [Do not read]	9

<b>126. What is your highest level of education?</b> [Interviewer: Code from the responses. Do not read the answer options]	
No formal education	0
Only informal education (including koranic education)	1
Unfinished Primary School education	2
Completed Primary School education	3
Unfinished Secondary/High School education	4
Completed Secondary/High School education	5
Other post-secondary school qualifications other than university studies (certificate or diploma from a polytechnic university)	6
Unfinished university studies	7
Completed university studies	8
Post-graduate/university	9
Don't know (Do not read)	99

**THANK YOU VERY MUCH. YOUR RESPONSES HAVE BEEN VERY HELPFUL.**

**END OF THE INTERVIEW—DO NOT FORGET TO FILL OUT THE FOLLOWING SECTION.**

**THE INTERVIEW MUST RESPOND TO ALL THE FOLLOWING QUESTIONS AT THE END OF THE INTERVIEW.**

	Hour	Minutes
<b>ENDTIME.</b> The hour when the interview finished. [Interviewer: Write the hours and minutes, use 24 time]		

<b>LENGTH.</b> Reserved to the Secretariat. The length of the interview in minutes.			
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<b>127. Sex of the Respondent</b>	
Male	1
Female	2

<b>128. The interview was principally carried out in which language?</b> [Circle the relevant response]			
French	2	Diola	665
Wolof	660	Other [Specify]:	Post
Pulaar/Toucouleur	661		

**INTERVIEWER DETAILS IDENTIFICATION OF THE INTERVIEWER**

<b>129. Name of the interviewer</b> [Write down]	
<b>130. Number assigned to interviewer</b>	
<b>131. Age of the interviewer</b>	

<b>132. Sex of the interviewer</b>	
Male	1
Female	2

<b>133. Are you originally from a rural or urban area?</b>	
Rural	1
Urban	2

<b>134. Interviewer's Mother language</b>			
French	2	Diola	665
Wolof	660	Manjack	666
Pulaar/Toucouleur	661	Bainouk	667
Serer	662	Bassari	668
Mandinka/Bambara	663	Other [Specify]: _____	Post code
Soninke	664	Don't know	

<b>135. Interviewer's highest level of education:</b>	
Finished Primary school	3
Unfinished secondary/high school	4
Completed secondary/high school	5
Other post-secondary school qualifications other than university studies (certificate or diploma from a polytechnic university)	6
Unfinished university studies	7
Completed university studies	8
Post-graduate studies	9

**SIGNATURE PAGE**

**136. INTERVIEWER: Do you have any comments regarding the interview?  
For example, did anything significant happen during the interview?**

No	0
Yes : [Explain] _____ _____ _____ _____	1

**137. INTERVIEWER:** I certify that this interview was carried out in compliance with the instructions received during the training. All of the recorded responses came from the Respondent who was chosen through an appropriate selection method.

INTERVIEWER'S SIGNATURE:

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**138. SUPERVISOR:** Do you have any comments regarding the interview? For example, did anything significant happen during the interview?

No	0
Yes: [Explain] _____ _____ _____	1

**139. SUPERVISOR:** I certify that this interview was conducted in compliance with instructions given to interviewers during the training session. All of the responses were controlled for complement and precision. All of the information about the ZD on the first page was based on observations I made personally in the zone chosen by the appropriate sampling method.

SUPERVISOR'S SIGNATURE:

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**EVALUATION OF THE IMPLEMENTATION PROCESS OF AGRICULTURAL INSURANCE IN THE PADAER ZONE**

**QUESTIONNAIRE EXTENSION AGENTS**

Respondent number				Interviewer number				Site number			
								[Chosen by Secretariat]			

*[Interviewer: Choose the code for the Region and Department. Write the names of regions, departments, cities/communes, neighborhoods, communes of neighborhoods/ rural communities, quarter of city or commune, village and number of the ZD in the cases]*

Region		Department	
Kolda	100	City / Commune	
Tambacounda	101	<b>Neighborhood</b>	
		Commune/Neighborhood/Rural community	
		<b>Quarter of city/commune/village</b>	
		City / Commune	

When you find a household with someone in the house: present yourself with the text below. You will have to learn to present yourself in this manner in order to maintain the proper format.

**Hello. My name is \_\_\_\_\_ . I am an agent at the African School of Economics (ASE) and the XXXX, an independent research center. I do not represent the government nor any political party. We are carrying out a study evaluating the process of implementation index in the PADAER zone. We would like to discuss certain questions with you, relative to the agricultural insurance. Actually, you were chosen randomly to participate in our study. All of the information will be confidential. Would you like to participate in this study? Yes 1 No 2**

Note: The person should give his/her consent in positively responding to the above question. If he/she refuses to participate in the study, leave the household. Substitute the household by making another random selection from the PO members list. If the consent is obtained, proceed with the rest of the questionnaire.

<b>DATE INTR</b>	Day		Months		Year	
Date of the interview [Interviewer: Take note of the day, the month, and the year]						

<b>STR TIME</b>	Hour		Minute	
Time the interview begins [Interviewer: Take note of the hour and minutes, use the 24 hour time]				

Interviewer: If a respondent firmly refuses to answer a question, write "REFUS" in the response space after which you can continue on to the following question.

#### BEGINNING OF THE INTERVIEW

**Let's begin by asking a few questions about yourself.**

<b>1. How old are you?</b>						
[Interviewer: Take note of a 3-digit number. Doesn't know= 999]						
<b>2. Which Senegalese language do you speak in the household?</b> [Interviewer: Indicate if necessary. This has to do with the language of your ethnic group]						
French	2	Diola	665			
Wolof	660	Manjack	666			
Pulaar/Toucouleur	661	Bainouk	667			
Serer	662	Bassari	668			
Mandinka/Bambara	663	Other [Specify]: _____	Post code			
Soninke	664	Do not know [Do not read]	9999			

<b>3. How many times do you receive information from the following sources?</b>						
[Interviewer: Read the answer options out loud]						
	Every day	A few times a week	A few times a month	Less than once per month	Never	Don't know [NPL]

<b>Radio</b>	4	3	2	1	0	9
<b>Television</b>	4	3	2	1	0	9
<b>Written press</b>	4	3	2	1	0	9
<b>Internet</b>	4	3	2	1	0	9

<b>4. Are you?</b> [Interviewer: Read aloud response options]:	
Relais de l'OP	1
Extension agent from BAMTAARE	2
Agricultural/rural counselor from ANCAR	3

<b>5.</b> [Interviewer: If answered "Relais" to Q4] <b>What is the name of your Producer Organization?</b> [Interviewer: Record the name of the PO in print letters]	
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<b>6.</b> [Interviewer: If answered "Relais" to Q4] <b>How many producers are members of your organization?</b> [Interviewer: Take note of a 3-digit number. Doesn't know= 999]			
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<b>7.</b> [Interviewer: If answered "Relais" to Q4] <b>How many women are members of your organization?</b> [Interviewer: Take note of a 3-digit number. Doesn't know= 999]			
--	--	--	--

<b>8.</b> [Interviewer: If answered "Relais" to Q4] <b>How many years has it been since your organization was created?</b> [Interviewer: Read aloud response options]:	
Less than 3 years	1
Between 3 and 6 years	2
Between 6 and 10 years	3
More than 10 years	4
Not applicable [If the response to Q4 is "Extension agent from BAMTAARE" or "Agricultural/rural counselor from ANCAR" [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>9.</b> [Interviewer: If answered "Relais" to Q4] <b>Since when has your organization benefited from PADAER'S assistance?</b> [Interviewer: Read aloud response options]:	
1 years	1
2 years	2
3 years	3
More than 3 years	4
Not applicable [If the response to Q4 is "Extension agent from BAMTAARE" or "Agricultural/rural counselor from ANCAR" [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>10 Interviewer: If answered “Relais” to Q4] Since when have you been the relais for the organization? [Interviewer: Read aloud response options]:</b>	
Less than 1 year	1
Between 1 and 3 years	2
Between 3 and 10 years	3
More than 10 years	4
Not applicable [If the response to Q4 is “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR” [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>11. [Interviewer: If answered “Relais” to Q4] Were all the members of your organization able to subscribe to PADAER’s agricultural insurance during the last crop season? [Interviewer: Read aloud response options]:</b>	
No	0
Yes, but with minor difficulty	1
Yes, but with major difficulty	2
Not applicable [If the response to Q4 is “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR” [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>12. [Interviewer: If answered “Relais” to Q4] Were all the members of your organization actually subscribed to PADAER’S agricultural insurance during the last crop season? [Interviewer: Read aloud response options]:</b>	
No	0
Yes	1
Not applicable [If the response to Q4 is “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR” [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>13. [Interviewer: If “No” to Q12] What were some reasons for the lack of subscription of certain members? [Interviewer: Read aloud response options] [Accept multiple responses]:</b>	
They did not have the means to subscribe	1
They thought the subscription premium was expensive	2
They were not interested in the agricultural insurance	3
They were not adequately informed about the agricultural insurance	4
The period of subscription coincided with the contribution payment period for the agricultural inputs	5
Not applicable [If the response to Q12 is « Yes»] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9
Others	

<b>14.</b> [Interviewer: If “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR”] <b>Since when have you worked as an agricultural counselor?</b> [Interviewer: Read aloud response options]:	
Less than a year	1
Between 1 and 3 years	2
Between 3 and 10 years	3
More than 10 years	4
Not applicable [If the response to Q4 is “Relais”] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn’t know/doesn’t remember [Do not read]	9

<b>15.</b> [Interviewer: If “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR”] to Q4] <b>In which commune do you intervene in the framework of agricultural insurance?</b> [Interviewer: Read aloud response options]:	
Bagadadji	1
Dioulacolon	2
Saré Bidji	3
Tankanto Escale	4
Koussanar	5
Sinthiou Malème	6
Maka Coulibatang	7
Ndam	8
Mereto	9
Sare Yoba Diega	10
Not applicable [If the response to Q4 is “Relais”] [Do not read]	97
Refusal to respond [Do not read]	98
Doesn’t know/doesn’t remember [Do not read]	99

<b>16.</b> [Interviewer: If “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR”] to Q4] <b>Since when have you worked as an agricultural counselor in this commune?</b> [Interviewer: Read aloud response options]:	
Less than a year	0
Between 1 and 3 years	1
Between 3 and 10 years	2
More than 10 years	3
Not applicable [If the response to Q4 is “Relais”] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn’t know/doesn’t remember [Do not read]	9

<b>17.</b> [Interviewer: If “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR”] to Q4] <b>How many producer organizations benefit from PADAER’s assistance in your intervention area?</b> [Interviewer: Take note of a 3-digit number. Doesn’t know= 999]			
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<b>18.</b> [Interviewer: If “Extension agent from BAMTAARE” or “Agricultural/rural counselor from ANCAR”] to Q4.			
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<b>How many Producer Organizations supported by PADAER were covered by the index insurance in your intervention area?</b> [Interviewer: Take note of a 3-digit number. Doesn't know= 999]			
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<b>19. [Interviewer: If "Extension agent from BAMTAARE" or "Agricultural/rural counselor from ANCAR"] to Q4] Did all the Producers Organizations supported by PADAER that were able to subscribe to agricultural insurance actually subscribe to the insurance policy?</b>	
No	0
Yes	1
NSP [Do not read]	9

<b>20. [Interviewer if "No" to Q19] What were some reasons for the lack of subscription of certain producer organizations? [Interviewer: Read aloud response options] [Accept multiple responses]:</b>	
They did not have the means to subscribe	1
They thought the subscription premium was expensive	2
They were not interested in the agricultural insurance	3
They were not adequately informed about the agricultural insurance	4
The period of subscription coincided with the contribution payment period for the agricultural inputs	5
Not applicable [If the response to Q12 is « Yes»] [Do not read]	7
They did not have the means to subscribe	8
They thought the subscription premium was expensive	9

**Now let's discuss the training on index insurance.**

<b>21. Did you participate in the training sessions on index insurance, organized by PADAER for producer organizations?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't remember [Do not read]	9

<b>22. [Interviewer if "Yes" to Q21] How many training sessions on index insurance did you participate in? [Interviewer: Take note of a 2-digit number. Doesn't know= 99]</b>		
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<b>23. [Interviewer if "Yes" to Q21] Do you believe the training sessions were sufficient to fully understand PADAER's agricultural insurance?</b>	
No	0
Yes	1
Not applicable [ONLY if the response to Q21 is "No", or "I don't remember"]	7
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>24. [Interviewer if “Yes” to Q21] Do you believe the content in the training sessions best responded to producers’ questions?</b>	
No	0
Yes	1
Not applicable [ONLY if the response to Q21 is “No”, or “I don’t remember”]	7
Refusal to respond [Do not read]	8
Doesn’t know [Do not read]	9

<b>25. [Interviewer if “Yes” to Q21] Do you need supplementary training on PADAER’s agricultural insurance?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn’t know [Do not read]	9

Now, we are interested in hearing about your sensitization component.

<b>26. Did you organize sensitization sessions on PADAER’S agricultural insurance at the producers’ location?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn’t know/doesn’t remember [Do not read]	9

<b>27. [Interviewer if “Yes” to Q26] How many sensitization sessions did you organize? [Interviewer: Take note of a 2-digit number. Doesn’t know= 99]</b>		
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<b>28. [Interviewer if “Yes” to Q26] On average, how many producers assisted your sensitization sessions on index insurance? [Interviewer: Take note of a 3-digit number. Doesn’t know= 999]</b>			
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<b>29. [Interviewer if “Yes” to Q26] Did you have any difficulties responding to Producers’ concerns during your sensitization sessions?</b>	
No	0
Yes	1
Not applicable [ONLY if the response to Q26 is “No”, or “I don’t remember”] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn’t know/doesn’t remember [Do not read]	9

<b>30. [Interviewer if “Yes” to Q26] Did you find the sensitization sessions to be sufficient for producers to fully understand PADAER’s agricultural insurance?</b>	
No	0
Yes	1
Not applicable [ONLY if the response to Q26 is “No”, or “I don’t remember”] [Do not read]	7

Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>31. [Interviewer if "Yes" to Q26] Outside of the sensitization sessions, have you used other methods to sensitize producers on PADAER's agricultural insurance?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>32. [Interviewer if "Yes" to Q31] Which other methods did you use to sensitize producers on agricultural insurance?</b>	
Announcement on the community radio	1
Poster	2
Skit	3
Not applicable [ONLY if the response to Q31 is "No", or "I don't remember"] [Do not read]	7
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9
Others to specify	

**Let's discuss the subscription to PADAER's agricultural insurance.**

<b>33. Did you have any difficulties filling out the farm insurance membership slips during the last crop year?</b>	
No	0
Yes, with minor difficulty	1
Yes, with major difficulty	2
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>34. Did you have any difficulties filling out the agricultural insurance reporting documents during the last crop year?</b>	
No	0
Yes, with minor difficulty	1
Yes, with major difficulty	2
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>35. Do you believe the subscription period was favorable to producers?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know/doesn't remember [Do not read]	9

<b>36. How would you evaluate the subscription period for PADAER's agricultural insurance?</b> [Interviewer: Read aloud response options][Probe strength of opinion]:	
Too short	1
Fairly short	2
Satisfactory	3
Long	4
Too long	5
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>37. A. Would you like to indicate to me if the following crops are covered by PADER's agricultural insurance?</b>	Yes	No
Corn	1	0
Rice	1	0
Peanut	1	0
Millet	1	0
Sorghum	1	0
Cowpea	1	0
Cotton	1	0
Watermelon	1	0

<b>37. B. Was there another crop that was covered by PADAER? [If yes, which one?]</b>	Yes	No
	1	0

<b>38. Would you say that the insurance premium amount for corn is affordable for producers?</b> [Interviewer: Read aloud response options][Probe strength of opinion]:	
Not at all affordable	1
Somewhat affordable	2
Affordable	3
Pretty affordable	4
Very affordable	5
Doesn't know [Do not read]	9

<b>39 Would you say that the insurance premium amount for rice is affordable for producers?</b> Interviewer: Read aloud response options] [Probe strength of opinion]:	
Not at all affordable	1
Somewhat affordable	2
Affordable	3
Pretty affordable	4
Very affordable	5
Doesn't know [Do not read]	9

<b>40. Do you know the planting/sowing periods recommended by PADAER's agricultural insurance?</b>	
No	0

Yes	1
Refusal to respond [Do not read]	8
Doesn't remember [Do not read]	9

**41. [If "Yes" to Q40] Can you tell us the planting period for maize recommended by the insurance?** [Interviewer: Read aloud response options]:

Between June 1-15	1
Between June 15 and the end of the month	2
Between July 1-15	3
Between July 15 and the end of the month	4
Between August 1-15	5
Between August 15 and the end of the month	6
Between September 1 and the end of September	7
Not applicable [If the response to Q39 was "No"]	97
Refusal to respond [Do not read]	98
Doesn't remember [Do not read]	99

**42. [If "Yes" to Q40] Can you tell us the planting period for rice recommended by the insurance?** [Interviewer: Read aloud response options]:

Between June 1-15	1
Between June 15 and the end of the month	2
Between July 1-15	3
Between July 15 and the end of the month	4
Between August 1-15	5
Between August 15 and the end of the month	6
Between September 1 and the end of September	7
Not applicable [If the response to Q40 was "No"]	97
Refusal to respond [Do not read]	98
Doesn't remember [Do not read]	99

**43. [Interviewer: If "Relais" to Q4] Do you know the village which serves as a reference for the rainfall data of your village?**

No	0
Yes	1
Not applicable [If the response to Q4 is "Extension agent from BAMTAARE" or "Agricultural/rural counselor from ANCAR" [Do not read]	7
Refusal to respond [Do not read]	8
NSP [Do not read]	9

**44. [Interviewer: If "Yes" to Q43] How many km separate your village from the village of reference for the rainfall records?** [Interviewer: Read aloud response options]:

I am in the village of reference [Do not read]	0
Less than 5km	1
Between 5 and 7 km	2
Between 7 and 10 km	3

More than 10 km	4
Not applicable [If the response to Q43 was “No”] [Do not read]	7
Refusal to respond [Do not read]	8
NSP [Do not read]	9

<b>45. Do you think that the reference villages correctly represent the rainfall of the villages attached to them?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>46. [Interviewer: If “No” to Q45] If no, why not? [Do not read the responses. Code from respondent's answers]</b>	
The distance between the reference village and the attached village is too large	1
It rains more abundantly in the village of reference than the attached village	2
It does not rain enough in the reference village compared to the attached village	3
Refusal to respond [Do not read]	8
Does not know [Do not read]	9
Other(s) to be specified	

<b>47. Do you know how to read data from a manual pluviometer?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>48. Do you know Producer Organizations that have been compensated at least once?</b>	
No	0
Yes	1
Refusal to respond [Do not read]	8
Doesn't know [Do not read]	9

<b>49. How would you assess the amount compensated? [Interviewer: Read aloud response options] [Probe strength of opinion]:</b>	
Not at all satisfactory	1
A little satisfactory	2
Satisfactory	3
Fairly satisfactory	4
Very satisfactory	5
Doesn't know [Do not read]	9

<b>50. How would you assess the period of time for the payment of compensation?</b> [Interviewer: Read aloud response options] [Probe strength of opinion]:	
Too short	1
Fairly short	2
Satisfactory	3
Long	4
Too long	5
Doesn't know [Do not read]	9

<b>51. What is your highest level of education?</b> [Do not read the responses. Code from respondent's answers]	
No formal education	0
Only informal education (including koranic education)	1
Unfinished Primary School education	2
Completed Primary School education	3
Unfinished Secondary/High School education	4
Completed Secondary/High School education	5
Other post-secondary school qualifications other than university studies (certificate or diploma from a polytechnic university)	6
Unfinished university studies	7
Completed university studies	8
Post-graduate/university	9
Doesn't know [Do not read]	99

**THANK YOU VERY MUCH. YOUR RESPONSES HAVE BEEN VERY HELPFUL.**

**END OF THE INTERVIEW—DO NOT FORGET TO FILL OUT THE FOLLOWING SECTION.**

**THE INTERVIEW MUST RESPOND TO ALL THE FOLLOWING QUESTIONS AT THE END OF THE INTERVIEW.**

	Hour	Minutes
<b>ENDTIME.</b> The hour when the interview finished. [Interviewer: Write the hours and minutes, use 24 time]		

<b>LENGTH.</b> Reserved to the Secretariat. The length of the interview in minutes		
<b>52. Sex of the Respondent</b>		
Male		1
Female		2

<b>53. The interview was principally carried out in which language?</b> [Circle the relevant response]			
French	2	Diola	665
Wolof	660	Other [Specify]:	Post
Pulaar/Toucouleur	661		

## INTERVIEWER DETAILS IDENTIFICATION OF THE INTERVIEWER

<b>54. Name of the interviewer</b> [Write down]		
<b>55. Number assigned to interviewer</b>		
<b>56. Age of the interviewer</b>		

<b>57. Sex of the interviewer</b>	
Male	1
Female	2

<b>58. Are you originally from a rural or urban area?</b>	
Rural	1
Urban	2

<b>59. Interviewer's Mother language:</b>			
French	2	Diola	665
Wolof	660	Manjack	666
Pulaar/Toucouleur	661	Bainouk	667
Serer	662	Bassari	668
Mandinka/Bambara	663	Other [Specify]: _____	Post code
Soninke	664	Don't know	

<b>60. Interviewer's highest level of education:</b>	
Only informal education (including koranic education)	3
Unfinished Primary School education	4
Completed Primary School education	5
Unfinished Secondary/High School education	6
Completed Secondary/High School education	7
Other post-secondary school qualifications other than university studies (certificate or diploma from a polytechnic university)	8
Unfinished university studies	9

**SIGNATURE PAGE**

**61. INTERVIEWER:** Do you have any comments regarding the interview?

For example, did anything significant happen during the interview?

No	0
Yes : [Explain] _____ _____ _____ _____	1

**62. INTERVIEWER:** I certify that this interview was carried out in compliance with the instructions received during the training. All of the recorded responses came from the Respondent who was chosen through an appropriate selection method.

SIGNATURE DE L'ENQUETEUR:

\_\_\_\_\_

**62. SUPERVISOR:** Do you have any comments regarding the interview? For example, did anything significant happen during the interview?

No	
Yes: [Explain] _____ _____ _____ _____	

**63. SUPERVISOR:** I certify that this interview was conducted in compliance with instructions given to interviewers during the training session. All of the responses were controlled for complement and precision. All of the information about the ZD on the first page was based on observations I made personally in the zone chosen by the appropriate sampling method.

**SUPERVISER'S SIGNATURE :**

\_\_\_\_\_