Terms of Reference

Redevelopment of the PIDS Economic and Social Database Website and Integration of the GIS-based Philippine Socioeconomic Profile to the Economic and Social Database

As a government think-tank, PIDS aims to provide the infrastructure for research not only to its own research staff but also to other researchers. One of the key strategies for achieving this is to enable researchers, particularly those from outside the National Capital Region, easy access to time-series and granular data. In 1994, PIDS established its online database consisting of long series of economic and social indicators, with a significant number being disaggregated by geographical level. Since 1994, PIDS has been maintaining this database (http://econdb.pids.gov.ph/), including a Geographic Information Systems (GIS)-based component (http://gis.pids.gov.ph/). The rise of the information era and the demand for online platforms that can offer both ease of use and large volume of data requires an extensive enhancement of the current database system. With the dawn of the Fourth Industrial Revolution (FIRe), PIDS recognizes the even more important role that data will play towards evidence-based policymaking and policy analysis.

In particular, the front-end and back-end systems need to be redeveloped to provide better interactive features for end-users (e.g. researchers, policy analysts and policy makers), and better, more flexible, and easier ways for encoders to input data in a streamlined fashion. The front-end system must be enhanced to allow simple post-processing of the information into graphs, to generate growth rates, and percentage share, among others. The database system must display information in an uncluttered, pleasing manner. Users must be able to download information and graphs that can be readily used in policy advocacy and analysis.

On the other hand, the back-end system must be enhanced to become integrated and functional. There is a need to link the economic and social database (ESD) with the Geographic Information System (GIS) database. By bringing together the functionalities of the both the ESD and the GIS databases, a data system can be created such that the disaggregated indicators from the ESD may all be easily transformed and reflected through GIS maps. This provides an entirely new and visual dimension to data that would be instrumental for use in research, policymaking and advocacy.

The main goal of this enhancement is to achieve a well-integrated, visually-appealing, functional, user-friendly and interactive database system.

Objectives

The contractor is expected to develop and design a new Socio Economic Information System (SEIS) integrating the abovementioned requirements.

Front-end Systems

1. To create a user-interface that is in line with modern designs and navigational elements
2. To augment system capabilities to be more dynamic with regards to using visual analysis to compare available indicators.
3. To modify the database so that its features are easily adaptable to various digital platforms, such as computers, laptops, tablets, mobile phones etc.
4. To establish integration capabilities with the GIS database.
5. To make the content of the database more user-friendly and relatable by allowing for opportunities to place infographics and links to other PIDS content.

Back-end Systems

1. To streamline the data management process by synergizing time-series, and granular indicators with their respective aggregated counterparts.
2. To improve linkages with PIDS websites and sub-websites for better functionality.
3. To strengthen the digital security of the system.

Components and Features of Existing System

Web-Based Front-End	Back-End Database System	Content Management System
▪ Simple navigation options ▪ Simple post-processing tools and graphing ▪ Presentation based on category ▪ Presentation of metadata ▪ Web program and webpages directly connects to back-end database ▪ Saves to excel ▪ GIS and EconDB have separate data sources	▪ Uses open source RDBMS ▪ Separate tables for data and metadata	▪ Web-based tool for adding dataset and uploading data (in csv format) ▪ Permission-based

Components of the Proposed System

Web-based front-end

- Review and redesign the overall appearance of the current website to incorporate modern design and navigation elements (e.g. minimalist design, RIA or Rich Internet Application) and other must-have features similar to other database websites. See http://data.gov, http://data.gov.ph, and other sites as models or benchmark.
- Ensure a consistent visual language on the new website – consistency in fonts, formatting, and layout techniques.

- Make improvements in website navigation to make it user-friendly. Focus of navigation is on how users can easily find a specific indicator (e.g. data explorer function). Add a comprehensive search functionality within the website. Information should be grouped and presented in a logical manner in order for users to easily find the desired information or indicator. See: https://greatermekong.org/stats/index-static.php for benchmarking
- Identify, add and implement more post-processing tools, including the generation of annual data from monthly or quarterly data, and computation of percentage shares and growth rates, among others. The World Bank database can be used as a reference, providing options on data visualization and processing, such as time series, charts, and maps.
  (https://databank.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG/1ff4a498/Popular-Indicators)
- Optimize website to support low-bandwidth users and handheld devices such as mobile phones and tablets. Ensure browser compatibility – must be compatible with commonly-used major web browsers (e.g. Mozilla Firefox, Internet Explorer, Google Chrome, Safari).
- Allow downloading of data into various formats – csv, xls, xml, json, and other supported file formats of statistical software such as R and Stata.
- Add more dynamic elements for data visualization such as interactive graphs and maps. Make improvements in displaying GIS-based features, such as displaying maps by various years for side-by-side visual analysis, and/or layering of indicators in a single map. See https://ourworldindata.org/ and other websites as references.
- Include option to generate GIS-based visualizations from the data (integration of the database and GIS). Allow overlaying of maps and data values – similar to value labels or data tables in Excel charts.
- Connect and overlay maps to online map service (Googlemaps, Bingmaps, Applemap)
- Maybe we can add a (regular) section that shows or highlights how a particular dataset can be downloaded, formatted, processed and used in order to explain various (relevant) economic issues
  - The Our World in Data database (https://ourworldindata.org/) has a similar interface, where research articles can be found in the home page, connecting it to relevant figures and charts drawn from its databases. In its SDG tracker, we can also find segments that discuss each target, its metadata and available data. This can be adapted to the database in terms of connecting our PIDS research with the database figures.
- To use advanced features like special post processing module (to be identified), users or web visitors must have a validated user account.
- In the future, should PIDS have publicly accessible datasets, we can allocate a portion of the database to download said data. A reference site for this is the ADB Data Library (https://data.adb.org/), which catalogues various datasets by development area.

Backend System

- Improve the current data model and database management system.
- Use both an RDBMS and JSON/XML based database (high availability and redundancy).
- Group related indicators, categorize database contents

- The database system should allow the generation and display of computed data using existing indicators.
- Allow the selection of indicators to be compiled into a single separate webpage containing all key economic and social indicators.
- Updates should be automatically published to other sites such as the PIDS Website.
- Include website analytics and/or site statistics to monitor logs in the website to identify the most visited page, and most downloaded indicator, among others.

Web based Content Management System

- Password protected, web-based system
- Design that will allow for batch uploading and row/record level content editing
- Multi-role permission system – system admin, encoder, reviewer, data admin, API admin
- Can easily add datasets or tables PIDS Database Open (data) application programming interface (API) – Open API and Open Data Service
- Follows the SERP-P Open data model wherein other systems and users (internal or external) are allowed to consume/use SERP-P contents in their website or application provided that:
  - They register and accept the terms and conditions, registration also serve as usage tracker
  - Cite the PIDS system as their source (by providing crosslinks, or using PIDS database logo)
  - Just like ordinary web access, site access will be logged, monitored, and analyzed
- Go to http://www.data.gov.ph or http://data.gov to see what are available (not many) and how others are using free (open) data
- Open up the PIDS Socioeconomic Data to other PIDS systems and external systems, allow for creation of "Content Mashups", web-based application, and mobile apps
- Promote and allow other PIDS sites and external partner websites to use and present pages using the PIDS data
- Share data to other data providers and consumers
- Within PIDS, this service will provide data to PIDS Economic and Social Database website, PIDS and SERP-P websites
- Since the API data format is natively supported by Stata and R-stat, PIDS and outside researchers can directly connect to the system using those software (without the extra step of downloading and importing it)

Required Resources

- *IT Infrastructure and Software*. Design a system that meet the following server requirements for web hosting: for OS (i.e. Linux platform) and for other software applications (i.e., latest version of PHP, MySQL database, and Apache server) that supports the different components (backend, API, CMS). All components will be developed using open source software.

Ownership of Data:

All information, data, reports or any other material, graphic software or otherwise prepared, collected and gathered by the Contractor under this Project shall belong to and remain to be the exclusive property of PIDS. Said materials should be properly documented and turned over to PIDS before final payment is released to the Contractor. The Contractor shall not use in any manner the information and data gathered for commercial or other purposes and such information and data shall be for the exclusive use of PIDS.

Compliance to PIDS Data Privacy Policy:

Prior to commencement of work for this specific project, Contractor shall be asked to sign a non-disclosure agreement with PIDS. The Contractor shall not disclose and/or release to anyone any information collected and generated under the Project. Any information gathered and generated in the implementation of the project shall be processed subject to the applicable provisions of the Republic Act No. 10173, known as the "Data Privacy Act of 2012" and its Implementing Rules and Regulations and relevant issuances of the National Privacy Commission (NPC).

Timeframe and duration of the assignment

It is expected that the pre-development stage will take one month. This will include the meeting with the end-users, and the designing of web-based frontend, backend system and web-based content management system. Once approved, the development of the SEIS website will commence. The contractor is given five months to finish the redevelopment of the PIDS Economic and Social Database Website and integration of the GIS-based Philippine Socioeconomic Profile. A presentation will be set to solicit comments from the end-users. The contractor has one month to refine the website based on the comments and suggestions received. Another one month is given for migration and turnover purposes.

After the turnover, the contractor must be on-call for three months in case there is a need for troubleshooting and fixes. This serves as service warranty after the system has been turned over to PIDS.

Given the above timeframe, the duration of the assignment is eight months.

Project Cost

PIDS shall pay the Contractor the total amount of PHP 800,000.00 after satisfying all the required outputs for this Project.

Schedule of Payment:

Tranches	Deliverables	Schedule	Percent
1st	(1) Approved work plan (2) Approved design and layout of web-based frontend, backend system and web-based content management system. (3) Presentation of the first draft of the new website design (including all pages) and Content Management System (CMS) to the ESD Team and its acceptance by PIDS	Within 1 month after the submission of the progress report on the approved workplan and its deliverables.	10%
2nd	Improved ~~the~~ current data model and database management system. This includes improvement of post-processing features and derived tables from another tables. Presentation of the abovementioned deliverables.	Within 2 months after the development of the improved data model and database management system, and the submission of the progress report.	20%
3rd	Enhanced web-based front-end design. Linked Economic and Social Database and GIS-based Philippine Socioeconomic Profile into one dataset source. Upgraded Web based Content Management System. Developed Open API and Open data Service. Presentation of the abovementioned deliverables.	Within 3 months after the development of the enhanced web-based front-end design and integration of ESD and GIS-based Philippine Socio Economic Profile, upgraded web-based CMS with developed API and open data	20%

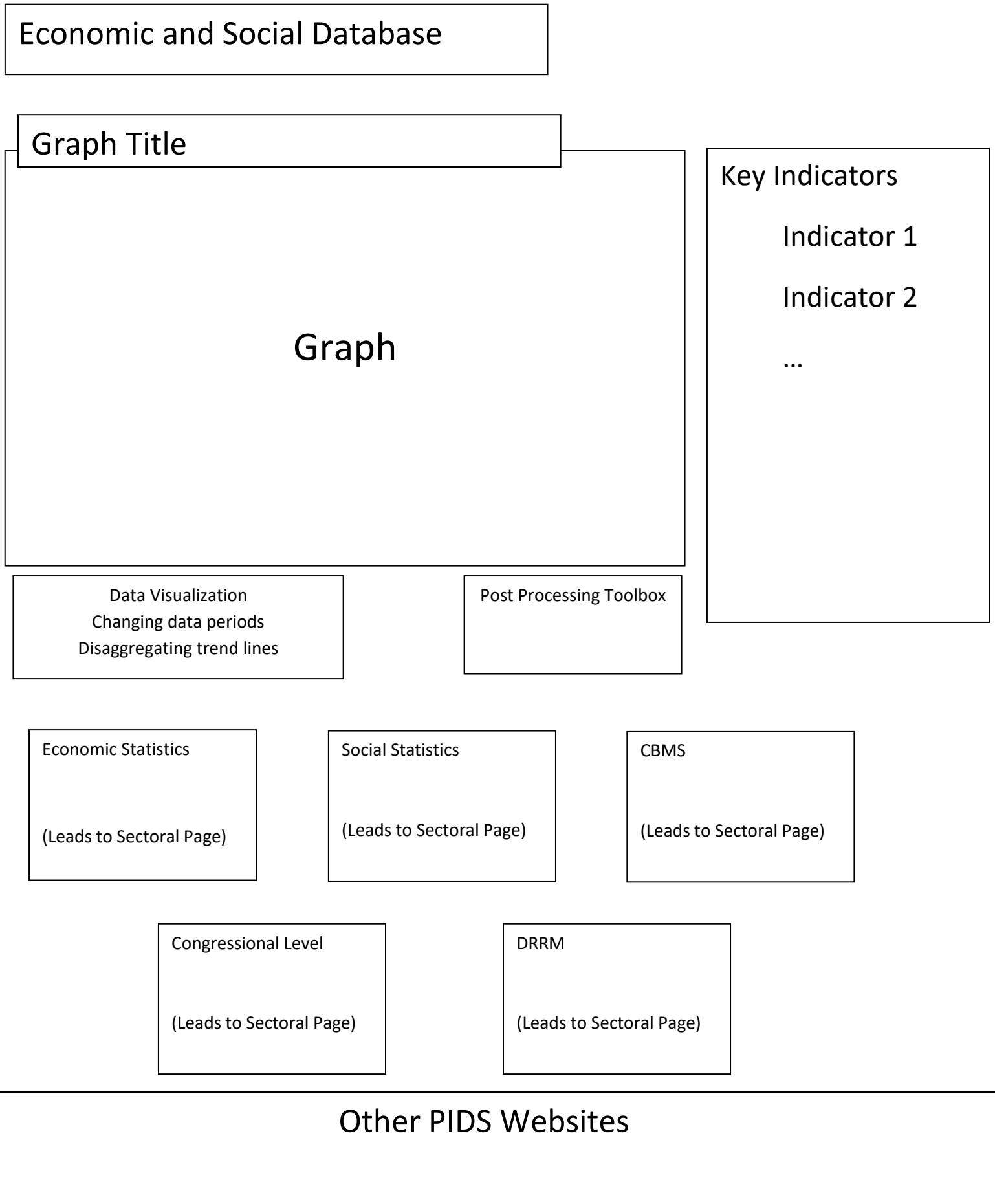
		service, and the submission of the progress report.	
4th	Presentation of the new Socio Economic Information System (SEIS) portal to the ESD Team and its acceptance by PIDS Implementation of the new SEIS portal (ready to go online) and the CMS	Within 1 month after the presentation and implementation of the new SEIS portal and the submission of progress report	20%
5th	Users training to manage the enhanced back-end and basic programming training; submission of complete documentation of user manual and admin manual to operate the administrative site; Documentations of all modules, front-end, and back-end systems and processes, and turn-over of source codes and files of all webpages and the CMS modules. The new SEIS portal/website is uploaded in the PIDS System and fully working. Final presentation of the new Socio-Economic Information System Website Turned-over to ESD Team and ICTSD.	Within 1 month after the system has successfully uploaded in the PIDS system and fully working, and the submission of complete documentation of the new SEIS Portal and its CMS, turnover of files and source codes, and submission of the final report and acceptance and approval of the same by PIDS.	30%

Selection Criteria

1. Required skills and experience
    a. Has extensive experience (at least four years) in database management, programming and content management system (CMS) development.
    b. With expertise in scripting and coding languages and standards (PHP, JSON, JavaScript, HTML, CSS and other languages required in the build-up of the system) using security best practices on program codes, and use and configuration of MySQL Database, Apache webserver and other related applications.
2. Desirable skills
    a. Conceptual, analytical, systemic and creative thinking
    b. Have a broad knowledge of current web development technologies and design tools, new software, and other programming languages and programs including use of HTML, XHTML, CSS, XML, JSON, JavaScript, PHP, Git;
    c. Have knowledge in developing data model, open API and Open Data service.
    d. Ability to understand users' needs to match with adequate technical solutions
    e. Strong track record in website security and administration, website analytics, and search engine optimization

3. Other qualities
    a. Apply initiative and creativity to solve problems and capitalize on opportunities
    b. Manage tasks and time effectively
    c. Create high-quality outputs

Annex


Economic and Social Database
Graph Title
Graph
Key Indicators
Indicator 1
Indicator 2
…
Data Visualization
Changing data periods
Disaggregating trend lines
Post Processing Toolbox
Economic Statistics
(Leads to Sectoral Page)
Social Statistics
(Leads to Sectoral Page)
CBMS
(Leads to Sectoral Page)
Congressional Level
(Leads to Sectoral Page)
DRRM
(Leads to Sectoral Page)
Other PIDS Websites

Sector Title

Graph

Sector

Subsector 1

Indicator

Indicator

Subsector 2

Indicator

Indicator

...

Data Visualization

Changing data periods

Disaggregating trend lines

Post Processing Toolbox

Sectoral Updates

Other PIDS Websites

REQUEST FOR EXPRESSION OF INTEREST
(Small Value Procurement: Firm)

Interested consultants must submit the following documents:

a) Valid Mayor's/Business Permit*;
b) Curriculum Vitae of the Consultant(s) who will perform the service(s);
c) Technical proposal;
d) Sample Works;
e) PhilGEPS registration number (certificate or screenshot);
f) Income/Business Tax Returns;
g) Filled-up registration form, which includes information on completed contracts and all on-going government and project contracts, including contracts awarded but not yet started;
h) Filled-up *Data Privacy Notice and Personal Data Protection Form*;

Shortlisted consultants shall be required to submit the following:

i) Notarized Omnibus Sworn Statement in accordance with Section 25.3 of the 2016 Revised Implementing Rules and Regulations of the Republic Act No. 9184 IRR; and
j) BIR Certificate of Registration.
k) Financial proposal;

Interested consultants may obtain further information from the Procurement Management Division c/o Sharold B. Magallones at telephone number (+632) 8877-4006 or email smagallones@mail.pids.gov.ph. Forms may be downloaded through the link, **http://bit.ly/PIDScsforms**

The Institute shall adopt the Quality-Based Evaluation Procedure in the selection of consultants.

Please submit your eligibility requirements and technical proposal for the abovementioned project to:

Bids and Awards Committee
c/o The Procurement Management Division
18/F Three Cyberpod Centris – North Tower, EDSA cor. Quezon Ave., Quezon City

Interested consultants may also submit eligibility documents through email at procurement@mail.pids.gov.ph, with the subject "Consultancy Services for [Title per TOR]"

Deadline of submission of proposal: November 30, 2021

Email procurement@mail.pids.gov.ph for inquiries and submissions.

Note: PIDS is evaluating its consultant's performance based on the quality of services rendered, timeliness of delivery, customer/after sales service and overall quality of service.