

GUIDELINES TO PREPARE FOR DIGITAL DATA COLLECTION

This document lists the different tasks to be performed by the use case team before and during the enumerators' training to ensure digital data collection in the field is smooth.

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TASKS TO PERFORM BEFORE ENUMERATOR TRAINING

1. Design data collection form in collaboration with relevant team

EiA has developed templates for digital data collection that work with the Open Data Kit (ODK) Collect app and are more broadly applicable beyond this initiative. Standard templates allow data to be collected in consistent ways and compliant with standards, enabling easier analysis through common scripts, and more rapid insights.

Steps:

- Write a detailed trial protocol that includes data variables to be collected, crop stage / timing of collection, instructions if relevant (e.g., measure height of 10 plants in a transect across each plot).
- Contact the team lead for the type of experiment you will perform to get access to the templates:
 - Add-On survey: Banchayehu Assefa (banchayehu.assefa@cgiar.org)
 - Validation trial: Christine Kreye (c.kreye@cgiar.org)
 - On-farm, on-station trial: Aubert Céline (c.aubert@cgiar.org)
 - MELIA: Theresa Ampadu-Boakye (t.ampadu-boakye@cgiar.org)
- If necessary, add any specific data important for your use case to the template; however, there is no guarantee that anything beyond the core data will be analyzed.
- Collect test data to ensure the form works as expected (steps explained below).
- Share your feedback with the appropriate team lead.
- Study the test dataset to envision how data analysis will be performed.

2. Open a folder in ONA

ONA (<https://ona.io/login>) is a platform to save ODK forms, share them with enumerators and gather data collected. EiA has a professional account in ONA allowing data collection without limitation. We support ONA and highly recommend managing data via ONA.

Steps:

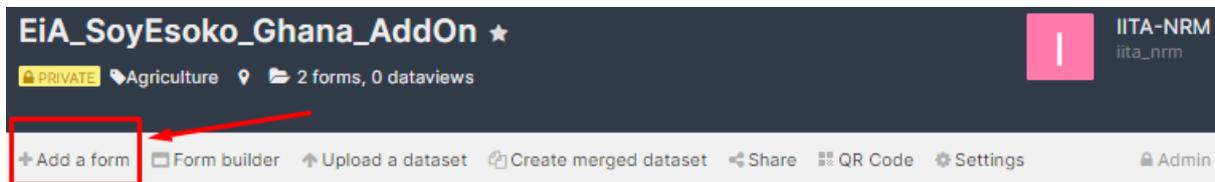
- Create an account in ONA (<https://ona.io/login>)
- Share your ONA username with Celine Aubert (c.aubert@cgiar.org) to get access to a folder dedicated to your use case in ONA.
- Each ONA folder is dedicated to a use case for a specific trial. Only use the folder for the trial mentioned in the folder name (i.e: EiA_Solidaridad_Add-on folder should only be used for the Add-on survey).

3. Download survey forms in ONA

To be able to collect data, all the forms related to your trial need to be added to your ONA folder.

Steps:

- Open ONA and sign in using your ONA credentials.
- Open the folder dedicated to your use case and your trial.
- Click on "+ Add a form".



- Click on "Choose form to upload"
- Select the form to add (the one you have developed with the support team).
- Click on "Activate" and "Add".
- The form has been added to the folder. It may take a few minutes before you see it in the folder.

4. Download the "Register" forms in ONA

To simplify data collection and error tracking, we have concluded from trial that it is best to work with barcodes printed on ID size laminated paper. Barcode cards should be given to enumerators during enumerator' training, and a survey called "Register enumerator or Extension agent" will be performed for each enumerator to link the barcode to their contact details.

Steps:

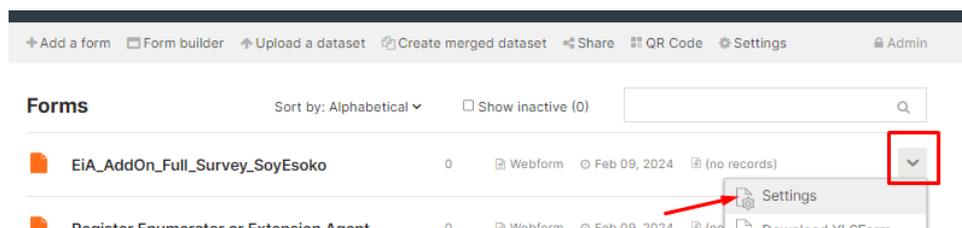
- Download the form called "Register Enumerator or Extension Agent" (<https://tinyurl.com/registerenumerator>) on your laptop.
- If you are working with barcode cards for farmers, download the "Register household" form (<https://tinyurl.com/registerhousehold>) on your laptop.
- Add the forms in the ONA use case folder as explained in the previous chapter.

5. Manage permission restrictions for each form in ONA

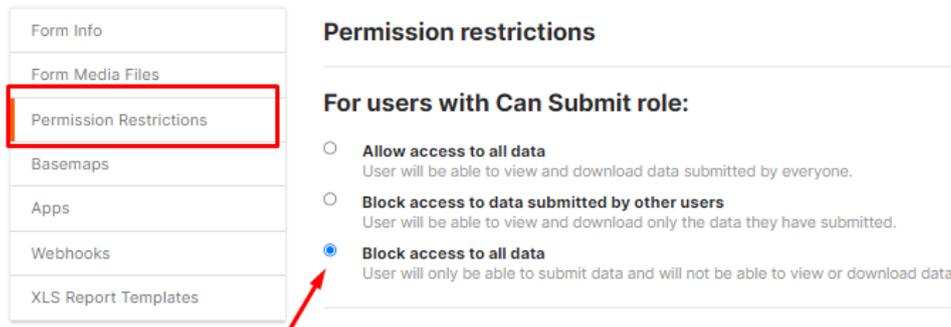
To ensure data security and farmer privacy, enumerators will not have access to collected data. To manage permissions, access restrictions need to be managed for each form.

Steps:

- Once you have added the form in ONA, go to the "Settings" for the form.



- In the left menu, go to "Permission Restrictions".
- Tick "Block access to all data" for users with Can Submit role.



6. Share ONA folder with team members

Every use case lead should have 'Admin' rights on the ONA folder. This means they can: add a form, delete a form, manage access to the folder, edit collected data as shown in figure below. "Admin" rights give the power to delete any data collected. If a form is deleted all associated data will be deleted forever, therefore, be safe: **Never delete a form!**

Contact Celine Aubert (c.aubert@cgiar.org) if you have any questions on ONA folder management.

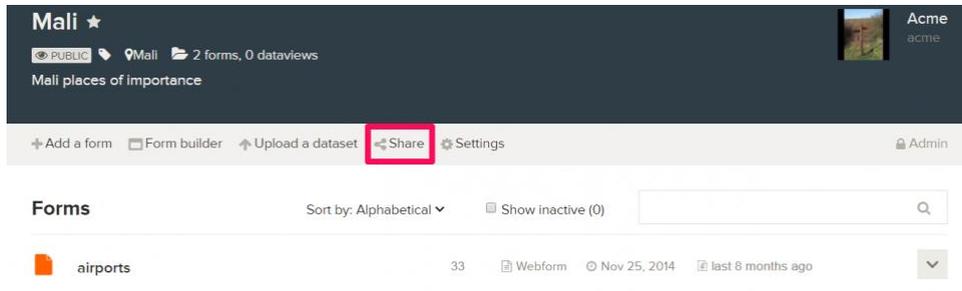
	Can View	Can View and Download	Can Submit	Can Edit	Is admin
Can view data on a map	x	x	x	x	x
Can view data as summary charts	x	x	x	x	x
Can view data in a table		x	x	x	x
Can preview forms			x	x	x
Can download forms		x	x	x	x
Can download data		x	x	x	x
Can submit data			x	x	x
Can edit data				x	x
Can delete data					x
Can change the project share settings					x
Can add, delete, replace or make forms inactive					x
Can edit project metadata					x
Can delete the project					x

Figure: Permission levels in ONA

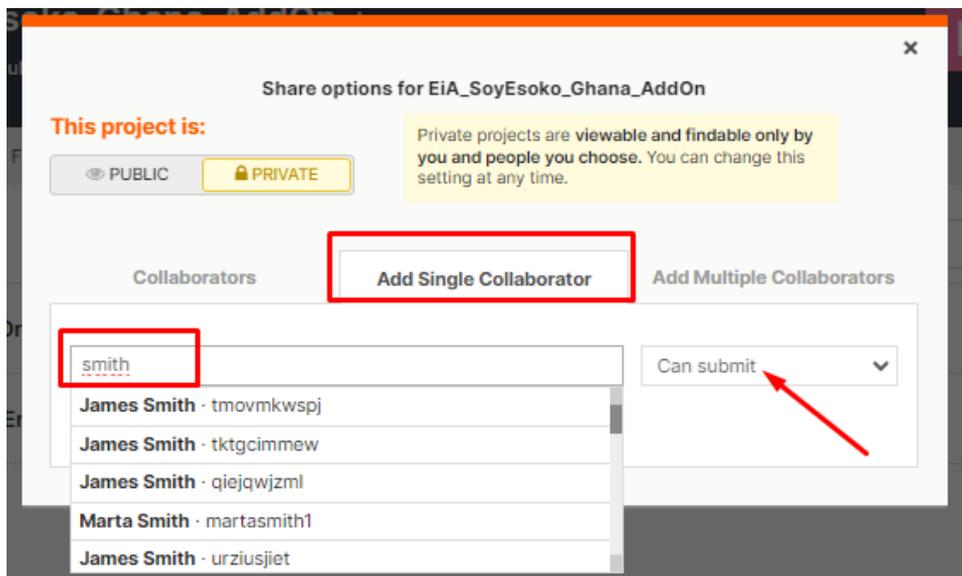
Use case leads can share the folder with use case team members.

Steps:

- Open the folder in ONA.
- Click on "Share".



- Go to "Add Single Collaborator".
- Type the ONA username of your team member (they need to have an account in ONA).
- Select the ONA username in the list.
- Select the right "can submit" if they only need test data and follow up on data submission. Select "can view and download" if they need to view and download the data. Select "is admin" if they need to add forms to the folder. Please keep the number of admin to 1 or 2 Use case team members.
- Click on "Share".



7. Share ONA folder with enumerators

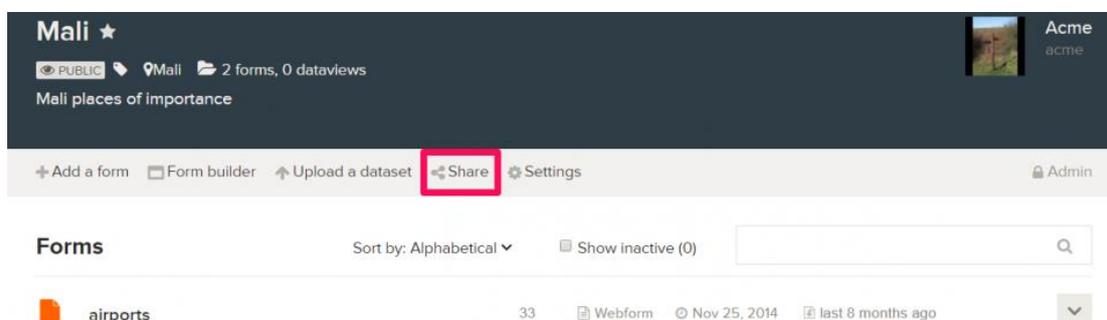
The use case lead needs to share the folder with enumerators to enable them to submit data.

Steps:

- Create an ONA account dedicated to enumerators. The best is to create one account per enumerator. You may also create one account for all enumerators. **In any case, NEVER**

share your own credentials with enumerators. Use an email address different from the one you used to create your own account.

- Open the folder in ONA.
- Click on "Share".



- Go to "Add Single Collaborator".
- Type the ONA username of the enumerator.
- Select the ONA username in the list.
- Select the right "can submit"
- Click on "Share".

8. Check that enumerators have mobile devices and Internet connection

Enumerators will collect data using ODK Collect application on mobile devices. Therefore, all enumerators need to have a mobile device. ODK Collect app works offline. However, an Internet connection is needed to upload the forms on the mobile device and submit data to ONA.

Steps:

- Ensure that all enumerators have an Android phone.
- Ensure that all enumerators have access to Wi-Fi or cellular data at least once a day.
- Ensure that the enumerator training room has Wi-Fi access.

9. Download and set up ODK Collect and test forms

During the enumerator training you will collect data about enumerators using ODK collect app on your mobile device.

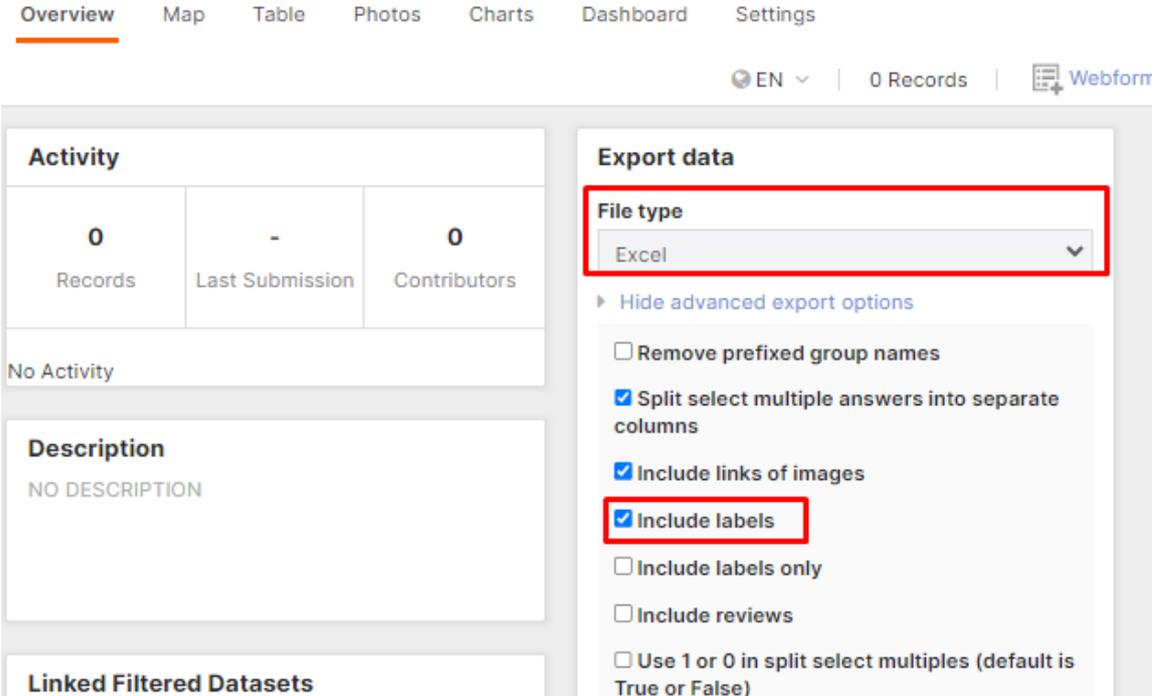
Steps:

- Download the [ODK Collect](https://play.google.com/store/apps/details?id=org.odk.collect) app on your Android phone.
- Open the ODK Collect app.
- Select "Manually enter project details".
- Enter this URL: <https://odk.ona.io>
- Enter your ONA Username and password
- Click Add.

10. Collect test data and prepare data for analysis

It is necessary that you test the survey designed with the EiA team to ensure it works as expected. You also need to prepare how data will be analyzed.

- Open the ODK Collect app on your phone. Ensure that you have Internet access
- Click "Download form".
- Select the "Register enumerator" form and all the forms related to your trial.
- In the main menu click on "+ Start new form"
- Select the survey you developed with the EiA team.
- Collect the test data. Try all the possibilities and choices in the survey.
- "Send" data once done.
- Open your laptop and go to the ONA folder where the survey sits.
- Click on the name of the form to open the overview of data collection.
- Click on the "Prepare Data Export" button on the right side.
- Select "Excel File".
- Click on " Show advanced export options".
- Tick "Include labels".
- Click on "Export Excel file".
- Download the file and study it to envision how you will do analyze data.



The screenshot displays the ODK Collect web interface. At the top, there is a navigation bar with tabs: Overview (selected), Map, Table, Photos, Charts, Dashboard, and Settings. Below the navigation bar, there is a status bar showing 'EN' with a dropdown arrow, '0 Records', and a 'Webform' icon. The main content area is divided into two columns. The left column contains an 'Activity' section with a table showing 0 Records, 0 Last Submission, and 0 Contributors. Below this is a 'Description' section with 'NO DESCRIPTION'. The right column contains an 'Export data' section. In this section, the 'File type' dropdown menu is set to 'Excel'. Below the dropdown, there is a 'Hide advanced export options' link. Underneath, several checkboxes are visible: 'Remove prefixed group names' (unchecked), 'Split select multiple answers into separate columns' (checked), 'Include links of images' (checked), 'Include labels' (checked and highlighted with a red box), 'Include labels only' (unchecked), 'Include reviews' (unchecked), and 'Use 1 or 0 in split select multiples (default is True or False)' (unchecked).

11. Design and print barcode cards

To simplify data collection and error tracking, it is highly advisable to work with barcodes printed on ID size laminated paper. This allows recipients of these cards to easily store them in wallets etc.

Example cards:



For each data submission, the enumerators will be asked to scan their Enumerator ID and if relevant, the farmer Household ID. This allows tracking of who collected the data and ability to refer to the person in case of any issue. Farmer IDs enable aggregation of all data collected about a farmer.

Below is a proposed common structure for all barcodes, agreed by a group of stakeholders. Valid barcodes are composed of:



examples: **SGENNG123456**, **SGHHKE100056**.

The barcodes will follow the structure above, **with no modification**, as all activities will use this same structure to facilitate data storage, retrieval and sharing.

Steps:

- Download and install a font to write barcode (<https://tinyurl.com/fontforbarcode>).
- Download this document to design the barcodes (<https://tinyurl.com/designbarcode>).
- In this Excel document each sheet is pre-filled to create barcodes for Enumerators, Farmers, Plant samples, Soil samples. To tailor it for your use case:
 - select the ID that has been assigned to your use case (see sheet 1 of the Excel document) in cell A4.
 - add the country 2 letter code in cell C4.
- Download the barcode card template (<https://tinyurl.com/enumeratorcard> and <https://tinyurl.com/farmercard>)
- Copy and paste each barcode created in the Excel document on a card template.
- Print the cards. Either:
 - print them using a barcode printer.
 - print on paper and laminate the cards.
- Put each farmer and enumerator card in a badge holder with a lanyard to encourage them to keep the card.
- Gather water-proof pens to bring to enumerator' training to write their names on the cards (if not already printed on the cards).

TASKS TO PERFORM DURING ENUMERATOR TRAINING

1. Distribute enumerator cards

- Give one card to each enumerator.
- If their names are not on the card yet, ask them to write their names on cards with a waterproof pen.
- Open the ODK Collect app on your phone.
- Click on "+Start a new form".
- Select the "Register enumerator or extension agent" form.
- Run the "Register enumerator or extension agent" survey with each enumerator to link their enumerator ID with personal details (e.g., name, contact telephone, email,...).
- "Send" the finalized forms.

2. Distribute farmers cards

For trials and surveys where farmers are visited more than once during the data collection period, enumerators should give a farmer barcode card to farmers during the first visit.

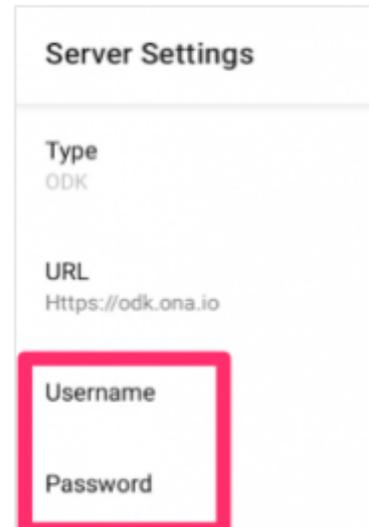
- During the training, distribute as many farmer cards as needed to each enumerator. Add 2 more in case of lost card.
- Give each enumerator a waterproof pen.
- Explain how to use the farmer cards. When visiting the farmer for the first time to collect data, enumerators will:
 - Give a farmer card to the farmer,
 - Write the name of the farmer on the card with a waterproof pen,
 - Ask the farmer to sign the card,
 - Ask the farmer to keep the card in a safe place to use it during the entire data collection period, and
 - Perform the "Register household" survey in the ODK Collect app.
- This allows enumerators to collect data on farmer location and household. During the next visits, scanning the household barcode will be enough to link data to the correct farmer. This saves time during data collection and minimizes errors.'

3. Ask enumerators to download ODK Collect app

Enumerators will collect data using the ODK Collect app on mobile devices. Data from all enumerators will be gathered in the [ONA](#) folder. Therefore, a link between ODK and ONA needs to be made by [configuring ODK settings](#).

Steps:

- Ask enumerators to download the [ODK Collect](#) app on their Android phones.
- Once the ODK Collect app is downloaded, open it.
- Select "Manually enter project details".
- Enter this URL: <https://odk.ona.io>
- Enter the Username and Password of the ONA account of the enumerator.
- Click Add.

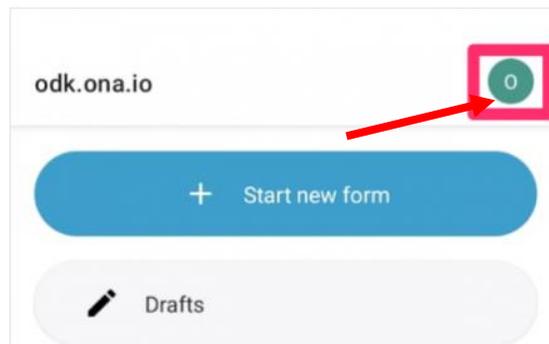


4. Ask enumerators to configure ODK Collect app

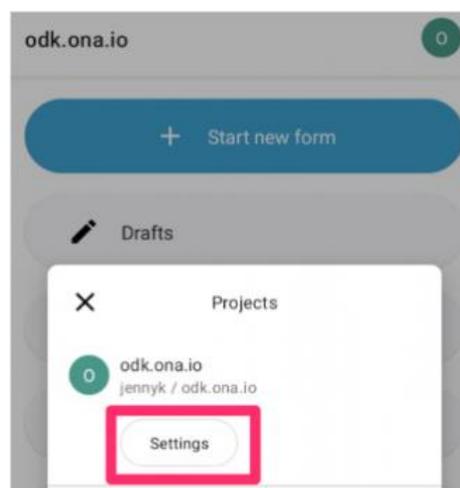
To ensure that forms are up to date on enumerator devices and that collected data is submitted on time, some settings should be selected in the ODK Collect app.

Steps:

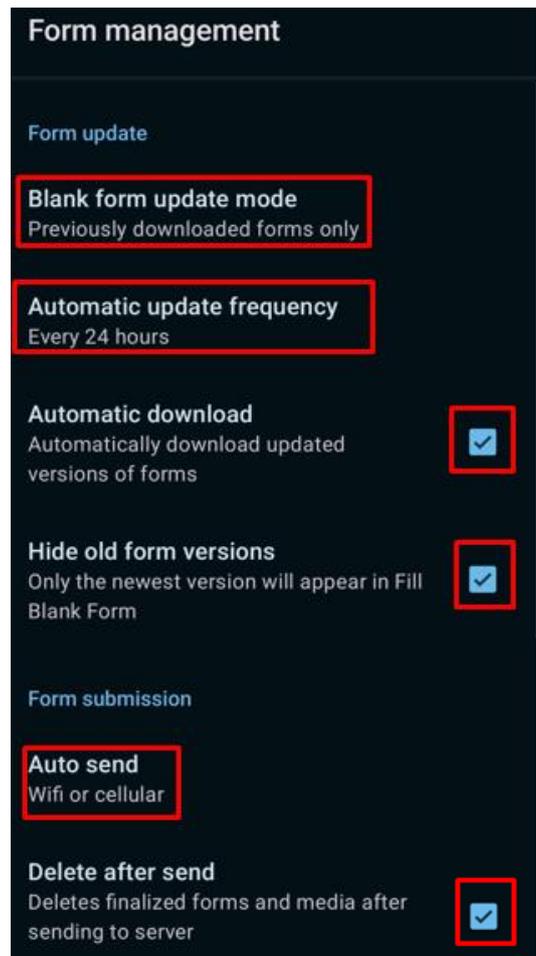
- Open ODK Collect app on enumerator mobile devices
- Go to Settings: click on the Initial of the user icon on the top right.



- Click on "Settings"



- Click on "Form management"
- Select the settings below:
 - Blank form update mode: select "Previously downloaded forms only".
 - Automatic update frequency: select "Every 24 hours".
 - Automatic download: tick 'Automatic download updated version forms'.
 - Hide old form versions: tick "only the newest version will appear in Fill Blank Form".
 - Auto-send: select "Wi-Fi or cellular".
 - Delete after send



5. Collect test data on each enumerator device

To ensure that enumerators know how to use ODK, and that the forms work properly on their device ask enumerators to:

- Open the ODK Collect app on their mobile device.
- Click "Download form".
- Select all the forms enumerators will need to collect data in the field, including "Register household".
- Click on "+Start a new form".
- Collect test data.
- Ensure that all enumerators can scan their enumerator card when collecting data.
- Send data once test data is collected.

TASKS TO PERFORM DURING DATA COLLECTION

Monitoring of data submissions and data checking should be done by the use case teams, with support of the relevant project activity team lead.

Steps:

- Data submissions for Validation and NOT trials can be monitored in the Monitoring Dashboard.
 - For this, please contact Regina Kilwenge (r.kilwenge@cgiar.org) and Eduardo Bendito (e.bendito@cgiar.org) once the following forms are uploaded on ONA and ready for test submissions: Enumerator registration form, Household registration form, Validation form.
- Data submission for other surveys and trials can be monitored in ONA under the "Table" tab.
 - Open your folder in ONA.
 - Double click on the form to open information on the collected data.
 - In "Overview" see how many submissions have been made. In "Map" see where the data have been collected". In "Table" you will find a list of data submissions.

TASKS TO PERFORM AFTER DATA COLLECTION

Once data collection is finalized, the use case lead must inform Celine Aubert (c.aubert@cgiar.org) to be pointed to guidelines for data cleaning, analysis and information on the impact dashboard. TRANSFORM will pre-clean the data by shortening column headers and removing columns that are not relevant for data analysis (columns used by the ODK Collect application to function properly).

Guidelines written by Céline Aubert
Reviewed by Christine Kreye, Eduardo Bendito, Regina Kilwenge and Medha Devare

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Excellence in Agronomy Initiative of CGIAR

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