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## Workshop Report

# REPORT OF THE CLIMATE INFORMATION EXCHANGE WORKSHOP WITH DECISION MAKERS DAKAR, 3 MAY 2018



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Duration: 54 months

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The AMMA-2050 project started 01/06/2015 and will continue for 4 years.

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# Report of the Climate Information Exchange Workshop with Decision Makers

ISRA, Dakar, 3 May 2018

## 1. Context and Justification

The AMMA-2050 consortium (Multidisciplinary Analysis of the African Monsoon in 2050) organised a climate information exchange workshop on May 3, 2018, in Dakar, hosted at the Senegalese Institute for Agricultural Research (ISRA). This activity is keeping with the aim of the project which is to produce useful climatic information and especially its use in public policy development processes, in relation to the agricultural sector.

The overall objective of the meeting was therefore to identify the actions and results of the AMMA-2050 project that can support the formulation of current agricultural policies in Senegal (see Annex for the Terms of Reference). In other words, this sharing of climate information with decision makers who need to take into account the climate change dimension in accordance with Senegal's international commitment. Senegal is also in the process of revising or developing agricultural and local development programs that must be sensitive to climate trends.

## 2. Institutions present

The workshop started with introductions from the participants present. Followed by a welcoming address by the Secretary General of ISRA, Dr Mgayé Diop. The decision makers present are outlined in the following table:

|   | Structures publiques  | Représentants  |
|---|---|--|
| 1 | Ministère de l'Agriculture et de l'Équipement Rural                               | Direction de l'Agriculture (CCASA)                                   |
| 2 | Ministère de l'Environnement et du Développement durable                          | Projet d'appui scientifique au Plan National d'Adaptation (PAS-PNA)  |
| 3 | Comité national d'adaptation aux changements climatiques (COMNACC)                | Commission vulnérabilité et adaptation                               |
| 4 | Conseil municipal de Fatick   | Secrétaire municipal   |
| 5 | Agence régionale de Développement de Fatick (ARD)                                 | Directeur  |
| 6 | Commission régionale d'adaptation aux changements climatiques (COMREEC) de Fatick | Direction régionale de l'environnement et des établissements classés |

## 3. Presentations of Climate Information

- **Tanya Warnaars** made a general presentation of the AMMA-2050 project, including members of the consortium, its major activities and the expected results. Then gave a brief overview on climate information the project is working on the ambition to tie into decision making.
- **Moussa Diakhaté** of the Dakar Polytechnic University (UCAD), based on data from the Intergovernmental Panel on Climate Change (IPCC), and the AMMA-2050 project presented on the current state of knowledge regarding projections of rising temperatures in the Sahel region and the evolution of the seasons by 2050.

- **Benjamin Sultan** of the Institute for Research for Development (IRD) has shown the potential impacts on agriculture to meet the demand for food by a population that is steadily increasing out to 2050. So, to meet the demand for food, agricultural intensification will be needed.
- **Ndjido Kane** presented ISRA's experiments within the framework of AMMA2050, which seeks to understand the behaviour of crops in the face of the predicted increase of temperatures and the decrease of the rainfall. For example, it is likely that a variety such as millet sanio would be better suited to the east of the country, while souna millet, currently grown in the Groundnut Basin, would be resilient and adapted to the southern region of the country. Ongoing work on these scenarios that will be confirmed by AMMA-2050.
- The AMMA-2050 consortium also presented its **Atlas**, a tool that provides information on climate trends and the demonstrator. The consortium is committed to making the information in the Atlas more accessible and digestible for policymakers and farmers.

#### 4. Discussions

- Dr. Mbaye Diop emphasized the need to work on atmospheric indicators that predict the beginning and end of the season. Ibrahima Camara (PAS-PNA) and Boubacar Khalil Ndiaye (Fatick Town Hall) added the need for information on rain breaks, expected rainfall and adapted crop varieties. In this regard, Djidiack Faye (Fatick ARD) has already pointed out that the intensive farming system does not give good results.
- Bounama Dièye of the Directorate of Agriculture expressed the need of his department to have information on seasonal crops and the behaviour of the rainy season to better inform the agricultural campaigns and to avoid the State of Senegal to launch emergency adaptation programs as it has been since 2014. According to Mr. Dièye, the 20 mm rainfall criterion defined by the AGRHYMET Regional Centre should be applied according to the regions and not generalized to the scale of the Sahel region.
- Biramé Diouf (COMNACC) would like to know about agricultural speculations other than millet in the light of climate projections in West Africa. He welcomed the confirmation of recurrences of climatic extremes of millet souna resilience. Access to techniques for dealing with CC in practice would be useful. Resilience of Millet was shown but are other crops looked at?
- Omar Badiane (DREEC of Fatick) asked if AMMA-2050 intends to be inspired by the field-school model experienced by FAO in Fatick. An experience that allowed farmers to receive weather information through messages received on mobile phones.

#### Responses:

- Moussa Diakhaté and Youssouf Sané (AMMA-2050) indicated that the criteria for the beginning of the season are defined by the AGRHYMET centre. But to better determine the start of wintering, it is used climatological, hydrological and agronomic criteria.
- Benjamin Sultan further clarified that the objective of AMMA-2050 is to produce long-term climate information, so "the project does seasonal forecasts but analyses trends to identify future scenarios".
- Predicting start of growing season; physical conditions that are needed to describe start of the growing season; false starts is a big issue but equally the rains at the end of the season (COMNACC comment)
- CCASA: in PRACAS the CC was not well integrated so each year have a "Plan d'Adaptation" to integrate CC and are trying to decentralise the information so each location has specialism. But before a farmer can act need to have reliable information

- CC is the basis for the adaptation plan – but need information in a common format also how to integrate CC in local meetings e.g. PSD for the pilot study – want to move towards sharing on improved information on CC
- *Access to information and how to use it was a common theme mentioned. Development research should go further than just basic research*

## 5. Presentations from Projects / public programmes

- **Mélinda Noblet** gave a presentation on the objectives, the aims and the expected results of the Scientific Support Project to the National Adaptation Plan (PAS-PNA). She clarified that the NAP is not yet developed and it will certainly need scientific resources to be effective in the long term.
- **Birame Diouf** (COMNACC) reviewed the issues of the NAP and the need for climate information to plan Senegal's adaptation strategy.
- **Bounama Dièye** presented the challenges of the Senegal Agricultural Acceleration Program (PRACAS), Phase 2 of which is being finalized. The interest for this program is how to take into account climate change in the operational phase for PRACAS to avoid emergency adaptation programs. Therefore, he would like to have climate forecasts as soon as possible, preferably before the start of the crop year.
- **Djidiack** of the Fatick ARD, **Boubacar Khalil Ndiaye** and **Badiane** co-presented elements of the Fatick Development Plan. According to them, this program has taken into account climate change resilience strategies but they face operational difficulties, especially the planting season, climate-adapted varieties and seasonal forecasts very early (before May).

### Replies:

According to Dr. Ndjido Kane, ISRA has developed climate-adapted seeds as part of the West Africa agricultural program. Dr. Mbaye Diop added that agricultural research has worked to respond to this need by taking into account the evolution of rainfall by proposing adapted varieties (eg sorghum).

For Moussa Diakhaté, we notice a strong interannual variability and the forecasts the seasonal forecasts, according to Youssouf Sané (ANACIM) are based on the evolution of the temperature.

PAS-PNA: had a discussion on use of CORDEX vs CMIP5 data and Benjamin to follow up after the meeting on use of his bias corrected data in the work of PAS-PNA.

## 6. Needs for Climate Information

After the lunch break, the state and local institutions present; expressed to AMMA-2050 the types of climate information they need to better plan their medium and long-term development and adaptation programs. Below are details on the replies to the questions posed which are summarised in the table below:

### *What are your current / future climate information needs?*

**PAS-PNA:** this project will end by Jan 2019 and has done a vulnerability study in Fatick region, which was of interest to the regional reps from Fatick. But they used CORDEX non-bias corrected data. Following the meeting Benjamin met with the team and we are looking at whether it can be redone with the bias corrected data of AMMA2050 as results would be more trustworthy. They are working on Vulnerability assessments for 2035 & 2050 for Fatick and would also like information on agriculture.

**Fatick rep:** would want a proactive and pragmatic approach. Interested in variables like:

- Rainfall, duration of rainy season, quantity of rainfall in mm
- sunshine, soil conditions., soil moisture
- start and end of rains needs to know: when will it rain, & if there will be a pause
- end of rains: so you know to grow long or short growing varieties
- yield according to the project and cultivation techniques
- - Extreme events including strong winds (Sept-Oct when winds are violent)

For the local PDC plans: Fatick will need to state its plans in 2019 so need info at the latest in early 2019

**COMNACC:** want info at national level. ANACIM provides 100 yr projections, but want better national scale information for the projections. Need this information for the CDN and in the global analysis. This allows for strategic planning all the way up to 60 years from now. CDN is for 15 yrs, so info on 10-15-20 yr scale helps internationally and nationally at the 5 yr because it is reviewed every 5 yrs. Variables of interest are: those linked to CC: floods, temps., dry and days between the rains. Such as 1st rain, time to 2nd rain time to 3 rd rain to 4 th etc....

Access to this type of information is needed, would also want a platform for sharing so can easily access info. Would like this information in time and space i.e. temporal & spatial data

Hierarchy to use for providing information should flow through existing sources: COMNACC to COMRECC to CCASA

PWG: use this group for communication of season work

*Where there are gaps in the chain for information sharing need to see what can be established.*

*Question: What is the reliability of your sources of Climate information:*

*What are your sources (where do you get these CIs, by whom, how, how often, etc.)?*

**COMNACC:** ANACIM is a member of COMNACC and access to their climate info and tools is available. Uncertainty, does not prevent planning as uncertainty is shared globally.

**Fatick resp.:** The limits of the application of Climate Information are related to the means. Concerning source of data: the problem stems from the frequency of updates (the data do not change often). How reliable are old data?

*In your planning: What information or results presented by AMMA2050 would you use?*

Information used:

- decrease in rainfall length: should be used in the PDC.
- at all levels: national, sectoral, local

Missing info or information needs:

- on false starts to the rainy season.
- Work on different crop varieties is needed (millet, sorghum, maize etc.) and capacity to resist/resilience
- Extreme events and also to characterise these e.g. rainfall definition., winds, storms, heat waves
- Intensity of sunshine: currently looking into give alerts to population as number of issues linked to ill health are rising.
- Information at local and national levels: hard to get information at these scales and also at commune level would help
- Temporal: 5 years is realistic time for planning and should link to the local time frame for policies/politics

- Analysis of the monsoon: would be good to know in the thickness of the monsoon in W. African is changing or what are the impacts of CC on the location of the monsoon pathway (COMNACC asked )

| Institutions/Projets       | Types d'informations/Variables  | When needed  |
|----------------------------|---|--|
| Direction de l'agriculture | Information on future trends in rainfall and adapted seeds                              | Immediately  |
| PAS-PNA                    | Precipitation, temperature, winds, season length, data other than Cordex                | Immediately  |
| COMNACC                    | Rainfall, temperature, flood, the evolution of the monsoon in the Sahel region, erosion | Immediately  |
| Ville de Fatick            | Rainfall, adapted agricultural varieties, soil quality                                  | Before 2019, the year of the elaboration of the Municipal Development Plan |

## 7. Some lessons

- The workshop made it possible to measure the real awareness of the effects of climate change on development strategies at the political level, in particular on the probable evolution of precipitation rainfall for which the projections of AMMA-2050 announce a sharp decline in Senegal by 2050.
- The workshop revealed a real need for state actors in climate information to plan development programs in the long term.
- The planning of territorial development in Fatick, in particular its agricultural component, suffered from a lack of climate data.
- AMMA-2050 is better aware of the specific needs (variables) of national and local decision-makers in climate information.
- The meeting allowed AMMA-2050 to identify the specific needs that the consortium's research projects are not necessarily interested in.

## 8. Outlook

- Organize a meeting between AMMA-2050 and COMNACC (as of 15 May can meet with COMNACC who would appreciate more details). Every 3 – 6 months an exchange of data and/or information would be useful for COMNACC
- Organize a meeting between AMMA-2050 and PAS-PNA
- Make the Atlas more understandable for farmers and some decision-makers

## Acronymes :

AGRHYMET : the AGriculture, HYdrology and METeorology- is a specialized institution of CILSS

ARD (Fatick) : Agence régionale de Développement de Fatick

CCASA: La Plateforme Nationale de Dialogue Science -Politique sur le Changement Climatique, l'Agriculture et la Sécurité Alimentaire

CDN: Contribution Déterminée au niveau National

COMNACC : Comité National sur les Changements Climatiques

COMREEC : Comité Régional sur les Changements Climatiques

DEEC: Direction de l'Environnement et des Etablissements Classées

DREEC: Direction Régional de l'Environnement et des Etablissement Classé

PAS-PNA : Projet d'Appui Scientifique au processus des Plans Nationaux d' Adaptation

PDC: Plan Développementale Communal ?

PNA : Plan National d'Adaptation

PRACAS: Programme d'Accélération de la Cadence de l'Agriculture Sénégalaise

PSD: Plan stratégique de développement

PWG : Pluri-disciplinary Working Group

## Annexes

### 1. Termes de référence de l'atelier

**POUR UNE MEILLEURE PRISE EN COMPTE DE L'INFORMATION CLIMATIQUE  
DANS LES POLITIQUES AGRICOLES :**  
**ECHANGE D'INFORMATIONS ENTRE SCIENTIFIQUES ET DÉCIDEURS SUR  
L'ÉVOLUTION DE LA MOUSSON AFRICAINE D'ICI 2050**

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Termes de référence  
**3 mai 2018, Direction Générale ISRA,  
Bel-Air, Dakar - Sénégal**  
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## **CONTEXTE ET JUSTIFICATION**

Au Sénégal, à l'instar de nombreux pays, le changement climatique est pris en compte dans les politiques d'adaptation et d'atténuation. Les pays signataires de l'accord de Paris se sont engagés à mieux intégrer la dimension de l'utilisation de l'information climatique au niveau de leurs contributions déterminées nationales (CDN), avec une nécessité d'appuyer leur programme par des arguments et des évidences scientifiques.

En dépit d'une bonne compréhension des causes physiques de la variabilité du climat, il n'y a pas d'évidences certaines qui permettent de faire des projections climatiques dans le cadre de la planification des investissements et des politiques agricoles à moyen et long termes. D'où la nécessité de connaissances scientifiques plus précises pour soutenir la planification de l'adaptation.

Le projet Analyse Multidisciplinaire de la Mousson Africaine en 2050 (**AMMA-2050**) **regroupe un consortium de 57 scientifiques dans 16 institutions de recherche sénégalaises, africaines et européennes qui travaillent pour améliorer la compréhension de l'évolution du climat en Afrique de l'Ouest d'ici 2050 et permettre une meilleure prise de décisions politiques relatives à l'agriculture et à d'autres enjeux de développement.**

Le projet AMMA-2050 vise à générer des connaissances qui minimiseraient les incertitudes des projections de modèles climatiques et leurs incidences sur l'agriculture et les inondations, afin de favoriser une meilleure planification des politiques agricoles et d'aménagement de territoires en Afrique de l'Ouest.

Dans le cadre de son exécution (2015-2019), le consortium communique régulièrement avec les parties prenantes (parlementaires, organisations paysannes, société civile, partenaires techniques et financiers, etc.) à travers des enquêtes, des entrevues, des séances d'échange d'informations, de formation et de partage des résultats du projet AMMA-2050.

## **OBJECTIFS**

L'objectif global de cette rencontre du 3 mai 2018 est d'identifier les actions et les résultats du projet AMMA-2050 qui peuvent soutenir la formulation des politiques agricoles en cours au Sénégal. Scientifiques du consortium et décideurs impliqués dans l'élaboration des politiques agricoles au Sénégal échangeront sur l'évolution de la mousson africaine d'ici 2050, son impact sur l'agriculture et les incertitudes autour des projections des modèles climatiques.

Spécifiquement, il s'agira de :

- ☑Partager les actions en cours et les résultats de AMMA-2050 ;
- Partager l'état d'avancement/d'exécution des politiques et programmes au Sénégal
- en terme d'adaptation au changement climatique ;
- Recueillir les besoins d'informations climatiques et d'outils de communication pour

- une meilleure intégration de l'information climatique dans les processus de
- formulation des politiques agricoles.

## PARTICIPANTS

Outre les membres du consortium (12), cet atelier verra la participation de :

- Bureau Opérationnel de Suivi du PSE (BOS) (01) ;
- Représentants (03) du Ministère de l'Agriculture et de l'Équipement Rural: Cellule de planification, Direction de l'agriculture et Plateforme CCASA/Sénégal ;
- Représentants (03) du Projet d'Appui Scientifique au processus des Plans Nationaux d' Adaptation (PAS-PNA) ;
- Représentants (02) du Comité National sur les Changements Climatiques (COMNACC) ;
- Représentants de Fatick (04) : gouvernance, Comité régional sur les changements climatiques (COMREEC), Mairie et Agence Régionale de Développement (ARD) ;
- Représentants (02) de la Direction de l'Environnement et des Etablissements Classés (DEEC).

## AGENDA

| Horaires    | Activités   | Pilote                                     |
|-------------|---|--|
| 9h-9h30     | Accueil des participants  | ISRA                                       |
| 9h30-10H30  | Présentation de AMMA-2050 : actions et résultats des WPs et Atlas   | ISRA/IED Afrique WP1 à WP5                 |
| 10h30-11H   | Discussion générale sur AMMA-2050   | Modérateur (trice)                         |
| 11h-13h     | Présentations de :<br>CDN<br>PRACAS II<br>CCASA<br>PDNL Fatick<br>PAS-PNA                                       | DEEC<br>MAER DA<br>Point Focal<br>?<br>GIZ |
| 13H-14H15   | Pause-déjeuner  | ISRA                                       |
| 14H15-15H15 | Discussion générale sur la prise en compte de l'information climatique dans les politiques agricoles au Sénégal | Modérateur (trice)                         |
| 15H15-16h   | Feuille de route<br>Clôture des travaux   |  |