



## Presentations and conferences on EX-ACT

- **BRAZIL** – Piracicaba, Sao Paulo State, 18-19 July 2011: Master and Phd level students from CENA (Center of Nuclear Energy for Agriculture) and ESALQ (Agronomic Engineers School) of the University of Sao Paulo received a training on the EX-ACT tool. The training was part of the teaching module “Aquecimento global, Agricultura e Biocombustiveis” (Global warming, Agriculture and Bioenergy).
- **CHINA** – Shenyang, 22-26 August 2011: the EX-ACT team participated in the 4th Sino-French seminar on Ecosystem Carbon Budget and Regulation. The tool was presented as a mean to quantitatively assess the carbon sequestration potentials different activities from major ecological projects. The objective of the seminar is to develop methodologies for the purpose of:
  - Measurement and authentication of carbon budget in terrestrial ecosystems,
  - Techniques for the process-simulation and remote-sensing evaluation of geographic patterns,
  - The administration systems for the measurement, report and validation of manipulated carbon sinks.



*Training in Brazil, July 2011*

## EX-ACT trainings and application for specific projects

### **Carbon balance appraisal and economic analysis of the Nigerian Vision 2020**

#### **NIGERIA**

An FAO/World Bank mission took place in Abuja in November 2010, aiming at gathering data and meeting experts to analyze the Nigeria Vision 2020 (NV 2020). NV 2020 is a long term development program launched by the Federal Government of Nigeria, whose aim is to promote the growth and development of the Nigeria, integrating the country into the world's 20 leading economies by 2020. Agriculture is a major component of the strategy. The NV 2020 policy has been assessed with the EX-ACT tool in order to analyze the carbon balance of all the activities planned within this policy. The appraisal concerns 90.9 million ha. Moreover, a Low Carbon scenario (LC 2020) that integrates some Sustainable Land Management (SLM) practices has been assessed. The total mitigation potential reaches 1.4 billion tCO<sub>2</sub>e during 25 years. An economical analysis using Marginal Abatement Cost Curves (MACC) has been realized as well, to identify the most cost-effective options.

The results are now available on the website, in the EX-ACT applications/on policies section. The next step will be to present the results during a workshop in Abuja and to integrate them into the rest of the Bank's low carbon development analysis for Nigeria. A work will start in October with the World Bank regarding the matter, as well as on the integration between EX-ACT and EFFECT, the World Bank software for the analysis of low carbon options in various sectors, except for agriculture.

## The Kirehe Community-based Watershed Management Project (KWAMP) mitigation potential

RWANDA

IFAD asked the EX-ACT team to calculate the mitigation potential of the project they are conducting in Rwanda. Kirehe is a district, south-east of Rwanda. The on-going KWAMP project in this region aims at promoting poor smallholders to overcome food insecurity and low agricultural incomes, to arrest land degradation and restore soil fertility. The project started in 2009 and is expected to be completed by August 2016. It will directly concern 22 500 households. The total project cost is USD 49.32 million, funded at 50% by IFAD with other stakeholders.

The main activities of the project are:

- Crops and livestock improvement through the introduction of genetically improved animals, the construction of small biogas plants and the adoption of better agronomic practices, i.e. rotation, improved seeds, no-tillage, use of organic fertilizers
- Soil and Water Conservation (SWC) measures which mainly consist in planting trees to limit erosion
- Irrigation development with the drainage of wetlands and the irrigation of hillside lands
- Value-chain development with the construction of new infrastructures and the rehabilitation of feeder roads
- Reforestation on degraded lands

The carbon balance assessment of the KWAMP demonstrates a net sink of 1.2 million t CO<sub>2</sub>e over a period of 20 years, i.e. 2.2 t CO<sub>2</sub>e/ha/year. The principal mitigation components are the reforestation, the plantation of *Gliricidia* trees to fight erosion and the improved agronomic practices. An increased mitigation potential could be reached if the drainage of wetlands is avoided. It is indeed necessary to preserve such ecosystems since they provide valuable ecological services such as water purification, groundwater replenishment, reservoir of biodiversity, sediments and nutrients retention.

## EX-ACT is now quadrilingual



After English, French and Spanish, the EX-ACT tool is now available in **Portuguese**.

The translation especially answers the needs of Brazil. The country is indeed truly engaged in agricultural climate change issues.

A training has already taken place in Sao Paulo (see the short description of the event in this newsletter). The Portuguese version would be useful for further possible intervention in Mozambique, Angola and Guinea-Bissau.

A work will promptly start to translate the tool, flyers and other related documents (technical guidelines, case studies, training exercises, PowerPoint presentations) in Turkish. It follows feedbacks and requests from The Ministry of Agriculture and the General Directorate of Forestry in Turkey, where it is clearly stated that EX-ACT would be a useful tool accordingly.

## Up coming events and analysis

- October: within the framework of the **MICCA program** (Mitigation of Climate Change in Agriculture), the EX-ACT team will have training and a field study in Kenya and Tanzania.
- November: a **sub-regional central Asia workshop** is planned in Bhutan.
- November: **Policy Learning Program** in FAO HQ, Rome, which focuses on “Addressing long-term development challenges: from short-lived interventions to lasting achievement”. The EX-ACT team will participate in the module regarding natural resources and development, presenting the tool and related subjects
- December: a two-day **workshop** will be conducted in **Sweden**, especially targeting the **private sector**, to enlarge the EX-ACT diffusion and use
- December: publication of a **scientific article** on the “The Limits and Opportunities of the EX-Ante Carbon Balance Tool (EX-ACT)”

## EX-ACT website publications

### Policy brief:

- «Prospective appraisal of low carbon options for the AFOLU sector in Nigeria - Carbon balance appraisal and economic analysis of the Nigeria Vision 2020». More details on that policy and the work done are available in this newsletter on page 1.
- «A Multiplication of green concepts in Agriculture: Building the path towards wide up-scaling». The paper attempts to sketch a wide panel of "green" concepts that has been launched as of late trying to build a long term perspective in a new green paradigm.

### Guidelines:

- «Economic analysis of AFOLU Low Carbon options - Use of Marginal Abatement Cost Curves to appraise climate smart agriculture policy options ». The objective of this paper is to provide good practice guidance for the construction of Marginal Abatement Cost Curves (MACC) in the AFOLU sector, in general and by using the EX-ACT tool. MACC enables the comparison of the cost-effectiveness of different mitigation options. It has become a useful tool for policy makers to prioritize mitigation options.
- «Main recommendations for the elaboration of the baseline scenario - Building the "without project" scenario within the EX-ACT tool ». The objective of this paper is to provide guidelines for the construction of the "without scenario", i.e. the baseline scenario or Business As Usual (BAU) scenario, in the EX-ACT tool. The purpose is not to set a fixed method that will not allow considering the specificities of different contexts or countries. On the contrary, it is a general guideline provided to narrow down subjectivities and provide a common understanding of important aspects to be taken into account while establishing the baseline scenario within EX-ACT.

### The new version 3.3 is available!

The upgraded version concerns the forest degradation module. An occurrence of fire option has been added where you have the opportunity to add degraded forest fires, specifying if necessary the frequency, e.g. a fire occurs every x years. The rate, set by default at 25%, corresponds to the proportion of the vegetation that is burned during the fire, thus emitting GHG. This figure is a conservative average; it can vary a lot depending on the type and density of the forest. It is therefore recommended to look for specific value, adapted to the context of the project. You can download the new version in English, French or Spanish on the EX-ACT website <http://www.fao.org/tc/exact/ex-act-tool/en/>. The technical guidelines have also been updated with regards to this improvement.

Sequence Type	Vegetation Type concerned	Initial State		Final State Without Project				Final State WithProject					
		Degradation		Degradation		Fire		Degradation		Fire			
		Level	%	Level	%	Interval (year)	Rate (%)	Level	%	Interval (year)	Rate (%)		
Veget.1	Please specify the vegetation	Select level	0	Select level	0	NO	1	25	Select level	0	NO	1	25
Veget.2	Forest2	Low	20	Moderate	40	YES	1	25	Low	20	YES	5	25
Veget.3	Please specify the vegetation	Select level	0	Select level	0	NO	1	25	Select level	0	NO	1	25

The FAO-EX-ACT team\* supports appraisal of agriculture and forestry projects all over the world, please contact us if you are interested.

\*Louis Bockel, Martial Bernoux, Giacomo Branca, Madeleine Jönsson, Rocio Sanz Cortés, Pierre Sutter, Ophélie Touchemoulin

We welcome your questions and feedback; they will help us make this newsletter more useful and enjoyable for you.

Email: [EX-ACT@fao.org](mailto:EX-ACT@fao.org)

Website: <http://www.fao.org/tc/exact/en/>

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