

# Survey Solutions CAPI for surveys/censuses

Nadi, Fiji

## Survey Solutions: Overview

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DEVELOPMENT  
**RESEARCH**



THE WORLD BANK



Food and Agriculture  
Organization of the  
United Nations

# Survey Solutions



Survey Solutions is a free software for data collection and survey management developed by the World Bank and made available to the public. It takes CAPI technology to new heights by combining the interviewing component with a powerful survey management system.

# Survey Solutions: Applications



Use of Survey Solutions can help solve common data collection problems:

- improve data quality;
- speed up data availability;
- simplify routing and survey coordination.

# Survey Solutions: Applications

Survey Solutions provides rich functionality for planning, design and implementation of surveys and is suitable for surveys of all types:

- household income and budget surveys,
- labor force surveys,
- agricultural surveys,
- health surveys,
- enterprise surveys, etc.

# Survey Solutions: Advantages

## Advantages:

- Non-expert use
- Customizable questionnaire
- Tablet-based
- Works offline
- Support of large and complex questionnaires
- Support of panel surveys
- Transparent and reliable
- Cost-effective
- Supported

# Survey Solutions: Clients

## Our clients:

- National Statistical Offices (NSOs): Bhutan, South Africa, Zambia, St.Lucia, ...
- Non-profit organizations (NGOs): WB, FAO, IFPRI, SPC, OPM, BRAC, ...
- Think-tanks, universities,...
- Companies, individuals.

## Largest surveys:

- Malawi (200,000 households),
- South Africa (2.6mln households, 12,000 enumerators, 500 supervisors, 60,000 questionnaires per day)
- Largest questionnaire: Tanzania (3,000 questions)

# Survey Solutions: Applications

Survey Solutions has shown excellent flexibility and adaptability to local conditions.



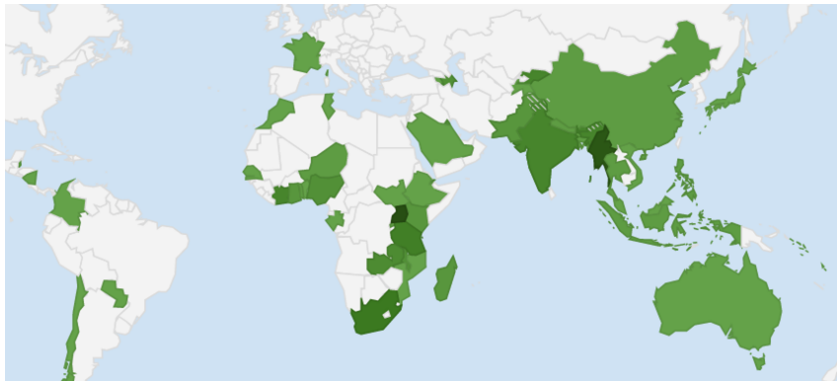
# Survey Solutions: Survey Pipeline

170+ surveys in 54 countries

<b>Region</b>	<b>Country(surveys)</b>
Africa:	Malawi (2), Uganda (4), Tanzania, Togo, Benin, Madagascar (3), Niger, Nigeria, Cote D'Ivoire (4), Zambia (3), South Africa, Ghana, South Sudan, Mozambique, Ethiopia, Kenya, Rwanda
MENA:	Djibouti (4), Kuwait, Morocco, Tunisia
SAR:	Bhutan (5), Nepal(3), India(2), Pakistan(2), Bangladesh
EAP:	Thailand (2), Myanmar (15), Tonga, Vanuatu, China, Australia, Malaysia, Philippines, Japan
ECA:	Armenia, Azerbaijan, Kyrgyzstan, Tajikistan, France
LAC:	St. Lucia (4), Paraguay, Belize, Nicaragua



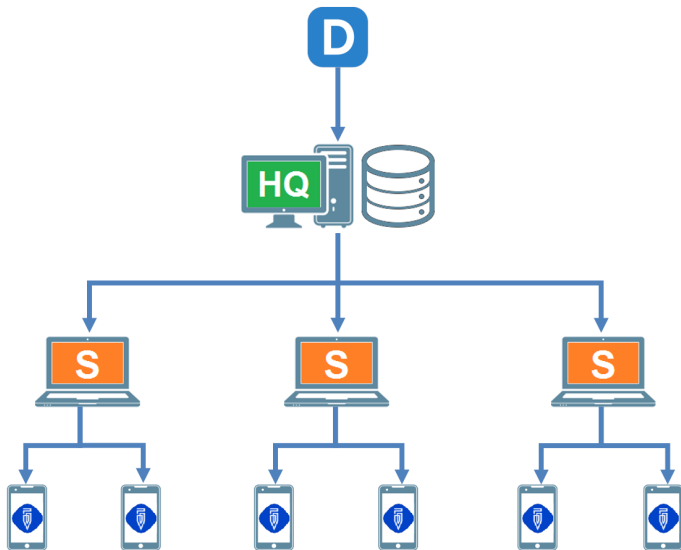
## Survey Solutions: Global Use



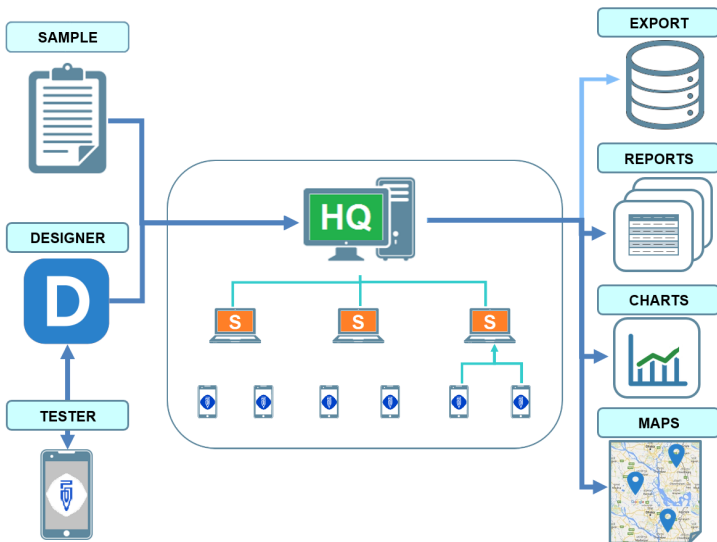
# Survey Solutions: Components and Roles

- **Designer** - web-based tool to develop the questionnaires, allows collaboration of multiple users.
- **Tester** - application available from Google (TM) Play for testing the behavior of the questionnaire on a tablet without other infrastructure.
- **Synchronization point** - data server for access by all users to exchange information and coordinate the survey.
- **Headquarter** - user and a corresponding component, which conducts global, survey-level actions: manages users accounts, starts a survey, exports the data, etc, and performs the highest level of quality control.
- **Supervisor** - user and a corresponding component, which distributes the workload between the interviewers, and assures quality of the incoming data.
- **Interviewer** - user and a corresponding component, which is responsible for conducting the interview and collecting respondent's answers.
- Other roles: administrator, observer

# Survey Solutions: Hierarchy



# Survey Solutions: Hierarchy

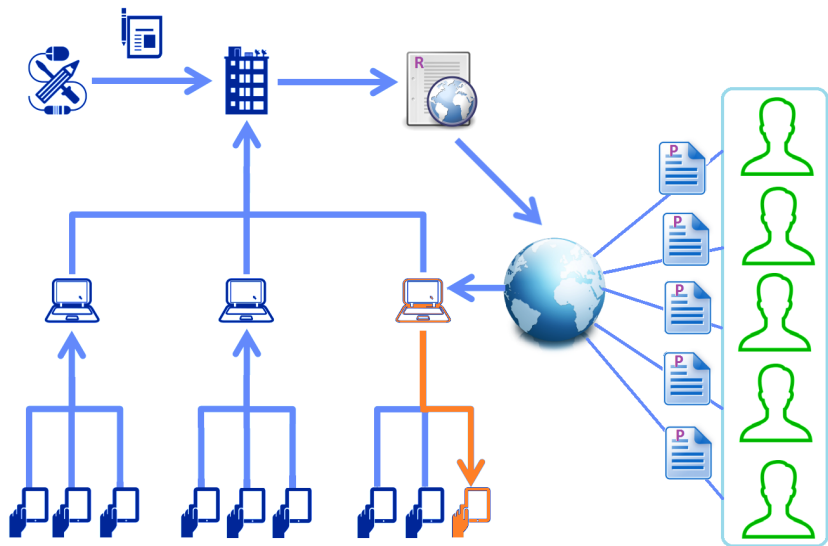


# Survey Solutions: Modes of Operation

Survey Solutions software operates in two modes: Sample mode and Census mode.

- **Sample mode** is the primary mode of operation suitable for sample-based surveys, where the addresses of the respondents are obtained from the sampling frame and interviewers must follow these assignments to contact a respondent and conduct an interview. In this mode interviewers can't create their own assignments and must only follow the assignments they receive from their supervisors.
- **Census mode** allows the interviewers conduct interviews without prior assignments from their supervisors. The questionnaire is obtained directly from the synchronization point. Suitable for Census, listing, enumeration, and other such operations where the number of respondents is *a priori* unknown.
- **Web interview** - online data collection directly from respondents via internet.

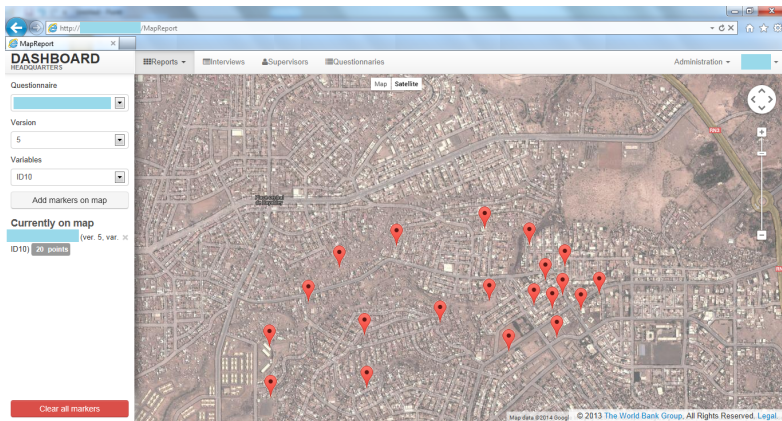
## Survey Solutions: Web interview



## Survey Solutions: Scalable

- The system is very scalable and no matter how big or small is your survey, Survey Solutions can handle it.
- Whether you are relying on a handful of interviewers, or administering a nation-wide survey with hundreds of teams, stay in control with rich set of reports that allow tracking the statuses of the questionnaires in the system, determining the bottlenecks and monitoring the progress of the survey and teams performance.

# Survey Solutions: Clear Picture



Map reports using Google (TM) Maps visualize survey progression for virtually any location in the World.



# Survey Solutions: Data Quality

Survey Solutions allows for multiple levels of checks to ensure the quality of data.

- **Primary (automatic) checks** on the tablet during interviews: provide configurable error messages for interviewers. Include: simple (value) checks, multi-variable checks, reference table checks (z-scores), panel-data checks.
- **Supervisor validation**: each supervisor must read and approve or reject incoming data based on the survey protocol.
- **Headquarter verification**: each incoming interview can be furthermore inspected by the HQ user and rejected if deemed unsatisfactory.
- **Optional external (assisted) validation**: HQ user can export the data and validate using external applications (Statistical packages, external databases, etc), before final approval.

# Survey Solutions: Data Quality

HOUSEHOLD SURVEY /

☰ Questions about the youngest child ☰

What is Jane's age?

5

How many days a week does Jane go to school/ kindergarden?

8

ANSWER IS INVALID

*The week has seven days. The answer cannot exceed seven.*

Education of Jane

Primary school

Secondary school

Technical/vocational training

Undergraduate degree

HOUSEHOLD SURVEY /

☰ Questions about the youngest child ☰

Education of Jane

Primary school

Secondary school

Technical/vocational training

Undergraduate degree

Graduate degree

ANSWER IS INVALID

*Given the age of the respondent, it is highly unlikely that they have obtained a graduate degree. Please verify the age and education information.*

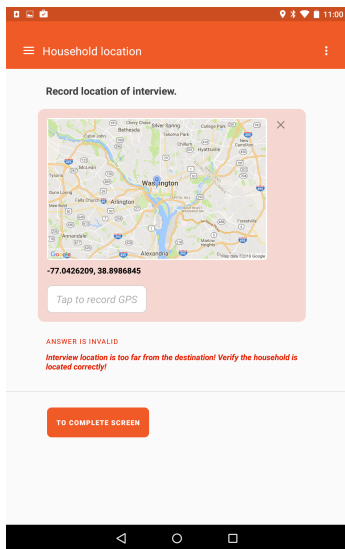
What is the height of Jane (in cm)?

177

ANSWER IS INVALID

*The height is highly unlikely for this age. Please check the measurements.*

# Survey Solutions: Data Quality



## Survey Solutions: Connectivity

- Survey Solutions components work offline and online, allowing the best use of available infrastructure: the data is synchronized to a local or cloud-based remote server when the connection becomes available.



- Internet connection is **not required** during the interview in the household.
- Internet connection is **not required** for GPS to work.

## Survey Solutions: Popular OS and Hardware



- The interviewer's module runs on widely available Android-based tablets,
- Cost of device is upwards from USD60 for lower-end models to around USD200 for popular and reliable models.

# Survey Solutions: Reusable

- The equipment is reusable for multiple surveys, and it is possible to employ the same teams of interviewers to collect multiple different surveys **at the same time** using the same powerful and secure server for data accumulation and storage.
- Questionnaires are fully **reusable**, and if the survey is to be repeated, previous version of the questionnaire can be retrieved, edited as necessary and used for data collection.

## Survey Solutions: User Configurable

- The data flow is fully controllable by the survey planner and multiple levels of approvals ensure desired quality of data before it appears in the final database.
- Automatic and manual validations and checks allow rigorous verification and implementation of virtually any data integrity check.
- The questionnaire is fully editable by the survey planner, and questions can be added, removed, or edited as needed.
- Online survey questionnaire designer provides a platform for collaboration allowing multiple users to develop and review a questionnaire.
- A PDF preview of the Survey Solutions questionnaire can be generated with a single mouse click in the designer;
- Instant preview on a live Android-based tablet using the Survey Solutions tester application available for free from the Google (TM) Play.

## Survey Solutions: Global Solutions

Full control over the questionnaire allows writing questions text and options in any language included in Unicode.



The information typed by interviewers can also be in any language available in unicode.



# Survey Solutions: Novel Question Types

- Novel question types allow capturing information that goes beyond pen and paper, and let the interviewers capture:
  - location of the interview;
  - image of a house, person, document or a product;
  - scan barcodes of various types;



- Cascading selections narrow down the choices for the interviewer
- Linked questions surve the information captured already in different part of the questionnaire: *“who is the biological mother of John Smith?”*, *“Who makes decisions on large purchases?”*

## Survey Solutions: Complex is easy

- Dynamic questionnaire adaptation allows real-time customization of the questionnaire during the interview to fit it for a particular respondent and avoid complicated skip instructions for the interviewers.
- Powerful validation allows describing rules that the input data must follow from simple range checks on values to complex consistency checks among multiple questions. Validation and enablement conditions follow standard C# syntax allowing the users to tap into the documentation and experience of C# programmers.

# Survey Solutions: Rosters

- Questions replication with rosters allow repetition of same questions to each household member or company employee.
- And the validation logic and skips will be automatically replicated too.
- Four types of rosters: fixed, or dynamic, triggered by numeric, multiple choice, or list questions.
- Rosters allow data collection in multiple levels of hierarchy, especially important for agricultural surveys with questions on multiple plots and crops. They can be implemented with **nested rosters** available in Survey Solutions!

## Survey Solutions: Simplifying All Processes

- The complexity of the questionnaire does not become an interviewer's problem if she is using Survey Solutions. The program is very responsive, easy to navigate and user-friendly even for interviewers with little or no prior experience with the tablets or computers at all.
- Data prefill and creation of assignments in an automatic mode allow facilitation of large surveys and especially panel surveys with ease.

## Survey Solutions: Open Data and Useful Metadata

- Users of Survey Solutions appreciate the convenient and open data export format, which allows easy import of data in virtually any major statistical package, spreadsheet or database management application. And variable and value labels are automatically generated in a script for Stata (TM).
- Logging information on the progress of the survey and interview actions is exported and available for inspection.
- This meta information can be crucial in assessing performance of the interviewers, estimation of survey completion, planning field operations and teams, creation of custom reports, or external validation of data.
- Supplemented with the GPS location data it can be helpful in discovering unusual patterns between teams or enumerators.

## Survey Solutions: Transparency

- Throughout the data collection, interviewers and supervisors can use the rich commenting features to exchange notes and requests about the data being collected, and Survey Solutions keeps track of all such communication for audit, training, and quality assurance.
- Commentaries may be question-specific or questionnaire-specific.
- Exported with data, available for analysis after the survey.

## Survey Solutions: Security

- No matter where the server is, Survey Solutions defends your data from unauthorized access and makes data and reports available only to authorized users. As a server administrator you can decide who is performing which role, and the scope of accessible information.
- Instant data downloads and scheduled backups assure confidence in safety and preservation of the collected data.

# Survey Solutions: Supported

The screenshot shows the 'Computational Tools' section of the Survey Solutions website. The navigation bar includes 'Home', 'Site Map', 'Index', 'Help', and 'Contact Us'. The main content area is titled 'Documentation' and lists several guides:

- Survey Solutions Guide to Decentralization**: This guide will explain which documentation volume will be most useful for your questions. [Click here to download](#)
- Getting Started with Survey Solutions**: This booklet will guide you through setting your first survey up. [Click here to download the Getting Started guide](#)
- Network infrastructure guide**: A short introduction to different modes of operation (online and offline supervisors) and ways of hosting Survey Solutions software. [Click here to download the guide](#)
- Questionnaire Designer Client's Guide**: This guide will help you create your first CATI survey using our drag-and-drop tool. [Click here to download the Survey Solutions Designer guide](#). [New Survey Solutions' language—what's changed, what's new. Download the guide to CH-](#)

The screenshot shows the Survey Solutions support portal. It features a search bar with the text 'Have a Question? Ask or enter a search term here.' Below the search bar, there are four main sections:

- Getting Started**: Includes links for 'Online or offline host?', 'Questionnaire Designer Client's Guide', and 'Getting Started with Survey Solutions'.
- FAQ**: Includes links for 'What is the "drag and drop" tool?', 'How do I set up my Survey Solutions?', and 'How do I set up my Survey Solutions on a mobile device?'.
- Users Questions**: Includes a link for 'Installing or re-installing a...'
- Video Tutorials**: Includes a video icon and a link for '1 hour 40'.

Below these sections is a flow diagram showing the process from 'Questionnaire Designer' to 'Headquarters' to 'Supervisor' to 'Interviewer'. Each step has a brief description and a link to download the guide.

- Remote assistance is available and the Survey Solutions can be set up, configured and serviced over a remote desktop connection. Hosting the server in the cloud allows developers to automatically backup and maintain the installation.
- The software is actively developed and the updates can be installed on the fly to extend the functionality and enhance usability; or the client can freeze a version and use it throughout the whole duration of the survey.



# Survey Solutions: Supported

- Survey Solutions is supported by a team of experts located in different time zones making advising faster and more responsive.
- A comprehensive 5-day long course on using Survey Solutions can be requested, which will prepare for the survey to make sure you are well equipped and ready for fieldwork.



- Our expert consultants are available for feasibility and suitability analysis, estimation of timeline and resources, setup and servicing consultations.

# Survey Solutions: More Info

Everyone is welcomed to try Survey Solutions!

- The documentation for the software is available from its homepage: <http://www.worldbank.org/capi>
- Support forum: <http://support.mysurvey.solutions>
- The web-based survey designer tool at: <http://solutions.worldbank.org>
- "Survey Solutions Tester" app at Google (TM) Play: <https://play.google.com/store/apps/details?id=org.worldbank.solutions.Vtester&hl=en>
- Check for yourself how you can capture and accumulate the data using our 24/7-available demo server: <http://demo.mysurvey.solutions>
- Email: [support@mysurvey.solutions](mailto:support@mysurvey.solutions)