

**Conseil Ouest et Centre  
Africain pour la Recherche et  
le Développement Agricoles**



**West and Central African  
Council for Agricultural  
Research and Development**

## Terms of reference

### **Review on crop-livestock farming systems in semi-arid and sub-humid a of West and Central Africa**

#### **1. Introduction**

The West and Central African Council for Agricultural Research and Development (CORAF/WECARD) is one of the four Sub Regional Organizations under the Forum for Agricultural Research in Africa (FARA). CORAF/WECARD is currently composed of 22 National Agricultural Research Systems of West and Central Africa (WCA). These countries have a total area of over 11,5 million km<sup>2</sup> and a population of over 318 million. Population growth rate is high (3,0 %) while agricultural productivity growth rate over the past 20 years has been very low; at 2.1% in the Coastal West African zone, while negative in both the Sahelian and Central Africa zones<sup>1</sup>. About 70 % of the population in the region depends on agriculture, which accounts for over 35 % of Gross Domestic Product (GDP) and over 40 % of its export. The bulk of the rural population in WCA, predominantly composed of small scale farmers and pastoralists, is poor and food insecure.

The predominant farming system in sub Saharan Africa is generally based on mixed crop-livestock systems, with pure livestock systems predominating only when rainfall is too low and uncertain to support some form of crop production. On the other hand pure arable systems are predominant where disease and parasites preclude most forms of livestock keeping. Generally, the economic importance of livestock in African farming systems increases with decreasing rainfall. Increasing population is creating scarcity of land and consequently leading to more intensive land use and increased integration of crops and livestock, such as the adoption of animal traction and the ramifications of soil fertility management and feed. Paradoxically, the increasing populations in the urban areas is a potential market for agricultural products which is an apparent strong incentive for farmers to more

readily adopt production technologies and invest in increased inputs to gain more output from a given unit of land.

The challenges of meeting the rapidly growing food needs of sub Saharan Africa cannot be successfully overcome without due consideration of the capacity and limitations of the natural environment. The vast majority of farmers in the CORAF/WECARD region rely directly on the rain for their food and livelihoods, therefore adverse changes to rainfall present a major risk. Often combined with drought, high temperatures can mean disaster to farmers' fields. In addition to declining soil fertility variations and decrease in rainfall are posing enormous challenges to farmers. Moreover, the widespread use of unimproved crop varieties and animal breed, prevalence of diseases and pests coupled with limited resources is severely limiting productivity and production of farmers in the region. The heterogeneity of agroecosystems and associated farming systems in sub Saharan African including the West and central Africa sub region necessitates a clear understanding of the socio-economic and ecological conditions under which improved technologies are likely to be successful.

As a central component of Australia's commitment to supporting the Comprehensive African Agricultural Development Programme (CAADP), and in particular Pillar IV, AusAID is supporting the Commonwealth Scientific and Industrial Research Organisation (CSIRO) to develop an institutional partnership with CORAF/WECARD. This partnership intends improving agricultural research addressing challenges particularly in the sub-humid and semi arid mixed crop livestock zones of the sub region that shares several important similarities with the climate and soils of northern Australia. In order therefore to ensure meaningful research intervention by the CORAF/WECARD and CSIRO partnership it is imperative to undertake an appropriate assessment of the prevailing crop livestock farming system in the CORAF/WECARD mandate region with particular emphasis on the semi arid-sub humid region.

## **Objective**

The Objective of the study is to acquire an up to date information on the mixed crop-livestock farming systems in the semiarid-subhumid zones of WCA in order to guide appropriate research intervention that will improve related livelihoods in the region.

## **Expected outputs**

By the end of the study two major outputs are expected:

1. Trends in composition and characteristics of the mixed crop-livestock farming systems are documented;
2. Major strengths, weaknesses, opportunities and threats to mixed crop-livestock farming system in the region analyzed.

### **Methodological approach**

The study will essentially be based on desk review of the crop-livestock farming system. The Consultant is expected to acquire information through the internet and other available sources particularly institutions working in the region.

### **Tasks of the consultant**

The consultant is responsible to make a review of literature and to actualize information and data linked to

1. Give an overview of the importance of crop livestock farming system in the region
2. Analyze the trend and characteristics of mixed crop - livestock farming systems;
3. Give an overview of livestock populations in mixed crop - livestock farming systems per country and per zone (semi-arid, sub-humid);
4. Describe and analyze the mixed crop-livestock farming systems value chain.
5. Analyze major strengths, weaknesses, opportunities and threats to mixed crop - livestock farming system in the region
6. Outline past and current research initiatives on the mixed crop-livestock farming systems;
7. Outline and analyze major stakeholders in crop-livestock research and development in the semiarid-sub humid sub region.

### **Expertise required**

The study will be carried out by a consultant having the following skills and experiences:

- A PhD in agronomy, animal science or a related discipline;
- At least 10 years of professional experience in the field of agricultural research in the sub-region

- Considerable consultancy experience in agricultural research and development in the semi arid to sub humid region;
- Good writing skills in English or French with working knowledge of the other.

## **Work plan and calendar**

The duration of the assignment is not expected to last for more than 15 days. The review and incorporation of suggestions and comments from CORAF/WECARD should not go beyond June 30, 2010. At the beginning of the study, the consultant will propose a work plan and a calendar which will be validated at the Executive Secretary of CORAF/WECARD.

## **Reports**

The consultant will submit to the Executive Secretary of CORAF/WECARD a report of not more than 30 pages in addition to necessary annexes within 20 days after signing the contract. A final report incorporating comments and suggestions from CORAF/WECARD should be submitted not later than 7 days after receiving such comments and suggestions.

## **Remuneration**

In conformity with the CORAF/WECARD policy on the remunerations for retained services, the consultant will receive a remuneration corresponding to his/her level of experience. A total of 15 days is estimated for this assignment. The methods of payment of Consultants will be specified in the contract of service which will be signed between every consultant and the CORAF/WECARD.

## **Application**

A cover letter and detailed resume will constitute the application file which should be addressed to the Executive Director of CORAF/WECARD: CORAF/WECARD, 7 Avenue Bourguiba BP 48 Dakar PR Senegal or by electronic mail to [secoraf@coraf.org](mailto:secoraf@coraf.org) at the latest Friday, June 7<sup>th</sup> 2010.

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<sup>i</sup> IFPRI (2006), *Regional Strategic Alternative for Agriculture-Led Growth and Poverty Reduction in West Africa*, International Food Policy Research Institute, December 31<sup>st</sup>, 2006.