1. Background

The Nile Basin Initiative (NBI) is an inter-governmental organization initiated and led by the Nile riparian countries to promote joint development, protection and management of the common Nile Basin water resources. NBI has a Shared Vision, namely: ‘to promote sustainable socioeconomic development through the equitable utilization of, and benefit from, the common Nile Basin water resources’. A wide range of programs and projects are currently under varying stages of identification, preparation and implementation under NBI designed to contribute towards the realization of the NBI Shared Vision.

The NBI provides a unique forum for the countries of the Nile Basin to move toward a cooperative process to realize tangible benefits in the basin and build a solid foundation of trust and confidence. The Nile Council of Ministers [Nile-COM] serves as the highest decision-making body of the NBI. The Nile-COM is supported by the NBI Technical Advisory Committee [Nile-TAC], which is composed of two senior officials from each member country.

NBI is managed from three Centers. The first Centre at Entebbe, Uganda, forms the NBI Secretariat (Nile-SEC) and was launched in September 1999. It has a coordinating role across the Basin, supports the platform for Basin-wide dialogue, and provides and manages an interactive, intelligent, basin knowledge base and promotes Water resources management. Another Centre at Addis Ababa, Ethiopia (ENTRO) and a third Centre at Kigali, Rwanda (NELSAP-CU) both manage the facilitation of cooperative water resources development in their respective sub-regions.
**NBI Core Functions:** the NBI performs three core functions:

- *Building Cooperation.* The NBI main objective is to facilitate, support and nurture cooperation amongst the Nile Basin countries to promote timely and efficient joint actions required for securing benefit from the common Nile Basin water resources.

- *Water Resource Management.* The NBI provides member countries with analytic tools and a shared information system that will enable monitoring and the sustainable management of the basin.

- *Water Resource Development.* The NBI assists member countries to identify development opportunities and prepare projects and seek investments. Development programs are focused on power trade and generation, agriculture and watershed management.

**NBI Secretariat (Nile-Sec):** The Nile Secretariat is responsible for the overall corporate direction of the NBI as defined by the Nile Council of Ministers. Its operations are divided into two main programs: the Basin Cooperation Program and the Water Resources Management Program.

**Water Resources Management Department:** the Nile-Sec has established the Water Resources Management Department (WRMD) to advance the implementation of its water resources management functions. These functions include development of basin wide policies, expanding the knowledge base, provision of expert analytical services using the Nile Basin Decision Support System (NB-DSS), and monitoring the state of the basin.

As part of expanding the knowledge base the NBI has developed a Nile Basin Water Resources Atlas to provide factual, well synthesized, interpreted information to the stakeholders in one piece.

The Nile Basin Water Resources Atlas was officially launched on Thursday 14th July 2016 during the 24th Nile-COM meeting by Right Honorable Second Deputy Prime Minister, Uganda and Minister for East African Affairs, AL Hajji Kirunda Kivejinja.

The Nile Basin Water Resources Atlas provides a platform to visualize the status of Nile basin resources, their distribution in time and space, observed trends, vital statistics and water use and demand by the major sectors.

The Water Resources Atlas is structured in seven chapters introducing the reader to the Nile Basin location, physiography, spatial and temporal variation of major climate variables and hydrology in the major sub-basins presented at selected key stations. It provides an estimate of water demands, water use by the major sectors and an overview of major hydraulic infrastructure. The Atlas also presents the current state of basin monitoring focusing on hydro-meteorological monitoring highlighting the identified gaps and what NBI has recommended as the most suitable monitoring network.
The Atlas is currently disseminated as hard copies and as an interactive PDF on DVDs to NBI stakeholders. The Nile Basin Water Resources Atlas can be accessed through the Nile Information System. http://nileis.nilebasin.org/content/nile-basin-water-resources-atlas

To promote the use of the Nile Basin Water Resources Atlas, the NBI therefore seeks to hire the services of a suitable IT/Programmer to develop a web-based version of the Nile Basin Water Resources Atlas similar to the link below http://sob.nilebasin.org/

2.0 OBJECTIVES

The objective of this consultancy is to develop a web based and interactive version of the Nile Basin Water Resources Atlas to provide further access of the Atlas to Nile Basin stakeholders.

3.0 SCOPE OF WORK

The scope of work of this assignment is to develop a web-based version of the Nile Basin water resources atlas based on content provided by NileSEC. The Activities include:

1. Undertake a rapid needs assessment to identify the requirements of the interactive web based version of the Nile Basin Water Resources atlas to be posted on NBI’s website and optimized for Smartphone’s.

2. Produce an inception report documenting the design requirements and an analysis of the requirements in terms of technically feasible approaches for developing the web based version. The requirements shall be confirmed with NBI before proceeding with the design. Some of the requirements anticipated include but not limited to
   • Create links to each subsection under each of the seven chapters of the Atlas
   Maps and images shall have associations with text, related graphs, tables and charts

   • Enable flipping of page by page
   • Enable zoom and pan functionalities
   • Enable search by themes or titles
   • Connect to NBI social media
   • Enable sharing on Social media platforms
   • Enable responsiveness (Viewable on smart phones and Tablets)

   • Enable compatibility with ordinary browsers like Chrome, Firefox, and Internet explorer.
   • Compatibility with diverse operating systems
   • Visually attractive interface based on NBI communication guidelines
3. Based on the identified and agreed upon requirements, the consultant shall develop a design concept and detailed specifications including the layout and organization of text, hypertext links, data, images, maps, sound, animation and other digital and visual effects as well as the technology selected for the final web based version of the Atlas.

4. The Consultant shall submit a dummy compatible with NBI platforms for testing and thereafter finalization upon receiving of feedback from NileSEC team.

5. Consultant shall work with and liaise with NBIs ITO, GIS/RS specialists and the Information Systems Specialist (ISS) on hosting and content management of the created web version of the atlas.

6. NBI shall provide content of the Nile Basin Water Resources Atlas as required by the consultant.

5. **NATURE AND DURATION**

The assignment shall take 21 man days from 19th December 2017 to 30th January 2017

<table>
<thead>
<tr>
<th>Activity</th>
<th>No of Days</th>
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<tbody>
<tr>
<td>Undertake a rapid needs assessment to identify the requirements</td>
<td>2</td>
</tr>
<tr>
<td>Inception report</td>
<td>2</td>
</tr>
<tr>
<td>Programming and Mock up development</td>
<td>14</td>
</tr>
<tr>
<td>Discussion with Nile SEC</td>
<td>1</td>
</tr>
<tr>
<td>Final Version</td>
<td>2</td>
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6. **EXPECTED OUTPUTS**

   (a) Inception report outlining the consultants understanding of the assignment
   (b) A dummy of the web based version of the atlas compatible with NBI platforms
   (c) A web based version of the Nile Basin Atlas (Final Version)
   (d) Work with NBI ITO to upload it to NBI platform

7. **QUALIFICATIONS**

   . Minimum of a first degree in IT or any other relevant qualification
   . Certification in Web Technologies or Web Programming and/or at least five years working experience in website construction and maintenance.
   . Proven experience in designing high quality, creative websites in a timely manner, as evidenced by a portfolio of sites developed.
   . Knowledge in manipulating images and image formats
   . Good knowledge of programming languages such as PHP, MySQL Java, JSP, Servlets, XML, Xhtml, JavaScript and Perl.
   . Knowledge of Flash would also be desirable.
Proficiency with key software and tools, such as the following: DreamWeaver, Frontpage, Flash, Fireworks, Freehand, Adobe, Illustrator CS2, and Photoshop cs2.

Basic networking knowledge including some proficiency in the use of various Web Protocols and in different networking and internetworking concepts.

Strong communication, documentation and presentation skills.

An awareness of the NBI is desirable.

9 Implementation arrangements

The Consultant shall sign a lumpsum contract with the Nile-Sec under the supervision of the Head of Water Resources Management Department of the Nile-Sec. However, the consultant will work with the ITO and the GIS Specialist on a day-to-day basis.