

## **Training for the operational implementation of the SARRA-H crop model in the countries of the Sahel. METAGRI OPERATIONAL Project of the Conference of Directors of the West African Meteorological Services, AFRIMET.**

Within the METAGRI OPERATIONAL project of the Conference of Directors of the West African Meteorological Services and, specifically, within the Boadilla del Monte Action Plan, the first training session for the operational implementation of the SARRA-H crop model took place on 28 October to 1 November 2013 in the Niamey AGRHYMET Regional Centre (Niger). This model belongs to the family of the crop models developed by CIRAD or "Centre de coopération Internationale en Recherche Agronomique pour le Développement" based in Montpellier.

Since the 1980s, CIRAD has developed and improved a widely applied crop model in the countries of the Sahel. In the 1990s, the DHC (Diagnostique Hydrique des Cultures) model was developed and implemented in the Meteorological and Agricultural Services of the countries of the Sahel at the end of the decade and at the start of the following decade. This model is mostly still in use but it urgently needs to be substituted for a model that not only takes into account the water balance but also the carbon balance, to evaluate the development of the above-ground parts of the plant. Another important limitation of DHC is the that the operating systems on which DHC is based are beginning to stop working and no longer work on current computers.

Therefore, the technical team from the METAGRI project and the Conference of Directors have been asking for this software to be scrapped in favour of the more advanced software called SARRA\_H. This model creates simulations based on the conditions of water supply and radiation, the production of biomass and harvest yield, and is sensitive to the density of the plants and to the photoperiod. The model is adjusted according to the different foreign and indigenous varieties of the main cereal crops in the area: millet, sorghum, corn and rice.

Though the model was available for research and development activities in some countries in the region, it has not been operationally implemented. A first pilot project, developed by the Direction de la Meteorologie Nationale (DMN) of Niger in cooperation with AGRHYMET, has allowed procedures and guidelines to be defined in order to establish the training programme and implementation method of the model, and to prepare data in the operational databases.

In the end, the first training session took place on the dates mentioned above, with the participation of work teams composed of an expert in agrometeorology and another expert on computers and databases from Mali, Mauritania, Niger, Togo, Benin and Chad. The trainers are from the AGRHYMET Centre with some collaboration from CIRAD and the DMN of Niger.

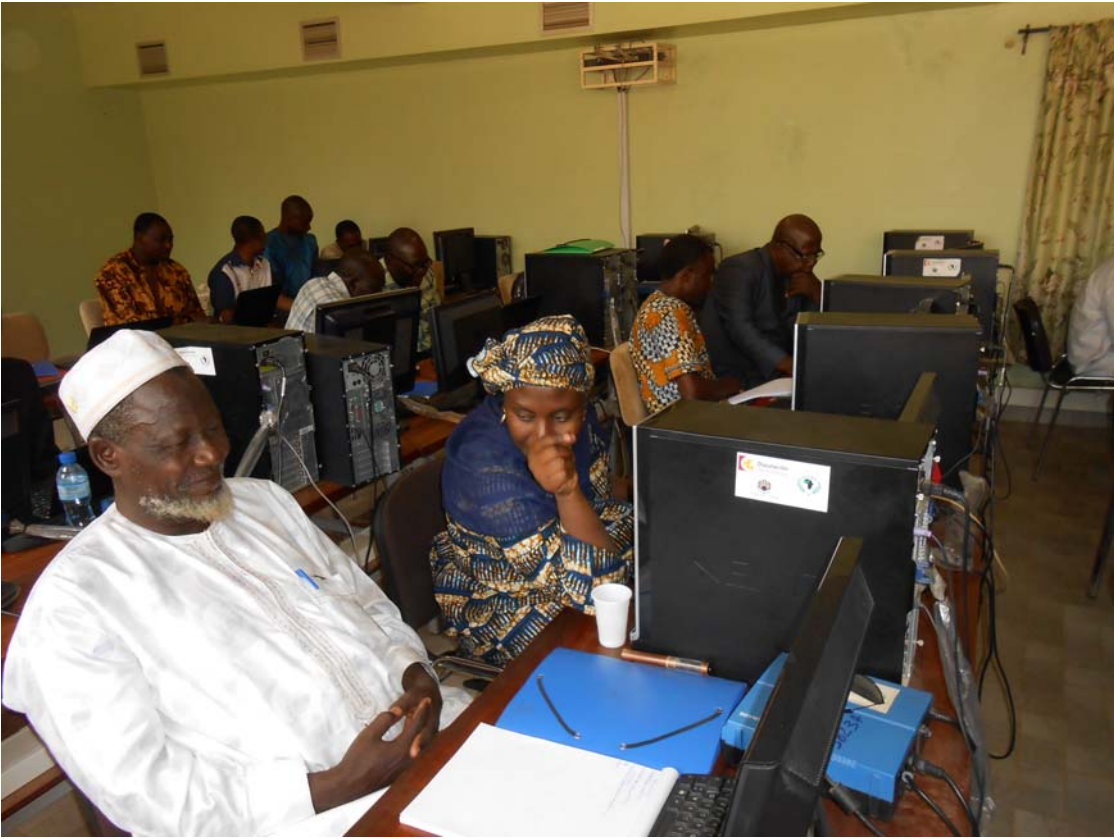
Another two training sessions are planned for February and March 2014: one for anglophone countries and another for the remaining francophone countries, to cover all of the countries of Western Africa. The funds to carry out this project mainly come from Norway, but the training exercises in Niamey have been entirely financed by the AEMET Fund in the WMO to support the activities of AFRIMET.



Inauguration of the training session. Seydou Traoré (AGRHYMET) course coordinator, Felix Hounton (WMO), Benoit Sarr (representative of the Director of AGRHYMET) and Abdul Karim Traoré, Director of DMN Niger and Permanent Representative of Niger to the WMO.



Teachers and students. Official course photo.



Visit to the computer rooms and work session.