



**UNITED NATIONS  
UNIVERSITY**

## Consultancy

### Development and Analysis of Socio-Economic Baselines and Scenarios for ECOWAS

**Organizational Unit** : United Nations University Institute for Natural Resources in Africa (UNU-INRA)

**Reference Number** : 2014/UNU/INRA/CTC/(CC)/03

**Applications to** : **By Hand Delivery:**  
The Finance and Administrative Officer, UNU-INRA, 2<sup>nd</sup> Floor.  
International House, University of Ghana Campus, Legon-Accra  
**By Email:** recruit-inra@unu.edu

**Closing Date** : 23<sup>rd</sup> September 2014

#### United Nations University Objectives:

The United Nations University (UNU) is an international community of scholars engaged in research, postgraduate training and dissemination of knowledge in furtherance of the purposes and principles of the United Nations, its member states and peoples. It serves as a think-tank for the United Nations System, contributes to capacity building particularly in developing countries, and serves as a platform for new and creative ideas and dialogue. For more information please visit [www.unu.edu](http://www.unu.edu).

#### The Institute for Natural Resources in Africa (UNU-INRA):

UNU-INRA is one of fifteen Research and Training Institutes and Programmes established by UNU worldwide. The mission of UNU-INRA is to strengthen the capacity of African universities and research institutions to conduct research and produce well-trained, well-equipped and motivated individuals, capable of developing, adapting and disseminating technologies that advance food security and promote conservation and efficient use of the continent's natural resources for sustainable development.

#### Background:

UNU-INRA in collaboration with the African Climate Policy Centre (ACPC) of the United Nations Economic Commission for Africa (UNECA) is implementing a 2 year research project aimed at assessing whether or not agricultural production systems and trade policies in The Economic Community of West African States (ECOWAS) can be adjusted to alleviate the impact of climate change on food security, and promote sustainable development in the region. This research project will support the effort of ACPC in increasing the capacity of Member States and Regional Economic Communities (RECs) to be able to mainstream appropriate climate change information into policies, development plans and frameworks to respond to the current and future impacts of climate change in the agricultural sector.

ECOWAS is a community of 15 West African states - Benin, Burkina Faso, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo - spreading over a surface of about 6.1 million km<sup>2</sup>, with a total population of 319 million. ECOWAS is vulnerable to the impacts of climate change; especially in agriculture, which is the key sector of its economies and one that supports nearly 60 percent of its population. Most agricultural production in

the region is rain-fed (irrigated areas account for less than 8 percent), which makes food production highly vulnerable to the high variations and changes in rainfall patterns.

Even without climate change, the model of agricultural growth that ECOWAS has depended on for more than a generation is not sustainable in the long term, as production systems have not intensified in line with the increase in urban development. In addition, agricultural policy tools are primarily geared towards commercially profitable cash crops rather than the support needed to achieve the region's objectives of food security and integration of the regional markets. As a consequence, several countries in the region will rely more and more on imported food to feed their people.

Fourteen assessment studies have already been carried out under the project to: (i) develop country profiles on climate, soil, hydrology, agricultural land, agricultural production and agricultural trade; (ii) analyze existing policy and institutional arrangements; (iii) identify data sources and availability; (iv) synthesize analytical studies that have been undertaken to understand climate change, agricultural trade for West African countries; and (v) review the state-of-the art methodologies to analyze climate change, agricultural trade and food security. This information provides the roadmap for consolidating and harmonizing the analytical methodologies and for collecting appropriate data such as socio-economic baselines and scenarios for the research project.

International climate research communities have developed new socio-economic scenarios called **"Shared Socio-Economic Pathways"** (SSPs) that can be used in conjunction with the **Representative Concentration Pathways** (RCPs) to develop scenarios for use in climate research. The SSPs include qualitative narratives and quantitative elements. Preliminary quantifications of some SSPs elements can be found at the SSP database hosted by the International Institute for Applied systems (IIASA). However, this information is not exhaustive and/or disaggregated enough to be used in the current research project on climate change. Therefore, to get an appropriate basis for assessing future impacts of climate change on agricultural production, agricultural trade and food security in ECOWAS, it is necessary to develop regional, national and sub national socio-economic scenarios.

In the construction of regional/ national/ sub-national scale socio-economic scenarios for use in climate impact adaptation assessments, it is important to ensure that they are consistent with the global/regional/national scenarios as well as taking into account different local trends and developments.

### Main Responsibilities:

The main purpose of this consultancy is to develop and analyze baseline and scenario data related to population, agricultural development, agricultural technology and natural resources for use in climate impact, adaptation and vulnerability assessments in agriculture for ECOWAS. More specifically, the selected proponent will:

1. Gather baseline statistics (spatial scale: all countries in Western Africa, temporal resolution : yearly, baseline period: 1961-2010) on:
  - Population - total population, population density, total rural population;
  - agricultural development- GDP per capita, GDP from agriculture, GDP from agriculture subsectors (crops, livestock, fisheries and forestry), agricultural production, production of agricultural subsector (crops, livestock, fisheries and forestry), agricultural trade (international trade, regional trade, prices);
  - Agricultural technology - total labor force, agricultural labor force, fertilizer consumption, use of pesticide, irrigated land, agricultural land;
  - Natural resources - Land area, arable and permanent cropland, permanent pastureland, forest and woodland, other land, water resource per capita, water withdrawal for agriculture;
  - Food security- food security indicators and food prices;

2. Based on existing SSPs, develop qualitative narratives and quantitative socio-economic scenarios (spatial scale: all countries in Western Africa and/or all agro-climatic zones in West Africa<sup>i</sup>, temporal resolution : yearly and/or daily<sup>ii</sup>, projection period: 2015-2100) on:
  - Population - total population, population density, total rural population;
  - Agricultural development- GDP per capita, GDP from agriculture, GDP from agriculture subsectors (crops, livestock, fisheries and forestry), agricultural production, production of agricultural subsector (crops, livestock, fisheries and forestry), agricultural trade (international trade, regional trade, prices);
  - Agricultural technology - total labor force, agricultural labor force, fertilizer consumption, irrigated land, agricultural land;
  - Natural resources - Land area, arable and permanent cropland, permanent pastureland, forest and woodland, other land, water resource per capita, water withdrawal for agriculture;
  - Food security- food security indicators and food prices;
3. Analyze data to identify socio-economic relationships and trends, and related challenges and opportunities for agricultural development and food security in ECOWAS.

### Description of Deliverables:

In line with the main responsibilities, the expected deliverables are the following:

- Database on socio-economic baseline for ECOWAS;
- Database on socio-economic scenarios for ECOWAS;
- A comprehensive report on qualitative narratives of socio-economic scenarios as well as socio-economic relationships and trends, and related challenges and opportunities for agricultural development and food security in ECOWAS.

### Proponent Profile and Key Competencies:

- Be an African Organization or Institution
- Proven experience in provision of socio-economic data and information
- Proven capacity to engage with national statistical services in West Africa
- Proven experience in developing socio-economic scenarios from regional/national socio-economic model experiments as well as using statistical downscaling techniques
- Proven ability to analyze socio-economic data to inform sustainable development in the fields of agriculture and food security.

### Funding Scope and Duration:

#### Duration of contract

The successful proponent shall work remotely under the Consultant Contract (CTC) for a fixed period of three (3) months for the above-mentioned activities.

#### Budget

The total budget of this consultancy should not exceed US\$ 15 000.

#### Starting date

15<sup>th</sup> October, 2014 or as soon as possible.

### Format and Requirements:

Applications should be submitted, preferably by e-mail in a single Word or Pdf file:

The file name should have the following format: "Socio-Economic\_Scenarios\_ECOWAS\_Name of Proponent Institution".doc/.docx/.pdf

All applications must be submitted in French or English, with the following format: applications should be concise and presented in single-spaced, Arial 12- point font, with a maximum length of 3 pages (not including title and annexes). The following elements are mandatory:

- Title, Name, address and contacts of the project leader, Name and address of the proponent institution
- Activities and methodological approaches (2 pages max)
- Overview of proponent organization or research team and relevant experience in similar initiatives, including the capacity of the organization or research team to span across west African countries (1 page max)

- 

#### Mandatory Annexes

- A1 - Work Plan
- A2 - Short one-page CVs of the project leader and proposed main team members (up to 3 CVs max)
- A3 - Proposed Budget containing description of the activities

#### **Submission Process:**

Applications must be submitted by the proponent no later than 23<sup>rd</sup> September, 2014 at 17:00 GMT. The selected proponent will administer the UNU-INRA grant.

Proposals received after the deadline will not be considered.

Inquiries: Any inquiries should be directed to: [atewamba@unu.edu](mailto:atewamba@unu.edu)

#### **Communication of Results:**

Results of the selection process will be communicated via email by 1<sup>st</sup> October, 2014 to the proponents.

#### **Permission for Use and Disclosure of Information:**

The United Nations University - Institute for Natural Resources in Africa will have access to all information related to the applications submitted for this competition. Applications are otherwise considered confidential until they are approved for funding, at which point the activities and methodologies, research teams and budget of the approved application will be in the public domain. By way of submitting a letter of intent under this call, the applicant consents to the disclosure of the documents submitted by the applicant to the reviewers involved in the selection process, both UNU-INRA and externally (if necessary). The applicant further consents to the disclosure of the name of the applicant, the name of the lead researcher, in any announcement of the selected applications.

#### **Conflict of Interest:**

In submitting an application, the applicant must avoid any real, apparent or potential conflict of interest and will declare to UNU-INRA any such conflict of interest.

In the event that any real, apparent, or potential conflict of interest cannot be resolved to UNU-INRA's satisfaction, UNU-INRA will have the right to immediately reject the applicant from consideration.

---

<sup>i</sup> Data for agro-climatic zones is required if the information will be used in the crop modeling.

<sup>ii</sup> Daily data is required in the information will be used in the crop models.