

TERMS OF REFERENCE

International Consultant for implementation and management of Census data collection process using CAPI (Survey Solutions) and census data cleaning, editing and finalization of census dataset

(MDV-ToR/2021/06 Dated:02 Feb 2021)

TERMS OF REFERENCE (to be completed by Hiring Office)	
Hiring Office:	UNFPA Maldives Country Office
Purpose of consultancy:	<p>As National Bureau of Statistics (NBS) of Maldives embarks on the preparation for census 2022, one of the key activities to be carried out include electronic data collection with census data cleaning and finalisation of census dataset at the earliest.</p> <p>Maldives has been conducting census since 1911 with the latest census conducted in 2014. Past censuses had used Pen and Paper Questionnaire Interview (PAPI). In 2006 and 2014 data processing was done using ICR and OMR technology. UNFPA has been supporting the Census exercise since 1977 and plans to provide the technical support for the Census 2022.</p> <p>The 2022 census will be carried out in March 2022. The listing operation will be carried out on the first day followed by the main census operation where information will be collected from each and every one (using long and short questionnaire). The first ever Economic Census of Maldives is also planned following the Population and Housing Census.</p> <p>With the objective of Modernization of Official Statistics, NBS wishes to carry out the whole census data collection process in a paperless manner. NBS has experience in using CAPI- survey solutions both in Agricultural survey 2019 and Household Income and Expenditure Survey (HIES) 2019/20. With this, NBS has been able to build its capacity in developing questionnaires in survey solutions, pre-test and manage surveys in survey solutions.</p> <p>Scaling up this exercise to the national census requires additional capacity building and technical support. Hence, UNFPA is seeking an international consultant for implementation and management of census data collection process using CAPI (Survey Solutions) and for census data processing.</p>
Scope of work: <i>(Description of services, activities, or outputs)</i>	<p>Scope and diversity of assignment:</p> <p>The assignment will require the Consultant to work closely with the country team in achieving the following deliverables:</p> <p>Specific milestones:</p> <ol style="list-style-type: none"> 1. Brief work plan on how the consultant envisage undertaking the task (2021) 2. Determine the IT infrastructure for census operation by central level and by atoll level with emphasis on data security, confidentiality and data storage (2021). 3. Guide the country team in the development of census questionnaire for pre-tests, pilot census, main census operation and for Post Enumeration Survey (PES) (2021). This includes: <ol style="list-style-type: none"> a. The development of: <ol style="list-style-type: none"> i. listing form, ii. census long form, iii. short form (for foreigners, collective living quarters), iv. economic census questionnaire.

- b. Designing, Validating, Testing and finalizing the Census questionnaire in Survey Solutions along with NBS team (special focus on how to match listing form and individual assignments).
 - i. Develop a procedure for Supervisor checks in the questionnaire.
 - ii. Listing will be ongoing throughout the data collection period- to develop a mechanism to carry out the listing and the survey simultaneously in the same Enumeration Area.
- c. Verify and if necessary, adapt NBS' data quality assurance plan (i.e., identify potential problems and solutions within census operation plan).
- d. Pre-tests & pilot census & final questionnaire.
 - i. Make final edits to the questionnaire, after pre-test and pilot census.
 - ii. Test the programme using pilot census data and make refinement for the main census operation.
- 4. Train NBS staff on the preparation of do files (STATA & R-software) needed for census operations (assignments to census workers (automated way), to measure daily work progress, coding, etc) (2021)
- 5. Oversee the smooth functioning of do files use during census operation and data cleaning (2022).
- 6. Develop a template to do the coding (ISIC, ISCO, Atoll, island coding etc.) (2021)
- 7. Guidance on the field operation management and workflow management at sub-national level (from island, atoll to main centre). (2021)
 - a. The consultant should develop management module to monitor data entered into Survey Solutions interviewer from the field on a daily basis for the evaluation of the field enumeration. This has to be automated at enumerator level and supervisor level. The system should allow supervisors to perform the monitoring daily progress of the enumeration in terms of the number of housing units and population enumerated in each enumeration areas.
 - b. Make a progress sheet of number of people covered even if the household is not completed along with the dashboard (including enumeration area, islands, atoll level), centrally. On the job training of NBS staff when preparing the dashboard.
- 8. Guide the country team to integrate CAPI system with digital mapping and use it during listing operation. This includes linking geo spatial code with CAPI listing questionnaire (2021)
- 9. Guidance on the use of multi-modal data collection (e.g.: tablets, smart phones, CATI, CAWI). (2021)
- 10. Assess census data quality following PES. (2022)
- 11. Capacity building of the NBS staffs in all key areas of designing and implementation of Census. (2021)
- 12. Build NBS capacity in data editing and imputation using STATA. (2021/22)
- 13. Assist country team to develop data cleaning, editing and imputation programme for census dataset (2021)
- 14. Setup server to host the database either locally or on the cloud. (2021)
- 15. Create user accounts for enumerators and supervisors for the pilot in 2021 pilot, and the main census in 2022
- 16. Work with country team and ensure preliminary results are available within 1 month of census data collection. (2022)
- 17. Work with country team and ensure census database is finalised within 6 months of census data collection. Prepare the anonymized final dataset including the labels, data dictionary, in a user-friendly manner. (2022)

	<p>Outputs:</p> <ol style="list-style-type: none"> 1. Pilot census conducted with all possible implementation and IT management of the census operation tested; (2021) 2. Main census data collection operation completed smoothly- with daily updates on the work status. (2022) 3. Post enumeration survey data collection completed and evaluation of the PES data quality with that of the main census data collection. (2022) 4. Dataset retrieved for coding and cleaning upon completion of census data collection (2022) 5. NBS capacity build in STATA (for implementation of census operation and for data processing) for the future census and surveys (2021) 6. Census preliminary results released on time (2022) 7. Final census dataset (2022) 8. Anonymized sample dataset (for public). (2022) 9. All produced files (do files and output files) created as part of this contract will be shared with NBS. (2022) <p>Confidentiality:</p> <ul style="list-style-type: none"> • The consultant will have access to confidential data. Sharing these data with the third party is strictly prohibited.
<p>Duration and working schedule:</p>	<p>115 Working days 60 days in 2021 and 55 days 2022 with:</p> <ol style="list-style-type: none"> a) 3 in-country missions if the situation permits: <ol style="list-style-type: none"> i- Mission 1 (during MARCH 2021) – initial assessment for IT infrastructure for main census, work out field operation management and workflow management for main census, Survey solutions and STATA training for NBS staff ii- Mission 2 (during SEPT 2021) - during pilot census for smoothing implementation of data collection (with workflow, assign forms/files, daily updates, etc.) and refine set procedures for the main census data collection iii- Mission 3 (during FEB-MAR 2022)- in-country presence for the smooth operationalisation of data collection in CAPI- using survey solutions b) Remote support - 30 working days in 2021 & 40 days in 2022
<p>Place where services are to be delivered:</p>	<p>For in-country missions, the consultant will be stationed at National Bureau of Statistics (NBS). For remote support, the consultancy will be undertaken in close coordination with the National Bureau of Statistics (NBS).</p>
<p>Delivery dates and how work will be delivered (e.g. electronic, hard copy etc.):</p>	<p>Milestones, outputs and deliverable target dates will be finalized upon recruitment.</p>
<p>Monitoring and progress control, including reporting requirements, periodicity format and deadline:</p>	<p>The Consultant will be briefed and debriefed by UNFPA and the National Bureau of Statistics and is expected to keep in close contact with both agencies via email</p> <p>The Consultant will be responsible for the quality and timeliness of the outputs, but will receive support from National Bureau of Statistics.</p>
<p>Supervisory arrangements:</p>	<p>The consultancy will be managed by UNFPA Country Office/ NBS; the output will be assessed by the National Bureau of Statistics and UNFPA APRO.</p>
<p>Expected travel:</p>	<ol style="list-style-type: none"> a) Mission 1 (March 2021)- for 5 days (in country if possible, else virtual) b) Mission 2 (Sept 2021) - for 25 days c) Mission 3 (Feb- Mar 2022) - for 15 days

<p>Required expertise, qualifications and competencies, including language requirements:</p>	<p>Primary expertise required: CAPI- survey solutions implementation and experience in working with other countries especially in Census data collection.</p> <p>Educational background: IT, Programming, statistics or other computer related studies. Advantage will there if Demography or other social sciences related to population census.</p> <p>Work experience:</p> <ul style="list-style-type: none"> ● Significant experience in working using STATA and Survey Solution ● Significant experience in conducting training in Survey Solutions and STATA ● Integration of statistics data and geospatial information ● Experience in working on small island nations population census and CAPI management. ● Past experience working with the United Nations, World Bank or similar organization is desirable <p>Other competencies:</p> <ul style="list-style-type: none"> ● Project planning, management, implementation and coordination and evaluation ● Excellent communication skills in English language, both oral and written ● Proficiency in statistical software's such as STATA, R, SPSS, etc.
<p>Inputs / services to be provided by UNFPA or implementing partner (e.g support services, office space, equipment), if applicable:</p>	<p>Consultant:</p> <ul style="list-style-type: none"> ● Fulfil the stipulated in the contract and the ToR through review of documents, email communications, Skype calls and meetings ● Maintain close contact by email with NBS and UNFPA ● Communicate any complications regarding the assignment as soon as possible ● Provide contact details that allow NBS and UNFPA to get in contact with the Consultant at any time during the consultancy <p>National Bureau of Statistics:</p> <ul style="list-style-type: none"> ● Assign a focal point to work with the Consultant ● Provide the relevant documents as required ● Provide data as required for the assignment ● Review and provide comments to the deliverables in a timely manner <p>UNFPA Maldives:</p> <ul style="list-style-type: none"> ● Monitor and facilitate the progress of the assignment ● Review and provide comments to the deliverables in a timely manner ● Facilitate necessary contacts ● Make payments upon completion and acceptance of each deliverable
<p>Other relevant information or special conditions, if any:</p>	<p>The other conditions that may apply in the undertaking of the assignment include:</p> <p>Basis of payment: Payments based on acceptance of the deliverables.</p> <p>Format of outputs: Editable electronic form</p> <p>Language of reports/publications and other documentation and working language in country of assignment: English</p> <p>Ownership of output: National Bureau of Statistics and Ministry of National Planning and Infrastructure</p>
<p>Signature of Requesting Officer in Hiring Office: _____ Date: _____</p>	