



## **Request for Proposals**

# **Developing a Knowledge Management System for African Women in Agricultural Research and Development (AWARD)**

**Terms of Reference | May 2022**

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## Background

African Women in Agricultural Research and Development (AWARD) seeks to create a knowledge management (KM) system that will support the creation, storage, timely retrieval, synthesis, and use of AWARD data, information, and experience in implementing its initiatives. The KM System will include three components:

1. An interactive public portal, referred to as the knowledge hub, which will enable real-time data visualization and analysis, showcasing of the program's experiences, accomplishments, and outputs. The hub will have an internal interface for staff and partners to manage and access other internal information and knowledge.
2. A knowledge management workflow
3. Guidelines to provide a framework for implementing the KM system.

## Scope of Work

The consultant will design, develop, implement, and commission a knowledge management system. The system will obtain its data and information from several sources including the existing AWARD Management Information System (MIS), AWARD document repository (SharePoint), and other internal sources. The consultant will:

1. Identify all possible sources of data including existing and potential knowledge products and outline concrete mechanisms for knowledge capture, generation, storage, curation, and dissemination.
2. Recommend key knowledge products AWARD should regularly create.
3. Design a comprehensive KM system that will include an interactive knowledge hub (portal), a knowledge management workflow, and guidelines to provide a framework for implementing the KM system.
4. Design the knowledge hub that will enable external users to interact with the data and the internal users to input the data. The layout and architecture of the platform will enable content categorization and showcasing of information summaries under different themes and subjects.
5. Develop the agreed design of the knowledge hub.
6. Implement and test the solution based on the agreed design.
7. Deploy the knowledge hub onto a production environment and work with the AWARD team to integrate it with the AWARD website.
8. Integrate the KM process workflow into the hub.
9. Train AWARD staff to enhance their capacities on using and managing the knowledge hub.
10. Provide backstopping maintenance services of the hub for a period of one year after the handover.



## Functionalities of the knowledge hub

- **Front end (external):** a public interactive platform with dashboards containing a collection of summarized data and information on various thematic areas for the public users. The portal will:
  - Enable users to access quick facts and outcomes of our initiatives.
  - Enable users to download simple synthesized knowledge products such as fact sheets about AWARD interventions.
  - Provide a centralized source of information on results, outcomes, and impact
  - Provide stories behind the numbers, e.g., our fellows, their locations, institutions, research focus, institutional representation, etc.
  - Contain an extensive search feature.
- **User backend section (internal):**
  - **Dashboard:** an internal section containing a database for content entry with provision for information harvesting from various sources including the MIS, SharePoint, and other sources.
  - **Workflow (data collection, tracking, review and sharing):** a section that will provide the process, and checklist for relevant staff to input data and relevant information including meeting reports and evaluations. Knowledge sharing expectations and processes will be embedded in the projects'/initiatives cycles to capture learnings for use and reuse. Staff will be able to share data by making it public or private (internal).
- **Administrative backend section (internal):** For administrative management of the KM System (user configurations and their privilege management, indicator management, workflow configuration, meta-data, security, thematic areas, usage management etc.).

## Deliverables

The main deliverable is the KM System which should be deployed and integrated with the existing data platforms. In addition, the consultant should submit the following deliverables.

- A comprehensive workplan upon contract signing.
- A description of the final functional design, layout and content and reiterating the proposed technical architecture and licensing information. The document should be delivered and agreed upon before implementation.
- Proposed implementation architecture and design of the detailed data model and use cases before the implementation.
- A system testing plan and report during the user acceptance testing.



- User manual and technical documentation providing detailed description of the solution.
- Source code: All source code of the KM System should be delivered during the handover phase.
- A work completion report.
- Post launch support and maintenance for at least three months.

## Knowledge Hub (Portal) Requirements

### General Requirements

- The hub should be accessible via the web and will be hosted in an environment provided by AWARD. The consultant will provide the web hosting specifications.
- The hub should be accessible via a dashboard or a home page and should have the ability to provide links to other locations or systems from the landing page.
- It should allow users to search and filter data and perform data visualizations and presentations by generating customizable tables, graphs, maps, and infographics.
- The hub should be fully functional across different platforms (mobile/desktop/tablet), operating systems, and browsers
- The consultant should propose a widely used and sustainably supported open-source platform for the KM system.

### User Requirements

- Role-based login capabilities that provides encryption and lost password recovery.
- Users of the system should have access only to the modules, areas, information, and functions based on their access control settings.
- Ability to track login and logout details of every user and maintain a log of the same.
- The system will have interactive on-line help that tells the user how to use the system and knowledge-management related information.

### Administrative, Systems and Security Requirements

- Ability for the system to control the ability to edit, add and delete content.
- Ability to manage look-and-feel of entire site along with the branding.



- User administrator can create new user(s), configure permissions/roles, edit profiles, enrol users in courses, create user groups/domains, and search for users.
- Standard reports and wizard-driven ability to create custom reports that can be exported to xlsx, csv, docx, pdf, etc.).
- Administrator can mass-distribute notifications, edit content of notifications, notify specific users, manage notification events, and determine who receives what notifications.
- Ability for the system to integrate with other systems such as the existing Management Information System (MIS) to display dashboard updates.
- Provide consistent data entry formats and data validation. User with little or no experience of programming or mark-up languages (such as HTML and XML) should be able to create new pages.
- System should allow definition of custom fields including calculated fields with customizable error messages
- The system should support 'check in and check out' functionality; content can only be edited by a single internal user at a time.
- System will record and display an audit trail. In addition, it should have the ability to track versions of content submissions and to roll-back to previous content submissions.
- Ability for the system to support the representation of a classification scheme and taxonomies by which content is placed in an organized structure that is consistent with defined rules.
- Ability for the system to filter content according to defined metadata.
- Ability for the system to automatically generate customizable navigation structures.
- Ability for the system to upload documents individually or in bulk.
- Ability for the system to create editable URLs with meaningful names.
- Ability for the system to generate logs for successful/failed authentication attempts.
- Only transmit all passwords and other sensitive information across the network in a secure manner.
- Ability to monitor web statistics such as how many web pages users visited, specific details of the web page, duration spent, etc.
- Ensure compatibility to all the major browsers (Mozilla Firefox, internet Explorer, Google Chrome, Opera, Safari) and support of full functionality on mobile devices.



- The system must provide backup and recovery facilities.
- The system must be able to interface with external systems through well known protocols and interfaces for connectivity.

### **Content Requirements**

- Ability to analyze, visualize and display data and information from various databases, shared drives, and proprietary systems (e.g., MIS).
- Ability for the system to create, manage and upload digital content including, but not limited to text, photos, streaming audio, podcasts, RSS, audio, video, live webcasts, rich interactive media, news feeds, charts and graphs, blog entries, and discussion forum entries.
- Ability for the system to cater for the creation of metadata (such as relevant keywords, titles, descriptors) as new content is added, edited, or deleted.
- Ability for the system to provide a reporting capability for internal administrators and other authorised users.

### **Search Requirements**

- Ability of the system to assign tags to files to enhance search capabilities.
- Ability for the system to search based on metadata (including keywords and metatags), full-text content and controlled vocabulary lists.
- Ability for the system to search based on multiple criteria.
- The ability to search different file types (.doc, .xls, .mdb, etc.), scanned files (PDFs), and text within graphics.
- Ability for staff to view all past/present, future and archived content stored in the system.
- Search terms will be highlighted in the document or web page.
- Search results can provide a list of hits along document object histories, progress through workflow routes, summaries of documents, or profile data of documents.
- Searches can be exported into common document formats (.doc, .xls, .pdf, etc.).

### **Non-Technical Requirements**

- The system should have quick average response time (under 3 seconds).
- The system should be scalable to meet future expansion and update of the system, content, and its module.



- The system should be able to share data as an API to other systems and vice versa.
- The system should be secure to handle the possible threats and breaches.
- The system should be able to handle at least a hundred requests at a time into the system, without hampering its performance.
- The system should be available all the time.
- The system should be resilient to recover from unexpected errors, if any.
- The front-end design and functionality of the system should give users easy navigation, clear text and images, guidance, relevance of related contents.

## Workflow Requirements

- Develop a workflow that automates the approval process for content to be published.
- Provide ability for administrators and authorized staff to handle content approvals.
- Ability to send notifications, reminders, and delegations via email.
- Ability for a user to delegate a workflow action to another internal user.

## Consultant qualification criteria

Consulting firms will need to meet the following criteria:

- Demonstrated experience in implementing KM systems and data visualization dashboards. Samples as proof of similar work undertaken will be required.
- Demonstrated project management experience of varying scope.
- Experience in web-based software development and advanced knowledge in KM systems, data analytics, and database implementation.
- Demonstrated ability to manage REST (Representational State Transfer), APIs and web services to communicate with the back-end architecture.
- Previous experience with NGO related projects / track record is a plus.
- Registered firm with at least 7 years of relevant working experience. A registration certificate will be required.
- Availability throughout the required timeline.





## How to apply

Applicants should submit a technical and financial proposal detailing the consultant's/ team's proposition in carrying out the assignment and should include the following:

- An understanding of the scope and proposed implementation
- Highlight relevant past experiences with similar tasks and indicating two references
- The estimated budget (in USD) of the consultancy service
- The work schedule and timeline of implementation
- The profiles of the consultant's team / experts
- One (1) year post implementation support

Consultants who meet the requirements of the assignment should send their applications to: [awardqueries@cgiar.org](mailto:awardqueries@cgiar.org) by **June 17, 2022**. We will acknowledge all applications but will contact only short-listed consultants.

## About AWARD

African Women in Agricultural Research and Development (AWARD) works toward inclusive, agriculture-driven prosperity for Africa by strengthening the production and dissemination of more gender-responsive agricultural research and innovation. We invest in African scientists, research institutions, and agribusinesses so that they can deliver agricultural innovations that better respond to the needs and priorities of a diversity of women and men across Africa's agricultural value chains.

AWARD is hosted by and based at the World Agroforestry (ICRAF) in Nairobi, Kenya.