1. Publishable Summary

1.1. Introduction

Agriculture is one of the most important domains to which the European Union (EU) exercises the direct competence via its Common Agricultural Policy (CAP) and dedicates an important part of its resources.

Throughout the participation of different programmes for establishing the monitoring capabilities of CAP implementation, VITO and other collaborative institutions have been developing series of technologies for assessing the crop yield as well as for estimating the crop acreage.
The technologies have essentially been developed in **three domains:**

1. Crop monitoring using space based information to monitor the crop growth status and predict the crop yield. The approach takes advantage of the earth observation information provided by satellite sensors.
2. Crop monitoring can also be carried out by agro-meteorological modelling. The system CGMS (for Crop Growth Monitoring System) was developed following this approach. It allows accurate and timely crop yield forecasts for the 27 member states and other strategic areas of the world. More recently, simulation capacities in terms of models and components have been extended to a multi-model platform BioMA which has extra capability of simulating rice cropping system, for example.
3. In terms of crop area estimates, test pilot approaches using area frame sampling and remote sensing has been developed in Europe. VITO and its partners are still developing and validating the methodologies in the selected developing countries.

1.2. Objectives and structure of the project E-AGRI:

The project ahs the following objectives:

- **To transfer, adapt and demonstrate the European MARS Crop Yield Forecasting system for *wheat* cropping monitoring in HUAIBEI/Jianghuai plains of China and Morocco.**
- **To transfer, adapt and demonstrate the European BioMA platform , using the ensemble of models for *rice* cropping monitoring in Jianghuai plain (Jiangsu province, China) and *wheat* monitoring in Morocco.**
- **To assess the crop acreage using area frame sampling and remote sensing in HUAIBEI Plain and in Morocco.**
- **Creating a network for potential users of CGMS and BioMA platforms to obtain valuable feedback on system applicability.**
- **To liaise other European crop monitoring activities such as GMFS, and contribute to strengthen European agricultural intelligence at world-wide level.**

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 measure locally the effectiveness of the transferred technologies through an establishment of users' networks. Finally a capacity building activity specifically designed for East Africa will be organized in Kenya, to pave the way for a further technological transfer.

1.3. Expected achievement

The implementation and achievement of the project should allow the local partner organization to build up their own knowledge and experience on using European crop monitoring technologies. Practically, at the end of the implementation, the local partners would acquire the know-how, on the piloting level, on the key crop monitoring components (for example, CGMS or BioMA platform) that are transferred by the European partners. That means, once the availability of local input (most importantly, the real time weather data) can be maintained by the local experts, the operation of these crop monitoring systems will be sustained. The success of the project will be reflected by the locally adapted versions of European crop monitoring technologies.

Based on the acquisition of these ITC knowledge, the local experts would be able to advise more adequately the local agriculture policy makers on the issue of food security and the agro-commodity trading.

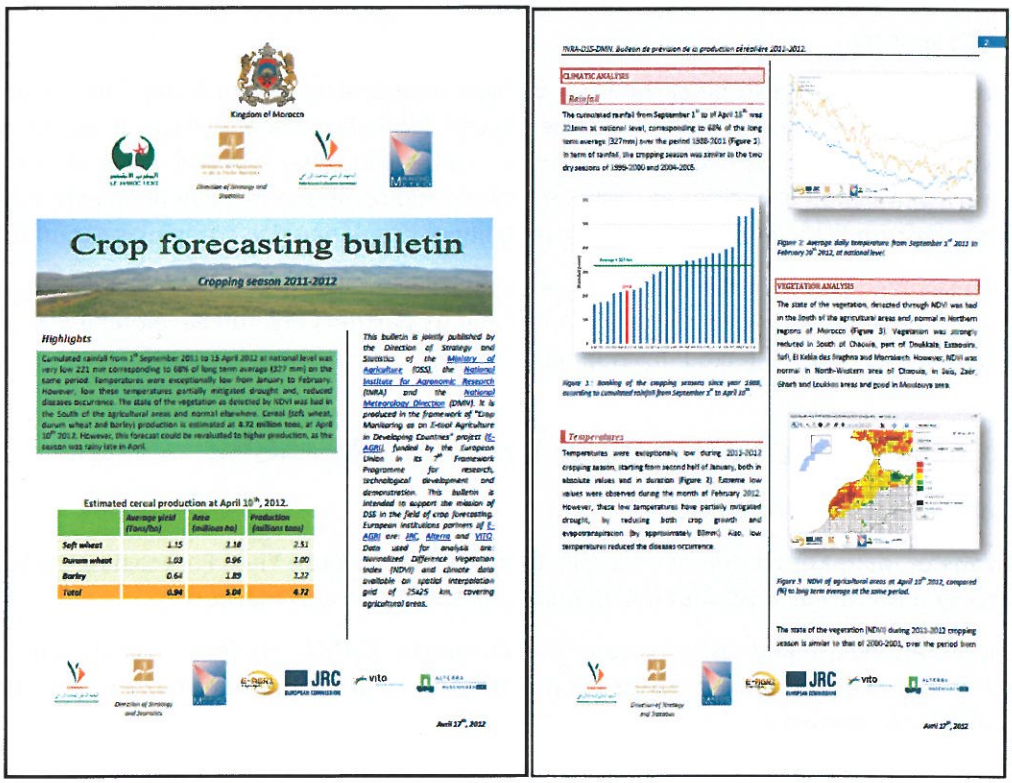

Figure 1: First crop yield forecasting bulletin for Morocco based on E-AGRI methodologies.

On the other hand, the feedback of European technological transfer will with no doubt, improve the applicability and robustness of these technologies. In the special case of the rice, although this staple food is consumed by half of world population, the rice production monitoring is not closely followed by European institutions. the research results from this project can be readily disseminated and fill the gap at the European level.

1.4. Project's web-site

The project established three web sites. The general site (http://www.e-agri.info) has objective of disseminating the project outcome (Figure 2). The web site has been updated regularly. A major update occurred in February 2013.

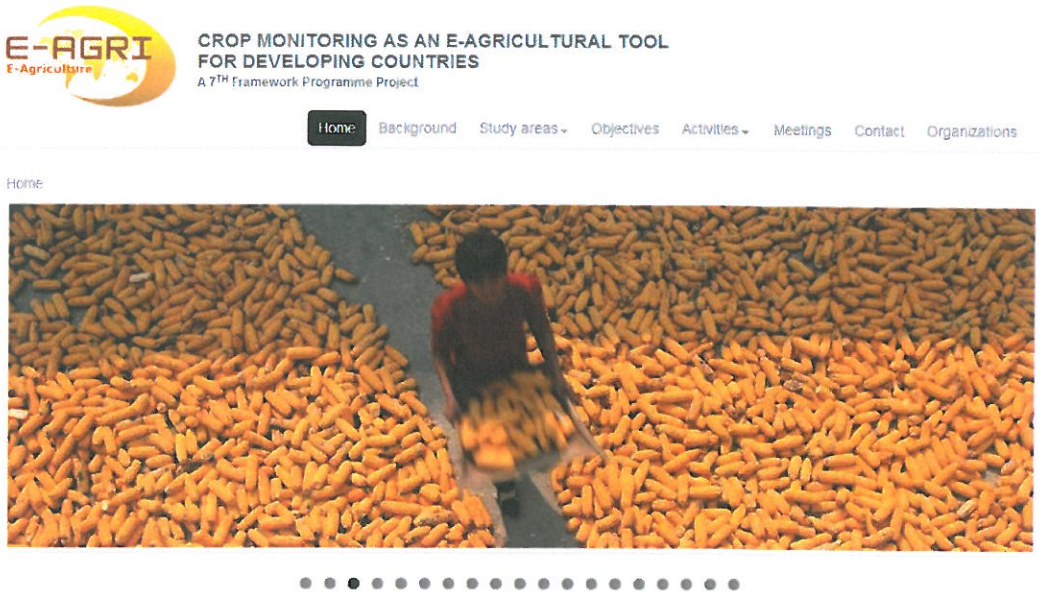

Figure 2: Project's web site (www.e-agri.info) screen capture