

1. Publishable Summary

1.1. Introduction

The Directorate General CONNECT of the European Commission supports actively, through the EU's 7th Work Programme (FP7), the uptake of European ICT research results in developing countries. Under this scope, the "E-AGRI" project aims to set up an advanced European E-agriculture service in two developing economies, Morocco and China, by means of crop monitoring. The activities of capacity building will be carried out in the third developing country, Kenya, to raise the interest of local stakeholders on European E-agricultural practices and to pave the way for an eventual technological transfer in the future.

1.2. Objectives and the technologies targeted in the project E-AGRI:

The project has the following objectives:

- **Objective of DEMONSTRATION** : to transfer and adaptation of European agricultural monitoring technology in two developing countries.
- **Objective of DISSEMINATION**: to establish networks of users on the crop monitoring technology across three continents in the world (Europe , Africa and Asia (China)).
- **Objective of providing ADDED VALUES for EU**: to obtain the feedback and thus to improve for European expertise and know-how (ADDED VALUES for EU)
- **Objective of COLLABORATION**: to create synergy with other European crop monitoring actions (MARS-Stat-Food, GMFS...)

The project entails a research and development (RTD) component and a demonstration (DEMO) component. The RD tasks aim to adapt European technologies to local agro-environmental conditions and to develop and integrate additional peripheral components if the local stakeholders' needs arise. The DEMO activities will be carried out to prepare and train local experts so that the operation using the transferred technologies can be initiated or continued when operational conditions are met. Finally a capacity building activity specifically designed for East Africa will be organized in Kenya, to pave the way for an eventual technological transfer in the future.

The targeted technologies have essentially been developed in **three domains**:

- Crop monitoring by agro-meteorological modelling such as CGMS or an extended multi-model platform BioMA.
- Crop monitoring using vegetation variables derived from satellite imagery to monitor the crop growth status and predict the crop yield.
- Crop area assessment combining area frame sampling and satellite image analysis.

1.3. Achievement

The implementation and achievement of the project should allow the local partner organizations to build up their own knowledge and experience on using European crop monitoring technologies. Practically, at the end of the implementation, the local partners have acquired the know-how, on the

pre-operational level, on the key crop monitoring components (for example, CGMS or BioMA platform) that are transferred by the European partners. That means, once local input data and institutional support are available, the operation of these crop monitoring systems will be sustained.

The success of the project, at the end of implementation, is reflected by the infrastructure set-up of locally adapted technologies and the knowledge and capability set-up for operating this infrastructure. In this regard, implementation of some key technologies went well beyond the frame set out in the Description of Work:

- the CGMs set up in Morocco is the best illustration of the progress. Thanks to the common effort from the European and local partners, particularly to the collaboration contributed by other two Moroccan organisations outside of E-AGRI consortium, the CGMS-MAROC has been set up and brought to operation, integrating both agro-meteorological and remote sensing indicators. The system has been further built up in the web viewer environment allowing parallel and simultaneous analysis of crop growth status from different terminals
- the BIOMA platform has been further completed with a module for assessing the disease impact on the crops, which was not planned initially
- crop yield forecasting using remote sensing indicators has been further developed on the Huaibei Plain to include an indicators for yield technological trends, so that the forecasting performed with the same level of accuracy in Europe
- a new area frame sampling approach has been developed together with the Joint Research Centre with increased cost effectiveness and accuracy

On the other hand, the feedback of European technological transfer has improved the applicability and robustness of these technologies. The adaptation brought to the CGMS application in Morocco, helped to make progress the GLOBCAST system operation by the DG AGRI of the European Commission. In the case of the rice monitoring, although this staple food is consumed by half of world population, the rice production monitoring is not closely followed by European institutions. The results generated from this project can be readily disseminated and fill the gap at the European level.

Finally in the domain of a sustained local institutional set up, the local experts are able to advise adequately the agriculture policy makers on the issue of food security and the agro-commodity trading. In Morocco, the local partner publishes periodically the yield forecast bulletins, while on the Huaibei Plain, the local experts from AIFER attend the policy advising meetings together with the meteorological department.



Figure 1: 2012-2013 crop yield forecasting bulletin for Morocco based on E-AGRI methodologies.

1.4. Project's web-site

The project general site (<http://www.e-agri.info>) has been recently updated including the major deliverables and new links to the other related project or activity websites including CGMS-MAROC .

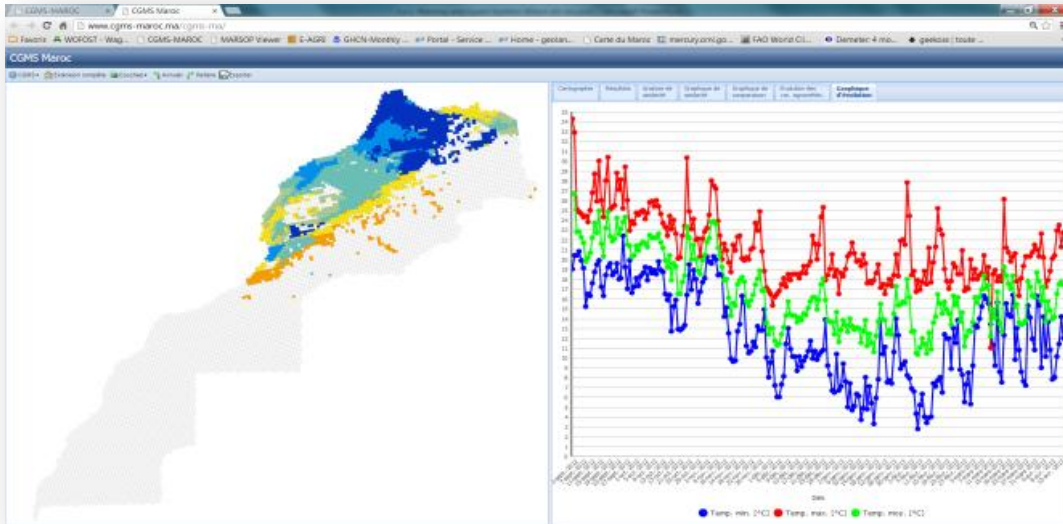




Figure 2: Project's web site (www.e-agri.info) screen capture

E-AGRI is a project funded by the European Commission in the 7th framework Programme (FP7). It aims to disseminate the crop monitoring technologies developed by European institutions in Africa and Asia.

The objectives of this meeting are to discuss the development of the WP34 (Adaptation of BioMA for multi-model wheat monitoring in Morocco) activities with a particular focus on model calibration and to present the latest release of BioMA to the E-AGRI partner.




The workshop is organized by INRA, UNIMI and JRC in collaboration with VITO.

Venue of the workshop: INRA, Avenue Ennasr, Rabat, Maroc

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FP7 E-AGRI project organises:
WP34 workshop
And
2nd BioMA Training

19-21 March 2013, Rabat, Morocco

Programme

Tuesday 19 Morning: **Workshop on the combined use of crop and disease models for yield forecasting**
Afternoon: **Calibration workshop (WP34 status and discussion)**

Wednesday 20 **Field visit in Settat (whole day)**

Thursday 21 Morning: **2nd BioMA training – installation of the new version of BioMA with database on wheat in Morocco, discussion on automatic management (rules), and questionnaire on the training**

Figure 3: BioMA training workshop flyer