Terms of Reference

for

Baseline Survey of National Spatial Data Infrastructure - ICTA/GOSL/CON/CQS/2016/28

1. Introduction

Effective and efficient decision making is one of the key factors for a productive government service delivery process and to ensure the good governance.

National Spatial Data Infrastructure (NSDI) is a centralized platform for sharing government spatial data across the organizations and supports the government organizations to make operational decisions more effective and timely using real-time evidence.

Ministry of Lands is the main stakeholder for the National Spatial Data Infrastructure. In addition, Department of Surveys, Land Commissioner General, Registrar General, Ministry of Environment, Ministry of Wildlife, Ministry of Agriculture and Ministry of Disaster Management have also been identified as key other stakeholders for this initiative.

2. Background

At present, spatial information are being collected by various Government institutions and some of which utilize advance systems and technology to collect Spatial data.

As indicated above to ensure effective decision making by using evidences through spatial data it id should be a precondition that collection, storage and usage of spatial information in a collaborative manner across organizations is necessary.

Further, under the present infrastructure facilities available, it is possible to easily create a platform to share spatial information between organizations as well as among the broader community.

At present, Spatial data sets are collected by a number of government organizations in isolation and only serving individual organizations' purposes but not for considering the expectations and requirements of other stakeholders. These data sets are managed in closed systems and this has created a multitude of information silos. As a result, these data systems collected by organizations cannot be accessible by other organizations. Also, It is difficult to understand what information is available and where it is stored etc. This has led to repetitions and several organizations collecting the same information because they are unaware that the types of information already exist.

Organizations across the government sector recognize that current processes are inefficient and that more collaboration across the sector is required. However, existing data sharing policies and standards are restricting collaboration. There is a significant paper trail of agreements that need to be processed before data sets can be transferred from one organization to another. Manual data sharing procedures contribute to delay in sharing, and the effort required to manually integrate updates from one agency to another is labour intensive and time consuming.

Prior to establishing NSDI infrastructure solution, ICTA intends to conduct a comprehensive baseline study to assess the present situation of collection, storing and usage of National Spatial data across the organizations and overall readiness of the staff and organizations to adopt and effective use of the system.

3. The objectives;

The objectives of the baseline study are to;

1. identify variables/indicators and collect necessary data on the present situation of spatial data collection, storing and usage of spatial data- Identify stakeholders, and types (users, data providers) of organizations

2. assess the available hardware infrastructure, available infrastructure (currently in use), data, data formats and software use, guidelines standards and policies

3. identifying the capacities of the management and operational staff of data custodians, providers, users and people who are generating spatial data, readiness of individuals and organizations, Assess the knowledge, skills, attitudes and expectations of officials of stakeholder organizations on the effective use of spatial data across the government, understand the willingness of the staff of stakeholders to effectively collaborate with the initiative.

(1) draw/identify the desired and improved future situation (in the year 2020) by analysing international best practices and make recommendations on potential use of spatial data (to develop mobile apps etc through public private partnerships) to improve life of citizens.

To fulfill the objectives of the study, ICTA intends to find a suitable consultant firm to conduct a comprehensive baseline study. The study will use a scientific sample, representing all types of stakeholders across the government.

The selected consultant firm is required to,

a) discuss and present in his bid, a suitable evaluation methodology, to conduct the study, develop an evaluation tools by identifying appropriate variables to meet the objectives of the study,

b) visit all selected sites and collect appropriate data based on the evaluation tools developed,

and

c) produce a comprehensive analysis report on the findings and present to the ICTA and other partner institutions.

4. Scope of Work and tasks to be carried out

4.1 Task 1: Study Methodology, Sample Frame and Research Instrument

i. Meet with representatives of ICTA and gather details on the requirements of the study, propose a suitable evaluation methodology for the study, identify and propose suitable variables to be used to achieve the objectives of the study, define evaluation tools/ instrument, and define time schedule for the baseline study.

ii. Total number of organizations to be surveyed will be selected by the consultant as part of the sample design. The consultants are expected to propose in their bids a suitable sampling approach for selecting respondents, representing all above mentioned groups, within the selected organizations.

iii. Preferred study methodology shall be mixed methods of evaluation and the consultants are expected to discuss and justify the methods that they are proposing for the study.

iv. The evaluation instruments (survey/interview questionnaires, guidelines) should be able to capture data/information, to the extent possible, as indicated in the Aims and Objectives Section.

v. Evaluation instruments should also be able to capture necessary information through site surveys, interviews, and observations, discussions with the relevant staff, and other partners and beneficiaries.

vi. Consultant is required to recommend a list of variables for which data will be collected, show the connection with the study objectives and how the results will be analyzed. Data analysis could include various quantitative data results (descriptive statistics, tests of means, cross-correlations) and qualitative data analysis techniques and so forth.

vii. Development of relevant training materials and written instructions for all persons involved in fieldwork.

viii. The consultant should be responsible to implement all possible quality control measures in the research to ensure the quality, reliability and validity of data collected and analyzed.

ix. Provide, in English, a detailed baseline study implementation plan outlining all the steps involved in the design and implementation of the study, including a project time schedule and resource plan, data collection instruments (in all three languages), and outlines of the instruction manuals to be developed. Submit to ICTA the plan in electronic form and as a hard copy.

4.2 Task 2: Pre testing and Implementation

i. Develop data collection instruments, including support documentation, instruction manuals for interviewers/surveys/observations, instructions for data entry, and a manual of operations and field procedures. Provide all instruments and documentation to ICTA in electronic form and as hard copies.

ii. Train enumerators/interviewers, supervisors of interviewers, supervisors of teams, and data entry personnel. Consultant in his bid can discuss and present appropriate methods that they will propose for training of field staff and group/team leaders.

iii. Pre-test the survey/interview questionnaire and re-estimate the sample size. After the pre-test, if necessary, revise the questionnaire and documentation, and translate the questionnaire into Sinhala and Tamil. If necessary, adopt the sample size to ensure that final results will be of statistical validity and representative. A test of data entry (data entry program and procedures) must also be included in the testing procedures. Provide ICTA with a summary of test results and relevant comments and suggestions.

iv. Prepare a basic description of the survey/interviews. This should include the confirmed sample frame and sample size, methodology, data collection plan, and a description of the fieldwork techniques to be used. Developed questionnaires (in all three languages) and related documentation should be included as appendixes. Provide electronic versions and hard copies of all these documents to ICTA.

v. After approval by ICTA, conduct field operations and collect data in accordance with the plans and proposals developed earlier.

4.3 Task 3: Data Entry, Processing, Analysis and Reporting

i. Enter collected data via database software. The software must be able to verify ranges and consistency of the data and generate reports indicating missing data, data outside of the accepted ranges, and inconsistent answers. Clean data records and verify that the sample is still sufficient for reliable statistics. Provide a brief data entry report to ICTA in electronic form and as hard copy. Together with the report, deliver the database in MS Excel format containing all entered data records.

ii. Conduct data analysis. The Consultant will conduct quantitative (e.g. frequencies, percentage tabulations, and cross tabulations) and qualitative data analyses (content analysis, thematic analysis). Where necessary, statistical significance levels are to be calculated to enable proper interpretation of results.

iii. Final study findings shall be in English. The report must contain descriptive statistics of all variables of the survey, cross tables, and graphs, as well as qualitative interpretations and presentations. Selected variables should be presented by graphs and/or correlation measures, on thematic maps. A critical review of the methodology, realisation, and results should be given, together with recommendations for improvement. The report must be submitted in electronic form and as a hardcopy.

iv. Conduct a presentation workshop at ICTA to present and discuss Final Report findings, when specified by ICTA.

5.   Qualification of Consultants and Organization

5.1 Key Staff

i. The key functional areas to be carried out by staff includes but not limited to (1) design evaluation research with the use of quantitative, qualitative and mixed methods evaluation approaches, (2) identify relevant variables that can be used to design the evaluation instrument, (3) design evaluation instruments, (4) conduct field operations, (5) analyse collected data from qualitative, quantitative and mixed method research, and (6) effective interpretation of data and writing reports.

ii. Consultant is free to propose the number and structure of experts appropriate to his implementation approach, provided that the team properly covers the above mentioned functions.

iii. Adequate number of experts, who can, within the limited timeframe, facilitate and conduct the evaluation as well as analyze and report on research data, must be proposed by the Consultant.

iv. Personnel proposed to cover the key functions (Key Experts) must be included in the proposal with their full CVs in accordance with the format provided.

v. Positions to cover other project functions must also be presented in the bid, including the number of staff, their input in terms of staff days, and their work schedule. Particular persons must not be nominated and their CVs not included in the proposal but in the case of survey supervisors and enumerators, they must fulfill the basic qualifications and experience and it should be confirmed in the proposal. A description of an appropriate team structure, team collaboration arrangements and project management functions must be included in the proposal.

vi. The suggested minimum number of staff for this assignment is presented in the table below.

Key Staff	Minimum Academic Qualification	Minimum Experience	Minimum Number of Similar Assignments Conducted
Team Leader	Bachelor's Degree or higher degree qualifications from a recognized university	− Demonstrated experience of at least 5 years in designing baseline study/ impact/outcome evaluation study. − Ability to develop monitoring and evaluation tools, analyze and interpret quantitative, qualitative and mixed methods data. − Ability to write similar evaluation reports − Knowledge of best practices in baseline study/outcome/impacts evaluation activities − Excellent oral and written language skills (Sinhala /Tamil and English)	5 Similar assignments specially in the areas of ICT for development/and e-government
Evaluation Manager	Degree from a recognized university	Minimum 3 years demonstrated experience in managing research projects/ outcome/impact evaluation	At least 5 similar assignments
Evaluation/ Baseline Study Expert	Masters Degree/ Postgraduate Diploma or higher qualifications from a recognized university	− Minimum 5 years of demonstrated experience in baseline study/ evaluation study − Extensive experience in qualitative, quantitative and mixed methods research designing and implementation − Demonstrated experience in designing research, developing surveys and qualitative questionnaires, collecting data through surveys and interviews/focus groups, analyzing data, interpreting data. − Excellent report writing skills	5 Similar assignments
Statistician and Qualitative data analyzer	Higher Degree preferably a Masters degree on statistics/qualitative data from a recognized university	− Minimum 5 years demonstrated experience in handling statistical analysis/qualitative data analysis and implementing national level research/project evaluations (Preferably for the public sector)	5 Similar assignments

Other staff

Evaluation field staff/ Enumerators/group team leaders/Spatial Data requirement specialist	Bachelor's Degree or higher degree qualifications from a recognized university	– Demonstrated experience in conducting face-to-face interviews and surveys (five surveys) – Excellent language skills in Sinhala,Tamil and English.	Participated in at least 5 similar assignments

5.2 Nature of the Organization

The organisation should be specialized and have relevant experience in designing and implementing similar projects. The organisation should be able to provide a strong enumerator network to facilitate information gathering.

6. Outputs and Deliverables

i. All reports and deliverables are to be prepared in English and submitted to ICTA in electronic form (DOC and PDF formats) and three hard copies.

ii. Evaluation tools/survey questionnaires/interview questionnaires are to be prepared in English and then translated into Sinhala and Tamil.

iii. Upon completion of the project, ICTA will own all evaluation tools, reports, and all related data/information in respect of this assignment. Additionally, ICTA will also have the right to reproduce and circulate the evaluation tools and report at its discretion.

iv. The duration for this project has been set for a total of 12 weeks. The following preliminary work schedule is suggested as follows.

Phase/ Reports	Task	Deliverable	Deadline	Payment schedule
Inception Report	– Finalize work plan – Evaluation/Study sites schedule – Study framework including variables – Questionnaire (survey and interview) – Survey questionnaires in all three languages, Enumerator training	– Report on the research approach including study framework and variables – Sampling frame and the survey sample – Evaluation Tools/Survey and Interview questionnaires – Detailed work plan – Report on field staff training	Contract date + Week 3	20%
Interim Report I	– Completion of 50 % of the site visits	– Field Monitoring Report 1 (Details of study implementation, monitoring and quality assurance activities conducted)	Contract date + Week 6	20%
Interim Report II	– Completion of 100 % of the site visits	– Field Monitoring Report 2 (Details of survey implementation, monitoring and quality assurance activities conducted)	Contract date + Week 8	20%
Draft Report	– Completion of Study – Completion of data entering and cleaning – Completing data analysis – Presentation of draft study report	– Draft Study Report	Contract date + Week 11	25%
Survey Final Report	– Incorporating comments on the draft report	– Final findings in a report format – Completed question-	Contract date + Week 12	15%

	− Submission of final report	naires − Completed database		

7. Client's Inputs

i. The Client will provide a list of organisations (study population)

ii. The Client will provide letters of introduction for conducting the baseline study in the selected local authorities.

iii. The Client will provide background information of ICTA projects relevant for the implementation of the baseline study.

iv. The Client will provide venue facilities to hold workshops to present key findings of the report.

8. Procedures for Review of Outputs

i. a review committee will be appointed by ICTA

ii. Review and comment on the draft report (By the client): 1 week from the date of final presentation

iii. Incorporate comments and submit final audit report (By the consultant): 1 week from the date of submission of comments