

## **CALL FOR EXPRESSION OF INTEREST**

### **Recruitment of a regional consultant for the Digitalization of PAIRED Agricultural Platforms**

**Opening Date: June 14, 2021**

**Closing Date: June 28, 2021**

**CEI No. 19-2021**

#### **Context**

There is growing concern over feeding Africa by 2050 largely due to the relative slowing down of food production in the face of rapidly growing populations. Food demand is projected to increase, especially in the growing urban centers of West Africa by about 60% to 80%, but agricultural yields are not keeping pace, with gaps estimated to be around 75%. The agricultural sector employs over half of the population in Sub-Saharan Africa (SSA), however, most of these farmers do not have access to quality agricultural inputs and services expected to boost agricultural productivity and production. Sustained agricultural growth is central to rapid poverty reduction and economic development. Yet, world poverty is largely concentrated in the farmers communities, which have the potential for agricultural productivity growth. This is particularly true for SSA countries, where the gaps between potential and actual yields remain high. Minimizing this gap through the promotion of modern inputs—such as fertilizer and improved seeds as well as agricultural services—has been at the core of almost all agricultural strategies. However, adoption of improved technologies is impeded by several factors including access to input and output markets, access to quality agricultural advisory services and access to agricultural credit and insurance.

The transformation of the agricultural sector and its economy is increasingly facilitated by technological innovations and affordable digital and mobile solutions. This is particularly true for the services offered by digital platforms. Digital agricultural services can be useful in multiple ways for smallholders as well as for a range of agricultural stakeholders.

An integrated digital agricultural platform requires collaboration among multiple players with complementary expertise offering relevant information on best practices, weather, pricing information and access to buyers, suppliers, and financial institutions. An open, shared data platform approach may be even more compelling, as this approach would offer significant benefits. These include reduced and shared costs; ability to spread risk and bring innovations to market faster; mutually beneficial solutions, such as unified loyalty programs on the platform; rapid development capability to reach larger volumes faster; and engaging and supporting governments. However, it also requires a much greater willingness on the part of providers to collaborate and share data and resources.

For the sustainability of the digital platform, the most innovative providers, who realize the power and value of integrating services, can take the lead and the first steps to unify digital agricultural service. PAIRED funding can provide much-needed initial support for proof of concepts and early demonstration of integrated services to catalyze additional investments for scale-up efforts.

PAIRED project funded by USAID and implemented by CORAF in the long run is targeting to foster adoption of cutting-edge technologies by millions of farmers in the region. Achieving this ambitious result will require to improve farmer access to quality agricultural inputs and services. Closing the productivity gap is not possible without new ways of making actors along the agriculture value chain to have access to information and support services and make mindful and timely agriculture investments.

PAIRED is therefore seeking Digital Agricultural Platform consultant to collaborate with PAIRED teams in target countries (Benin, Mali, Senegal, Ghana, Senegal, and Niger), farmers and value chain actors including financial and technical service providers to jointly work together to develop and establish a digital Agricultural Innovation platforms portal. This initiative aims at increasing the efficiency of smallholder livelihood activities by helping producers mitigate production risks and providing accurate information to actors of the multi-actors' platform allowing them to render good services to all platform members.

The tasks to be performed and other information related to the conduct of the mission are detailed in the terms of reference attached.

The Executive Director of CORAF invites consultants with the qualifications demanded as indicated in the terms of reference to express their interest in this call by providing evidence that they are qualified to perform such services.

The consultant will be selected in accordance with the rules set out in the Manual of Administrative, Financial and Accounting Procedures of CORAF.

The Consultant will be selected according to the method based on the qualification of the consultant in accordance with the rules set out in the Manual of Administrative, Financial and Accounting Procedures of CORAF according to the selection criteria in the attached ToRs.

Additional information can be obtained from the CORAF Executive Secretariat by sending correspondence to Dr Hippolyte AFFOGNON, [h.affognon@coraf.org](mailto:h.affognon@coraf.org).

Consultants interested in this call must submit an Expression of Interest and a detailed CV to [procurement@coraf.org](mailto:procurement@coraf.org) highlighting their suitability based on the criteria mentioned in the attached TORs, not later than **June 28, 2021, at 5:00 pm GMT**.

**Dr Abdou TENKOUANO**  
**Executive Director of CORAF**

## Terms of references

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### **Recruitment of a regional consultant for the Digitalization of PAIRED Agricultural Platforms**

#### **A. Context**

There is growing concern over feeding Africa by 2050 largely due to the relative slowing down of food production in the face of rapidly growing populations. Food demand is projected to increase, especially in the growing urban centers of West Africa by about 60% to 80%, but agricultural yields are not keeping pace, with gaps estimated to be around 75%. The agricultural sector employs over half of the population in Sub-Saharan Africa (SSA), however, most of these farmers do not have access to quality agricultural inputs and services expected to boost agricultural productivity and production. Sustained agricultural growth is central to rapid poverty reduction and economic development. Yet, world poverty is largely concentrated in the farmers communities, which have the potential for agricultural productivity growth. This is particularly true for SSA countries, where the gaps between potential and actual yields remain high. Minimizing this gap through the promotion of modern inputs—such as fertilizer and improved seeds as well as agricultural services—has been at the core of almost all agricultural strategies. However, adoption of improved technologies is impeded by several factors including access to input and output markets, access to quality agricultural advisory services and access to agricultural credit and insurance.

The transformation of the agricultural sector and its economy is increasingly facilitated by technological innovations and affordable digital and mobile solutions. This is particularly true for the services offered by digital platforms. Digital agricultural services can be useful in multiple ways for smallholders as well as for a range of agricultural stakeholders. For smallholders, digital agricultural services can: (i) provide access to information or advisory services that is easy, adequate, relatively accurate, and inexpensive; (ii) enable the procurement of agricultural inputs such as seeds, chemicals, fertilizers and farm equipments; (iii) support better visibility of market prices and demand and enable better prices by marketing products more widely and efficiently; (iv) open up new opportunities such as digital payments, credit and insurance, and product derivative trading; (v) provide new market-driven revenue generation opportunities, such as value addition, primary processing, etc. In addition, inputs obtained through digital platforms can be of better quality, more easily accessible, timely, and potentially at lower prices than through traditional agri-business and retail channels.

Digital agricultural platforms are also useful for providers of agricultural services and products: (i) farmers' needs and preferences can be easily collected and communicated, to aid planning and procurement of agricultural products. Input suppliers are able to understand the nuances of demand that can help them develop sound supply chain management plans. They can better understand farmers' needs, constraints, and preferences to provide customized services; (ii) as platforms evolve, supply chains can be integrated to enable better information sharing among suppliers, processors, distributors, retailers, consumers, and other industry actors; (iii) across the value chain, suppliers can leverage data and analytics from the platform to deliver relevant products and services, they can align their offerings and services with producers' expectations and aspirations; (iv) financial service providers can also leverage data and analytics to deliver relevant financial products and services, they can use the data generated by the platform to improve their decision making and develop robust credit schemes. This, in turn, could improve the efficiency of financial transactions and price transparency. Access to credit remains the biggest barrier to sustainability for smallholder farmers. Digital agricultural platforms can play a critical role in accessing credit. They can provide solutions to many of the barriers that currently

limit credit availability. Indeed, banks are risk averse to working with farmers due to a lack of information. Digitized data can provide digital footprints in the form of sales and purchase records to determine the ability to repay loans. Individual farmer profiles, social data, agronomic data, economic and transactional data can be leveraged to make credit decision more relevant.

Digital agricultural platforms improve the efficiency of smallholder livelihood activities by helping producers mitigate risks from weather uncertainties and climate change. Weather forecasts and agricultural advice are the basic services provided by digital platforms. The accuracy of these forecasts is extremely critical for the beneficiaries. Minor deviations can have disastrous consequences. For example, in rainfed areas or areas with water shortages, farmers irrigate crops based on the forecasted rainfall. If rainfall is not accurate, they may flood their fields by mistake or under-irrigate them. These mistakes can destroy crops and compromise the entire income of beneficiaries in one season.

A growing number of farmers are using cell phones to conduct financial transactions. These methods can help financial institutions improve their credit scoring, evaluation, and loan approval systems. Providers can offer a wider range of financial services for users, using digital data trails, and combining access to agricultural information with financial services.

An integrated digital agricultural platform requires collaboration among multiple players with complementary expertise offering relevant information on best practices, weather, pricing information and access to buyers, suppliers, and financial institutions. An open, shared data platform approach may be even more compelling, as this approach would offer significant benefits. These include reduced and shared costs; ability to spread risk and bring innovations to market faster; mutually beneficial solutions, such as unified loyalty programs on the platform; rapid development capability to reach larger volumes faster; and engaging and supporting governments. However, it also requires a much greater willingness on the part of providers to collaborate and share data and resources.

For the sustainability of the digital platform, the most innovative providers, who realize the power and value of integrating services, can take the lead and the first steps to unify digital agricultural service. PAIRED funding can provide much-needed initial support for proof of concepts and early demonstration of integrated services to catalyze additional investments for scale-up efforts.

PAIRED project funded by USAID and implemented by CORAF in the long run is targeting to foster adoption of cutting-edge technologies by millions of farmers in the region. Achieving this ambitious result will require to improve farmer access to quality agricultural inputs and services. Closing the productivity gap is not possible without new ways of making actors along the agriculture value chain to have access to information and support services and make mindful and timely agriculture investments.

PAIRED is therefore seeking Digital Agricultural Platform consultants to collaborate with PAIRED teams in target countries (Benin, Mali, Senegal, Ghana, Senegal, and Niger), farmers and value chain actors including financial and technical service providers to jointly work together to develop and establish a digital Agricultural Innovation platforms portal. This initiative aims at increasing the efficiency of smallholder livelihood activities by helping producers mitigate production risks and providing accurate information to actors of the multi-actors' platform allowing them to render good services to all platform members.

## **B. Objectives of the assignment**

The main objective is to facilitate and enhance access to quality agricultural inputs and services that will improve productivity and welfare of smallholder farmers.

Specific objectives are to:

- Collect information and data needed by all actors to be engaged in the functioning of the platform
- Develop the interface that enables sharing of data and information
- Upload data and information collected from actors for the functioning of the platform
- Develop a mobile Application (android, IOS, etc.) of the digital platform portal.

### **C. Outputs or deliverables**

The following outputs are expected from the consultant's activities:

- The web portal is operational and functional at the country level.
- The platform has a publicly accessible interface.
- The platform meets the standards of modern platforms.
- The mobile application of the web portal is available and functional on smartphones.

### **D. Scope and scheme of work**

The Digital Agricultural Innovation Platforms portal is envisaged as a web information repository which aggregates information for the Innovation Platforms in West Africa with a specific focus on the PAIRED targeted countries (Benin, Senegal, Mali, Ghana, Nigeria, Niger) to foster linkages between private sector actors including financial and technical service providers. The portal will facilitate access to information and solutions through sharing of knowledge and good practices, enhancing collaboration and business development.

The geographic cover of the assignment is West Africa with a specific focus on the PAIRED targeted countries (Benin, Senegal, Mali, Ghana, Nigeria, Niger). Senegal case will be used as a pilot to test the functionality of the developed portal. The approach will be then scaled up to the remaining countries based on the recommendation from the Senegal' experience.

Specifically, the consultant is expected to undertake the following major activities:

- Develop a questionnaire for multi actors data collection,
- Compile, curate and analyze the data collected for consistency,
- Produce the project specifications,
- Design, develop and implement the database, the backend and frontend tools,
- Develop a user-friendly, responsive online platform
- Test the platform components,
- Create a publicly accessible platform with a private access interface,
- Develop the mobile application
- Train the platform administrators and technicians at regional and country level to ensure technical assistance for the sustainability of the platform
- Production of manuals and deployment of the system.
- Transfer to the pool of CORAF technicians all the source codes of the developed web platform

The documents to be presented must be in hard copy in Word and in electronic formats.

## **E. Duration of Assignment**

The working days for the assignment are not more than 30 days within a period of three (3) months.

## **F. Qualifications and Experience Required**

The consultant must provide evidence of the technical capacity to undertake this assignment. This includes capacity to deliver the results in the timeframe provided as well as indication of prior experience (relevant capabilities and experience, training, and platform development).

### **➤ Qualifications and skills**

This assignment is for professionals with proven skills in web application development:

- Master's Degree in the field of computer science, software engineering or any other related field,
- A solid understanding of how web applications work, including security, session management, and development of best practices,
- Excellent programming skills and in-depth knowledge of modern frameworks,
- Good knowledge of web programming languages,
- Perfect command of the mobile programming languages,
- Be able to configure and deploy applications on dedicated servers,
- Adequate knowledge of relational database systems, object-oriented programming, Web and Mobile application development,
- Basic knowledge of the search engine optimization process,
- Ability to diagnose problems and solve them creatively
- Ability to work in team under pressure,
- Excellent written and oral communication skills in English or French is mandatory

### **➤ Experience**

- Have developed and deployed at least 5 web and/or mobile applications in recent years,
- At least 3 years of professional experience in web and mobile application programming,
- At least 3 years of solid experience in information systems management and web development
- Practical experience in network diagnostics and network analysis tools,
- Experience in conducting similar platform development projects

## **APPLICATION PROCESS**

Consultants interested in this call must submit an Expression of Interest and a detailed CV to [procurement@coraf.org](mailto:procurement@coraf.org) highlighting their suitability based on the above criteria, not later than **June 28, 2021, at 5:00 pm GMT**.