TERMS OF REFERENCE (TOR) FOR CONSULTANCY TO UPGRADE WEB-BASED SYSTEM AND MAINTENANCE SERVICES FOR INFONET-BIOVISION WEBSITE

1. Introduction
Biovision Africa Trust (BvAT) wishes to recruit an IT company to offer consultancy service for upgrading of its Infonet-biovision website, provide maintenance and undertake an IT feasibility study. BvAT is a not-for-profit organization established in Kenya in 2009 by the Biovision Foundation for ecological development in Switzerland and supported by the International Centre of Insect Physiology and Ecology (ICIPE) in Nairobi. The Trust’s goal is to alleviate poverty and improve the livelihoods of smallholder farmers in Kenya and other African countries through supporting dissemination of information and knowledge on appropriate technology to improve human, animal, plant, and environmental health.

Infonet-Biovision commonly referred to as ‘Infonet’ is a web-based information platform based on Drupal 7 CMS that runs on the Ubuntu Linux distribution (version 16.04). Current technologies that provide support for the operation of the Infonet web platform include MySQL version 5.7, PHP version 5.6, Nginx and Apache Solr.

Infonet is one of the information dissemination and knowledge sharing projects under the Biovision Farmer Communication Programme (FCP). Other FCP projects are The Organic Farmer (TOF) and Mkulima Mbunifu Magazines, TOF Radio, and Farmer Communication Outreach. Infonet platform provides synergy and complementarity with these projects, offering trainers, students, extension workers and farmers a quick access to up-to-date and locally relevant agricultural information that contributes to sustainable agriculture and rural development.

Infonet has almost half a million global online users per year, half of them from African countries, and 25 percent from Kenya, and access through mobile is increasing. The content is available for both online and offline use. An offline version is produced annually, and it is packaged in a USB stick or downloaded from Infonet website. The main users of Infonet offline are farmers and extension officers based in rural areas where internet is costly and internet speed is slow. However, the current Infonet offline version can only be used on computer, locking out tablet and mobile users. The website is relatively complex, encompasses a large image database and needs ongoing optimization to remain relevant responsive to end users. Infonet is currently looking for an IT team to take care of its IT tasks.

2. Scope of Consultancy
Under this consultancy, Biovision Africa Trust intends to engage an IT company to provide a dedicated IT team to work closely with the Infonet team both physically and remotely using project management tools such as Asana. Broadly, the consultant will:
- Undertake a feasibility study to assess possibilities, options and costs to upgrade the system (to Drupal 8) and achieve longevity of the platform and obstacles to Infonet IT developments and exchange with existing Apps. The consultant will also determine costs for API and App development and produce a comprehensive study report.
- Provide DevOps services that entail IT operations to support the deployment and running of the Infonet website.
- Undertake software development and maintenance of the Infonet website.

3. Specific Tasks

3.1 Undertake a feasibility study to clarify possibilities and obstacles to Infonet IT developments and produce a comprehensive study report.
- Conduct a feasibility study and come up with a comprehensive report with actionable recommendations on:
  - The costs for updating the system (to Drupal 8).
  - Possibilities and options for ensuring longevity of the platform.
  - An assessment of obstacles to Infonet IT developments.
  - An assessment of current environment and possibility of exchange with existing Apps in the sector.
  - An assessment of costs for API and App development.
  - An Infonet IT strategy informed by the study.
- Help in the implementation of the recommendations from the feasibility study.

3.2 Provision of DevOps services that entail IT operations to support the deployment and running of the Infonet website.
- Regularly updating the Drupal 7 website to the latest minor or patch release versions.
- Monitor Drupal module version updates and apply them to the database system as well as the Drupal CMS.
- Applying security patches to all servers and their services that support the Infonet website.
- Perform regular backups of the Infonet website i.e. web files and database. The frequency should be on a weekly basis and can be increased on frequency of content change.
- Block any rogue Internet Protocol (IP) addresses from entities such as malicious bots that send email spam or cause a denial of service (DoS).
- Review the logs generated by the Infonet website and its related services.
- Configure and maintain the firewall of all servers that support the Infonet website and its related services.
- Clear the server cache generated by the Infonet website and its related services periodically.
- Secure the operating systems hosting the Drupal 7 CMS and its related services (e.g. Apache Solr) by keeping it always updated with the latest release patches, security fixes and kernel when it is available or any other means.
• Monitor version updates of software services referenced by the Infonet website and perform the necessary checks and updates.

3.3 Software development and maintenance of the Infonet website
• Produce a searchable offline version of the Infonet Biovision website annually that is optimized for mobile devices, that is, phones and tablets.
• Generate documentation containing simple instructions on how to produce the offline version, especially to allow searching within the content and easier production of new offline versions in the future.
• Improve usability and user friendliness of the website’s user interface and experience through improved design, structure and speed performance, on all devices to reduce bounce rate.
• Develop and implement new functionalities for the Infonet website.
• Resolve any occurring bugs that affect the functionality of the Infonet website.
• Improve Google search ranking issues and any other related Search Engine Optimization issues.
• Provide maintenance support for existing functionalities. The existing functionality refers to all the features listed in the contract.

4. Expected Deliverables/Outputs
• A dedicated IT team tasked with Infonet website maintenance and development and DevOps working closely with the project team, using project management tools (currently: Asana, open to suggestion) during the engagement period.
• A well-functioning and usable Infonet website and system documentation.
• A comprehensive feasibility study report on; possibilities and obstacles to Infonet IT developments and clear actionable recommendations.
• An Infonet IT strategy
• Comprehensive reports on system administration tasks undertaken on the Infonet platform.

5. Time Frame
It is expected that Infonet upgrade, development and maintenance will be undertaken during a period of 3 years (1st January 2020 to 31st December 2022) with possible extension. Successful applicants should be available to start by March 2020. Contracts will be signed with successful vendors annually and only renewed after satisfactory performance by the service provider.

6. Required Skills and Experience
The task will be conducted by an IT company having the following main qualifications:
• Company/Team consisting of IT experts who have a university degree or deep background knowledge in Information Technology or a related field and have the following in their repertoire of technical skills for software development:
  - Backend development: PHP, MySQL, Apache Solr
- DevOps (continuous integration & deployment, Linux server administration, knowledge on cloud services such as Rackspace and AWS, knowledge on site reliability engineering, performance monitoring)
- Software configuration management (version control using Git)
- Front-end development: HTML 5, CSS 3 and Javascript (ES6 / ECMAScript 2015 and above)
- Mobile application development: Android (Java or Kotlin)

• 5+ years’ experience in website development and maintenance.
• Experience in providing Service Level Agreements for Non-governmental Organizations.
• Experience with Drupal CMS.
• Experience in undertaking IT feasibility studies and developing IT strategy
• Good communication skills, both orally and in written.
• Experts to accompany local team in Nairobi to presentations and partner meetings
• Experience in managing large databases including image databases and database migrations.
• Experience in (Restful) API/Web services and mobile application development

7. How to apply
Interested companies should submit the following:

• Detailed curriculum vitae of the IT expert(s) to be involved in the assignment, with relevant supporting documents (including detailed work experience, education/degrees, and details of similar assignments).
• Company portfolio, names and contacts of clients (phone numbers and email).
• A one-page write-up showing why your company is the most suitable for undertaking the consultancy and cost of consultancy.
• Estimated raw costs based on provided information above (detailed costs to be delivered in an RFP).

If you believe you are the right firm for the above consultancy and can clearly demonstrate your ability to meet the indicated qualifications, submit your application to info@biovisionafricatrust.org with the subject heading: Consultancy for providing IT Services to the Infonet Database.

Deadline for application is February 7, 2020; 5.00pm. Only shortlisted firms will be contacted for further reviews.