Content creator guidelines:
How to manage digital surveys for aquaculture using KoBoToolbox and ODK Collect mobile app

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About WorldFish
WorldFish is a nonprofit research and innovation institution that creates, advances and translates scientific research on aquatic food systems into scalable solutions with transformational impact on human well-being and the environment. Our research data, evidence and insights shape better practices, policies and investment decisions for sustainable development in low- and middle-income countries.

We have a global presence across 20 countries in Asia, Africa and the Pacific with 460 staff of 30 nationalities deployed where the greatest sustainable development challenges can be addressed through holistic aquatic food systems solutions.

Our research and innovation work spans climate change, food security and nutrition, sustainable fisheries and aquaculture, the blue economy and ocean governance, One Health, genetics and AgriTech, and it integrates evidence and perspectives on gender, youth and social inclusion. Our approach empowers people for change over the long term: research excellence and engagement with national and international partners are at the heart of our efforts to set new agendas, build capacities and support better decision-making on the critical issues of our times.

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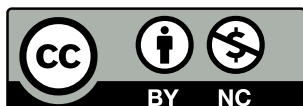WorldFish Communications and Marketing Department, Jalan Batu Maung, Batu Maung, 11960 Bayan Lepas, Penang, Malaysia. Email: worldfishcenter@cgiar.org

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Table of contents

1. Introduction

The Fish Epidemiology and Health Economics (FEHE) survey is a tool used to collect valuable information to understand risk factors for fish disease outbreaks and losses during aquaculture production. This survey can be accessed using two online tools: the ODK (Open Data Kit) Collect mobile app and the KoBoToolbox web-based form.

Yet most farms are located in remote locations with limited internet connections, so researchers and farmers need applications that can work offline. For this purpose, the ODK Collect mobile app, which can be used on Android devices (mobile phones and tablets), is perfect for remote field surveys where there is limited internet connection at the time of data collection. The app must be pre-installed on the mobile device before starting the survey, preferably a few days before interviews begin. All data entered using the app is saved and uploaded to the server once a stable internet connection is established. Steps for accessing the survey tool using ODK Collect are found in these guidelines as well as the online ODK course on Learn.ink.

KoBoToolbox is a free, open-source software tool for collecting and analysing field data. It is the default platform (or server) used to begin a new project, upload survey forms, create and manage access to survey forms, monitor data collection, and analyze all survey responses. Data can also be collected using the KoBoToolbox web-based survey. XLSForms is the format used to upload survey content to the tool's server. XLSForm content includes all the coded questions and selection answers for a particular survey—in our case the FEHE survey. After uploading the data to the server, the survey can be deployed for use in both the web-based survey form and in the ODK Collect mobile app. However, the KoBoToolbox web-based form should only be used during training of enumerators for better visualization and easier navigation of the survey on a larger screen, such as a desktop, laptop or a video projector. It should not be used during the actual farmer survey.

These guidelines provide the steps needed to use both the KoBoToolbox web-based form and the ODK Collect mobile app for accessing surveys and uploading content. It is aimed at principal investigators (PIs), co-PIs and team leaders in charge of planning and monitoring enumerators who are conducting the survey in the field.

Note: All images shown in these guidelines are indicative and may not reflect the latest version. All shared log in credentials for ODK server settings and URL links to the KoBoToolbox web-based form are provided only as an example and should not be applied for actual survey projects.

2. How to log in to KoBoToolbox

1. Use the URL https://www.kobotoolbox.org/ to go to the KoBoToolbox home page using a computer.
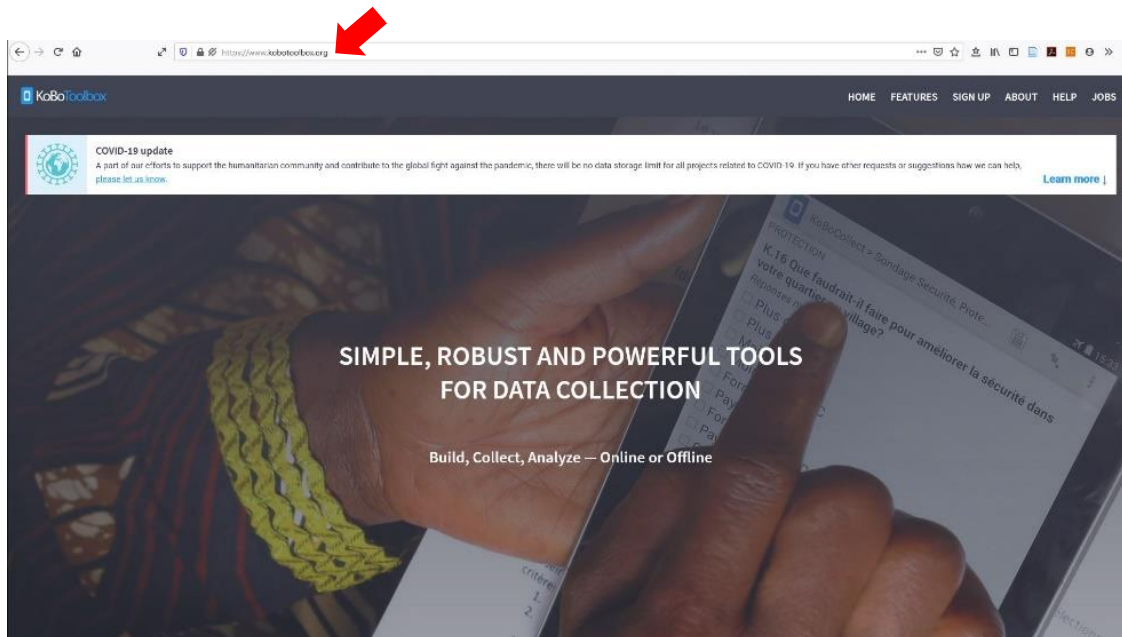
2. Log in to your account under 'Researchers, Aid Workers & Everyone Else' by entering the username and password that the PI, co-PI or team leader provided.
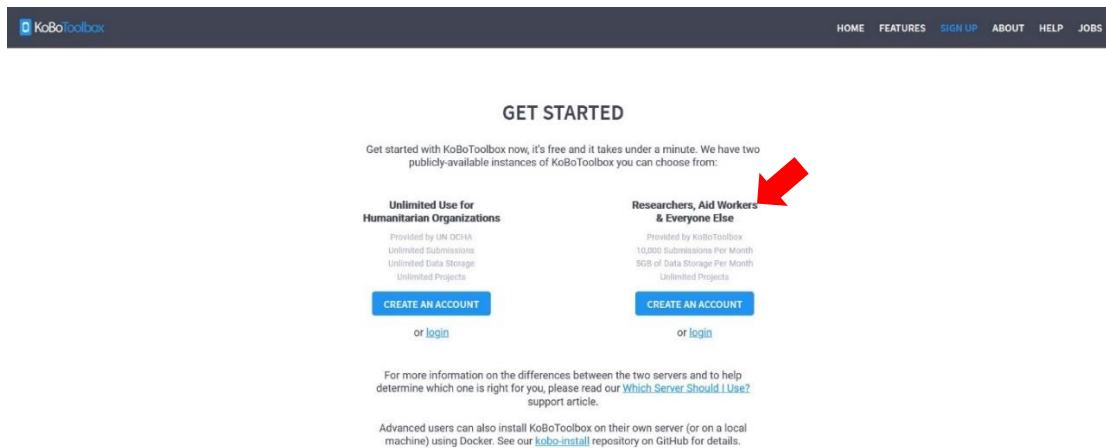
3. Creating a new project and uploading an existing survey template form on KoBoToolbox

Note: After log in to https://www.kobotoolbox.org/ on a computer using the credentials that the PI, co-PI or team leader provided, you can create a new project, upload the survey template and make any changes to the template (a few days before enumerators go to the field) in a location with a good internet connection. It is possible to make small changes during the evening before following day, but the project leader in the country is responsible for downloading the latest form on all tablets.
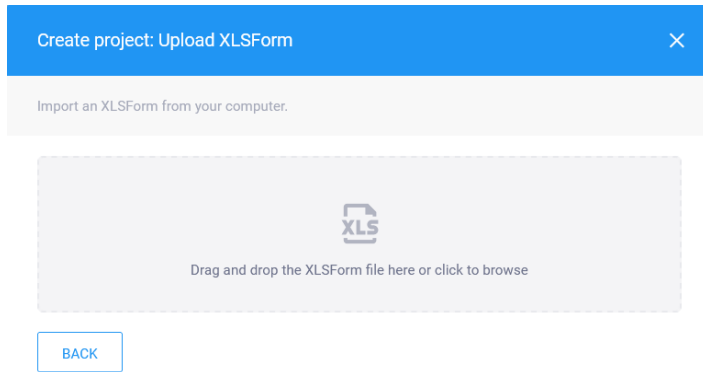
1. In the KoBoToolbox forms page, click on 'New' in the top left of the screen.
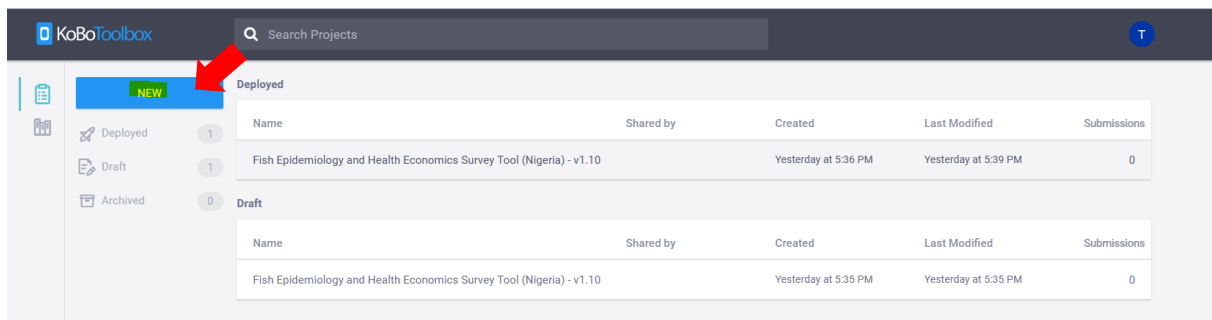
2. When the 'Create project: Choose a source' window appears, click on 'Upload an XLSForm.' This form should be the survey template used to create your questionnaire.
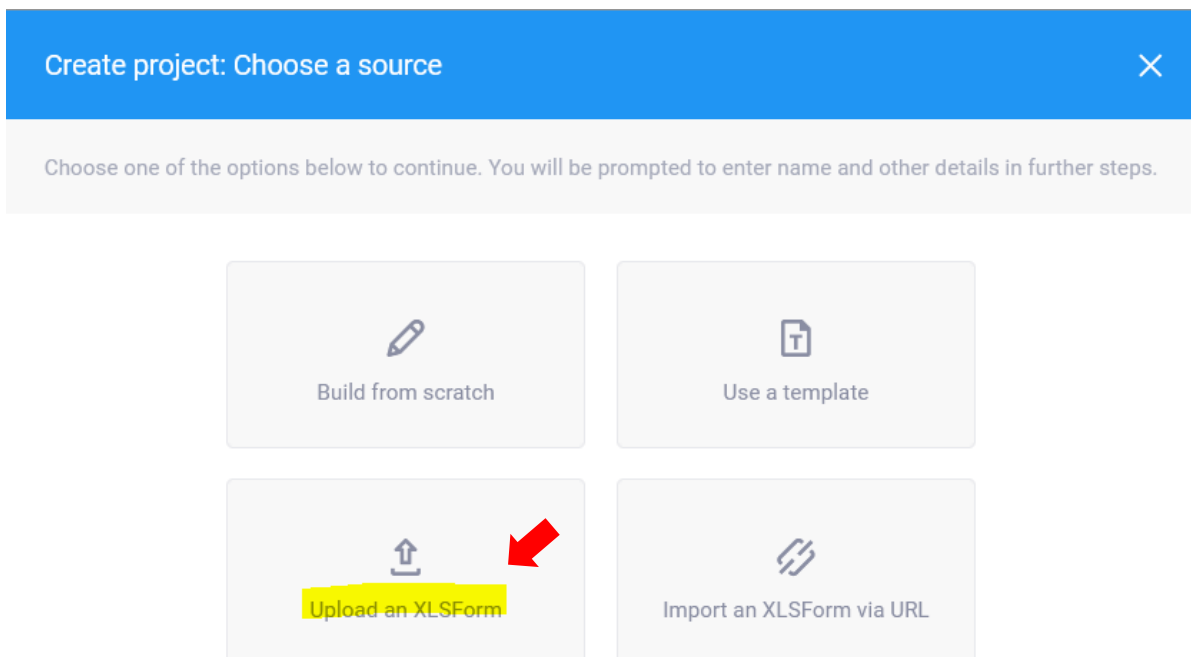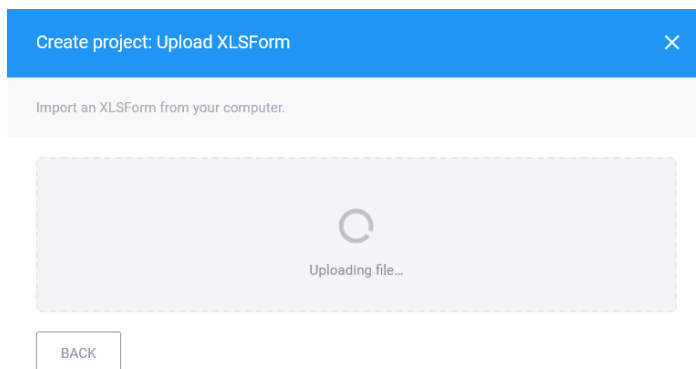
3. Drag and drop your XLSForm survey file into the box or click to browse.
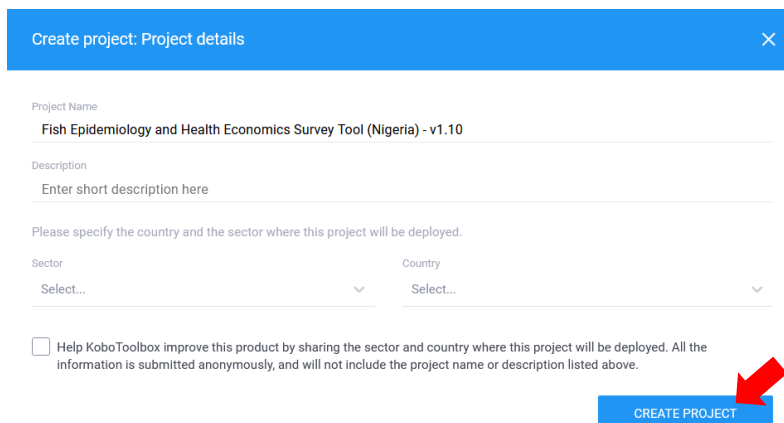

4. In our case, we will use the latest version of the FEHE survey XLS file shown here.
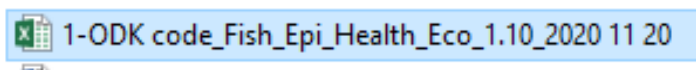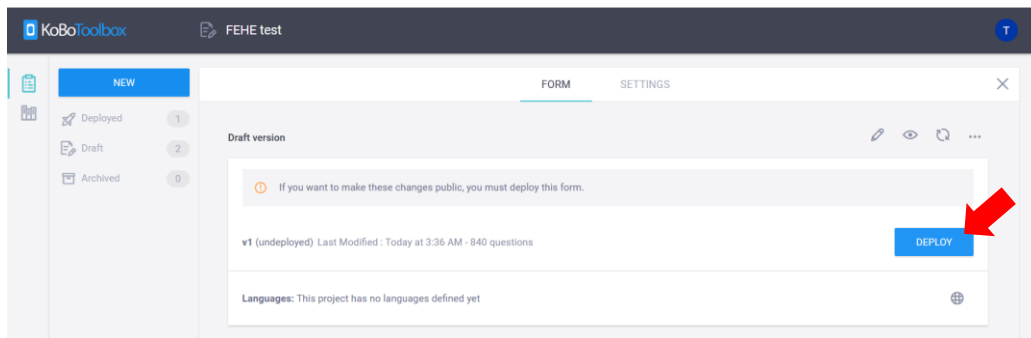

5. Upload the selected file.

6. Once uploading is complete, click the 'Create Project' button in the bottom right of the window. (It is not compulsory to enter the description, sector and country.)

4. Deploying and sharing a survey form on KoBoToolbox

1. Under the 'Form' tab, click the 'Deploy' button on the right to make a new form visible to the public.

2. The message "deploying to kobocat…" will appear.

3. Once the form is successfully deployed, you will see it listed as 'Deployed' with the deployment date and time under the 'Form history' section in the 'Form' tab. To keep track, it is a good idea to rename new versions of the same form (v1, v2, v3 etc.).
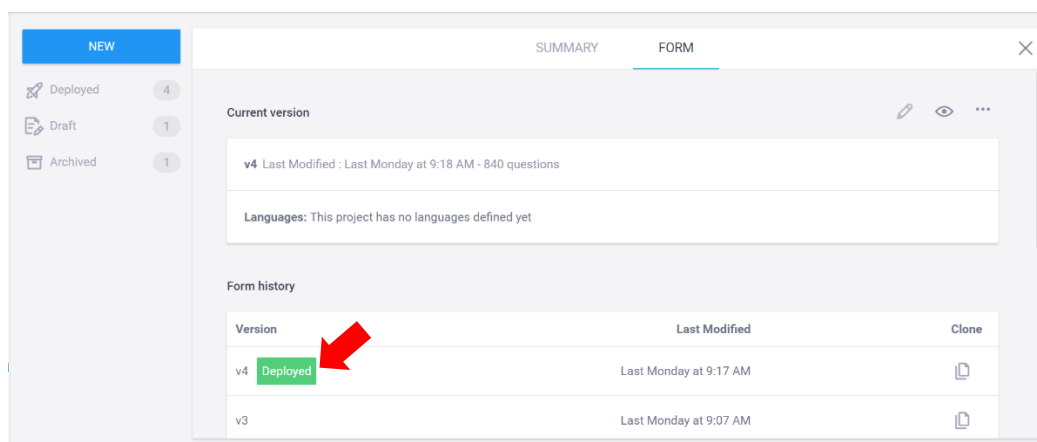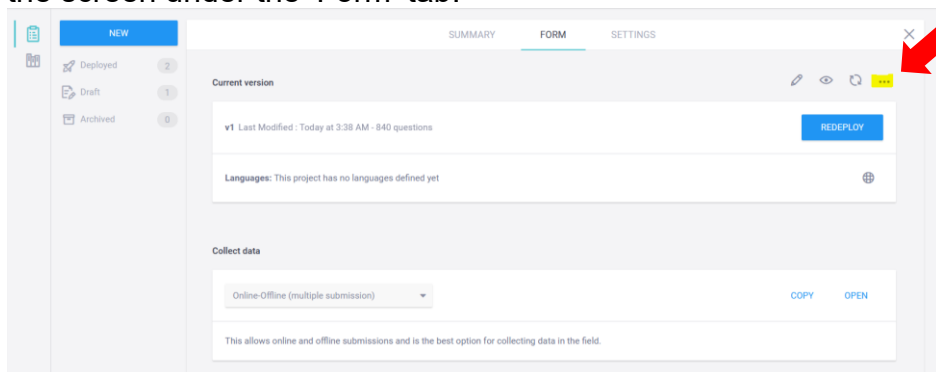
4. To generate a link to the web-based version of the deployed survey, click the 'Copy' button under the 'Collect data' section in the 'Form' tab. (You may paste the copied link in a Word document for your own record.).
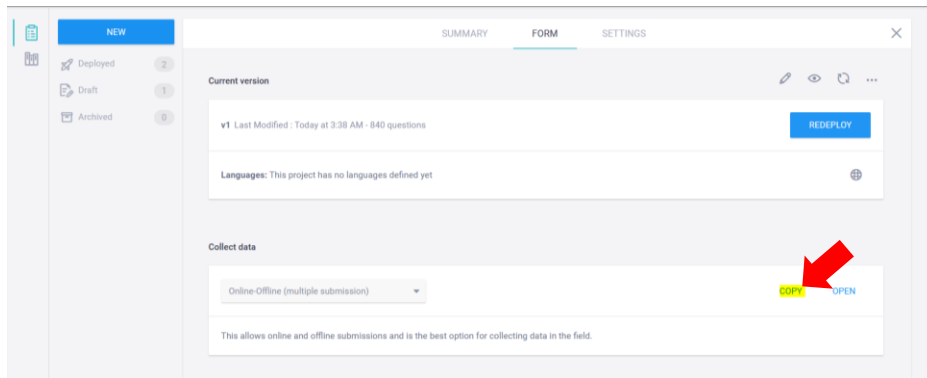
5. To share the survey form, click on the three dots ('…') icon in the top right corner of the screen under the 'Form' tab.


6. Under the drop-down options, select 'Share this project' to load the 'Sharing Permissions' window.
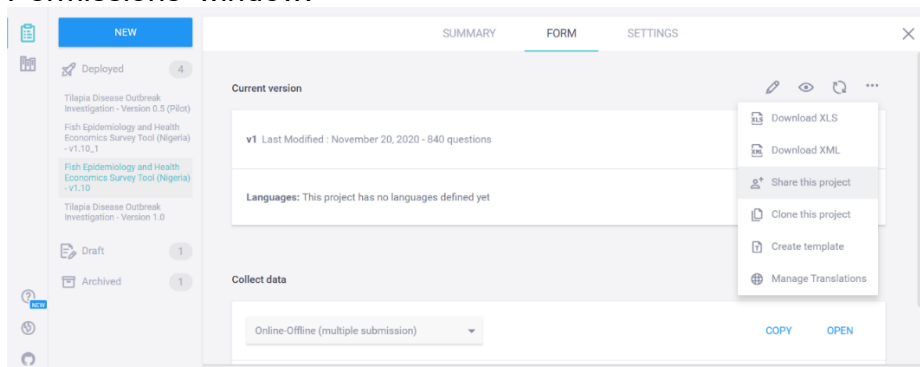
7. Under the 'Sharing Permissions' window, click on 'Add User' and type in other KoBoToolbox usernames to allow other users to access the survey. For each user, you can select your sharing preferences in the checkboxes to determine the limitations of their accessibility to the survey: 'View form,' 'Edit form,' 'View submissions,' 'Add submissions,' 'Edit and delete submissions' and/or 'Validate submissions.' Then click the 'Grant Permissions' button.
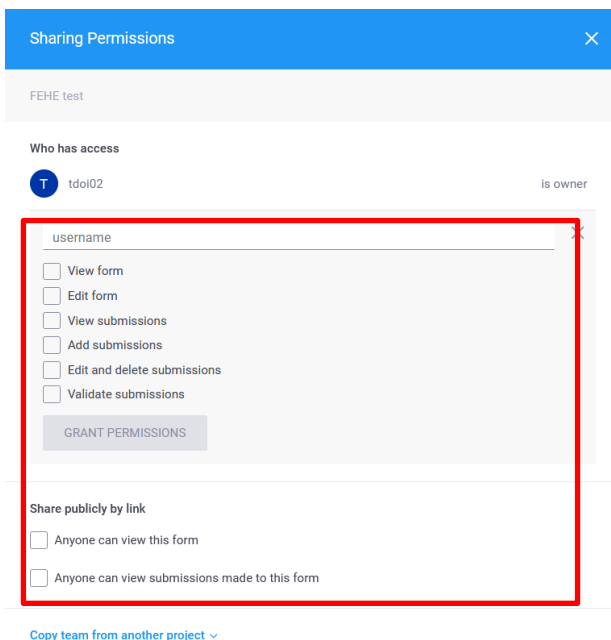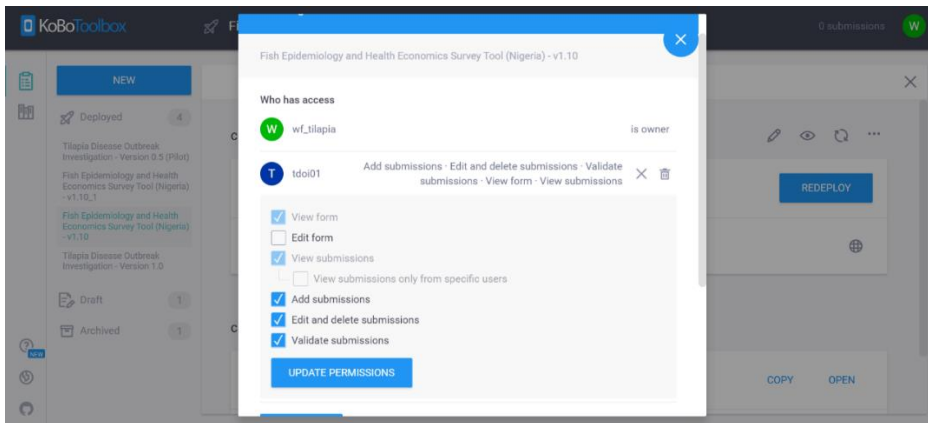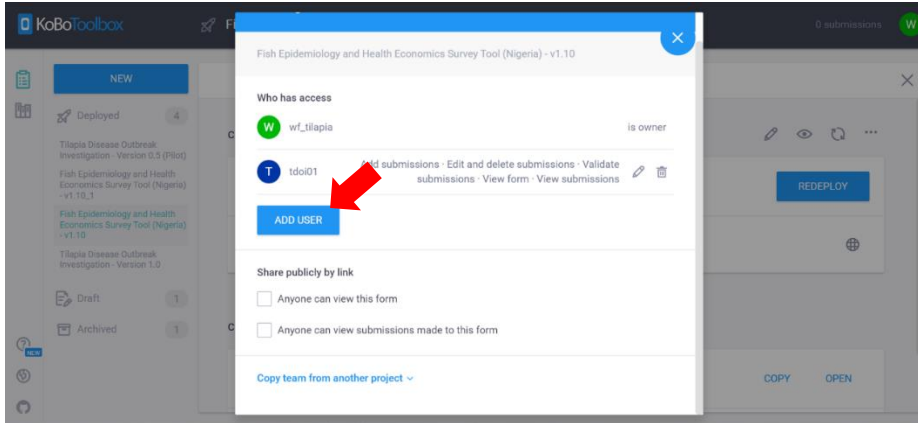
8. To share your survey with the public, select your sharing preferences to allow the public to view the form and/or view the submissions made to the form under the 'Share publicly by link' section.

# 5. Downloading and accessing the survey form in the ODK Collect mobile app
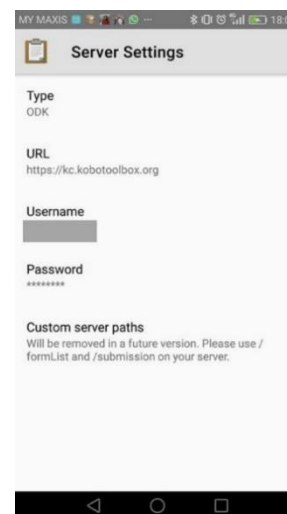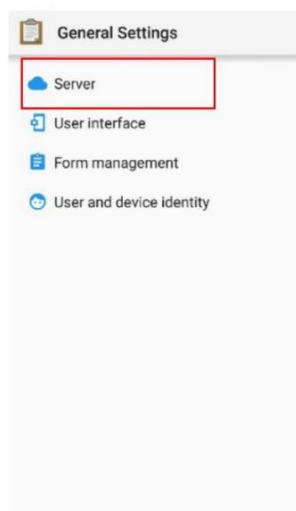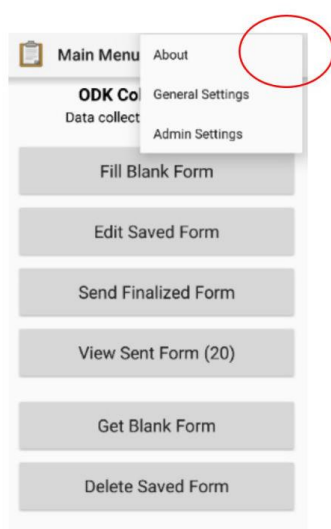
1. Select the menu (three dots) icon in top right corner and select 'General Settings' from the drop-down menu.

2. Select 'Server' from the drop-down menu.

3. Enter the URL, username and password settings for your project that the PI, co-PI or team leader provided. Press on the text to begin entering the settings.
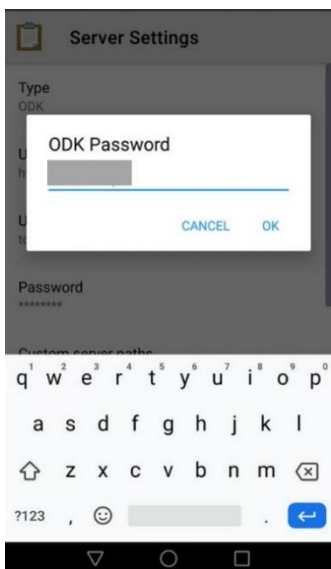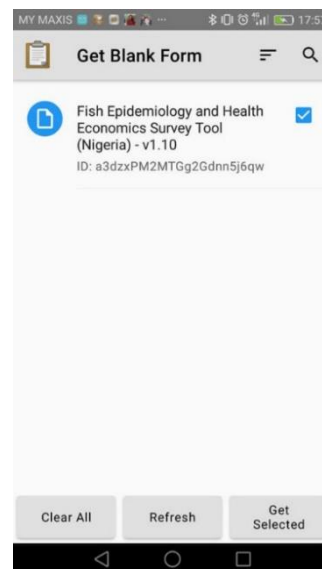
4. Enter the URL, username and password. As an example, you may enter the following credentials to see a short demo form:
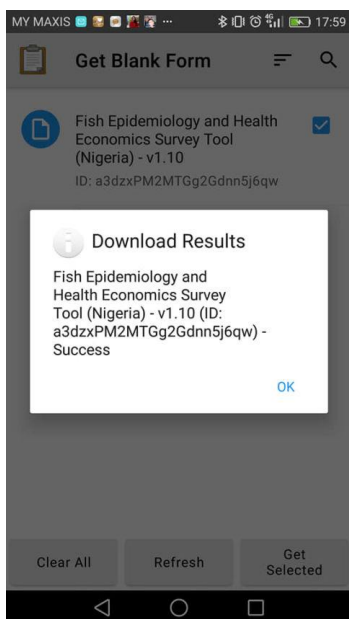
URL:
https://kc.humanitarianresponse.info
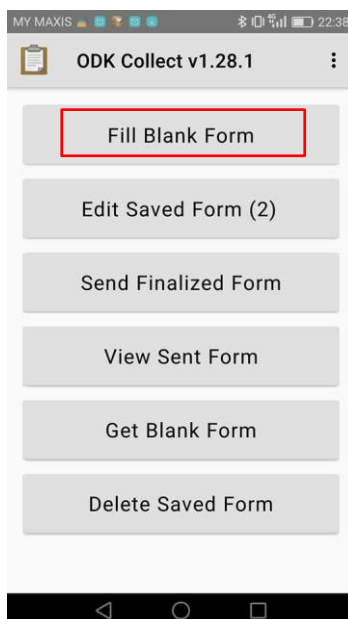Username: tdoi_kobopublic
Password: tdoi_kobopublic123
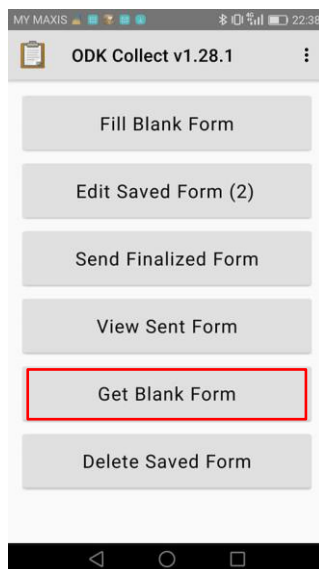
5. Once done, go back to the main menu and select 'Get Blank Form.'

6. Press the checkbox to select the form. Then click on 'Get Selected' to download the form.

7. A 'Download Results' message window will appear with the form name. 'Success' will be displayed when the form is downloaded successfully. Press 'OK.'

8. Go back to the main menu and press on 'Fill Blank Form.'
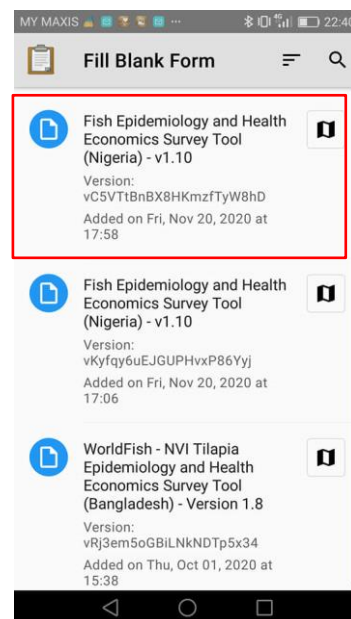
9. Select the name of the form you wish to use. In this example, select "Fish Epidemiology and Health Economics Survey Tool (Nigeria) – v1.10" to begin the survey.

6. Updating the web-based form

1. If a message pops up in a yellow box in the top corner of the web-based form, it means that a newer version of the form has been deployed. If this happens, first save the current draft form following the previous steps if you would like to retain the entered information.

    Note: The yellow box may appear late and only momentarily. To ensure that you are using the latest version of the form, save your draft form often, refresh your browser regularly and check frequently with your PI, co-PI or team leader.

2. After saving a draft of the form, refresh the page using the same URL to load the latest version of the form.

3. Once you have refreshed the page, check the form title with the PI, co-PI or project leader to ensure that it is the correct version. The newly loaded form will be blank and needs to be filled in again from the start.

7. Copying the web-based link for a specific project and survey form

1. First ensure you are logged in to the correct project account. Under the 'Deployed' list in the selected project, select the form that you wish to access. In this example, it is the "Fish Epidemiology and Health Economics Survey Tool (Nigeria) – v1.10."
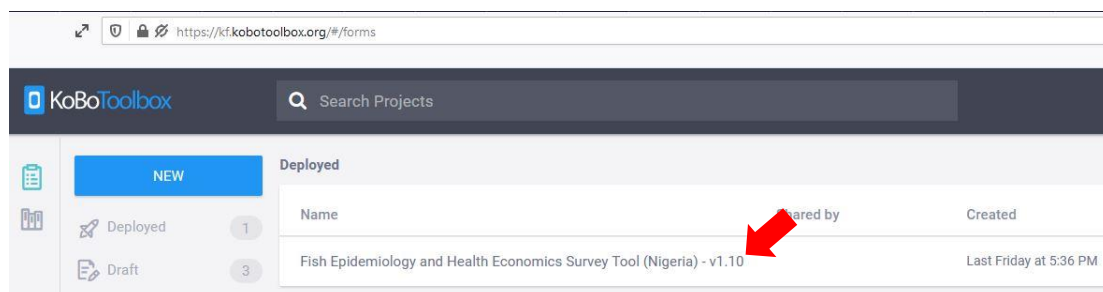
2. Click on the 'Form' tab at the top of the screen. To get the link to the web-based survey form, scroll down and click the 'Copy' button under the 'Collect data' section.
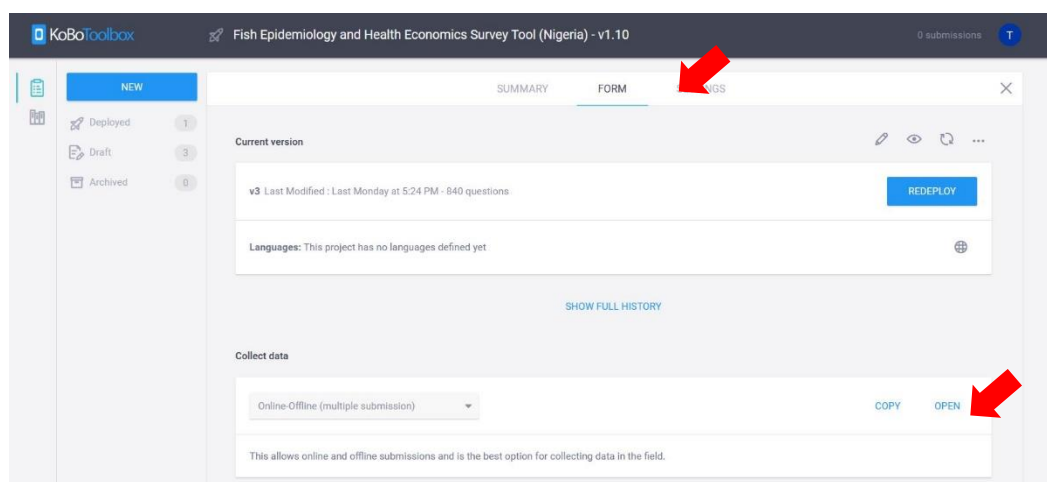
8. Opening the web-based link in a browser

1. Click the copied link or paste it into your browser's address bar to bring you to the web-based survey, as shown below. As an example, you may copy and paste the following link: https://bit.ly/3Azq1eO
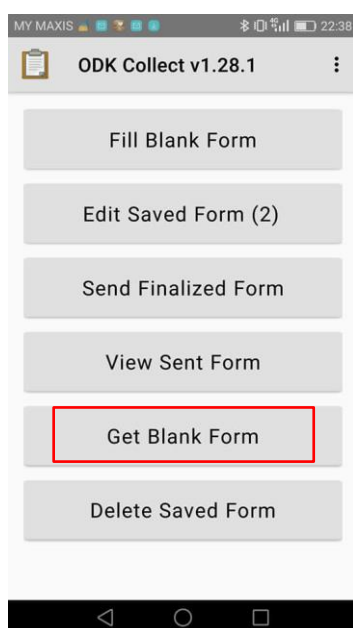

9. Updating and replacing survey forms in the ODK Collect mobile app

1. In the main menu, press 'Get Blank Form.'
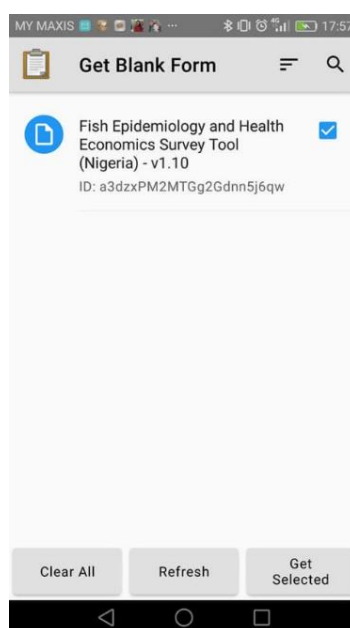
2. Select the new form you wish to download, then press 'Get Selected' to download it.
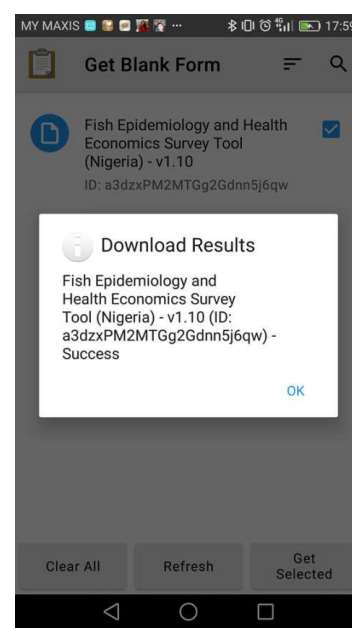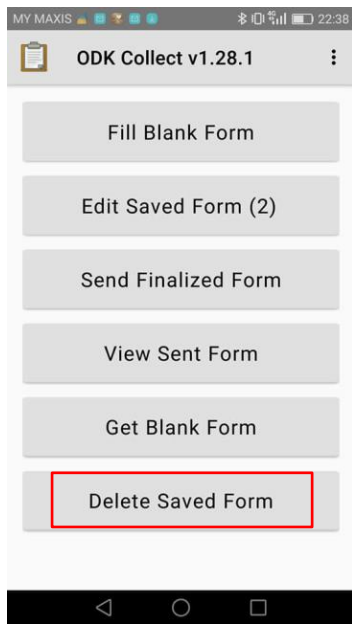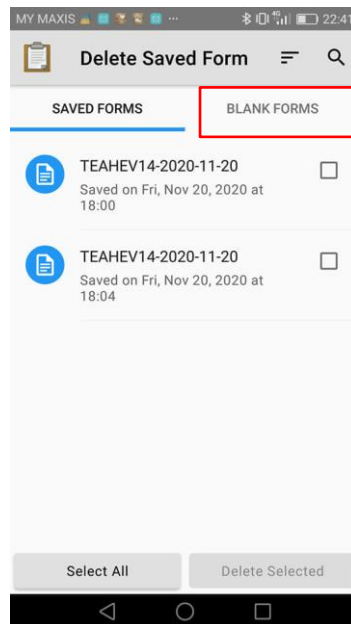
3. A 'Download Results' message window will appear with the form name. 'Success' will be displayed when the form is downloaded successfully.

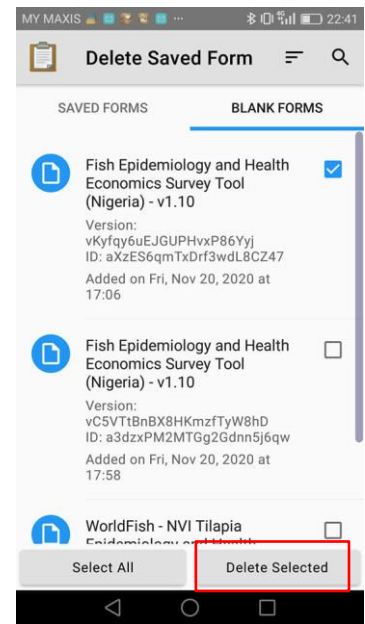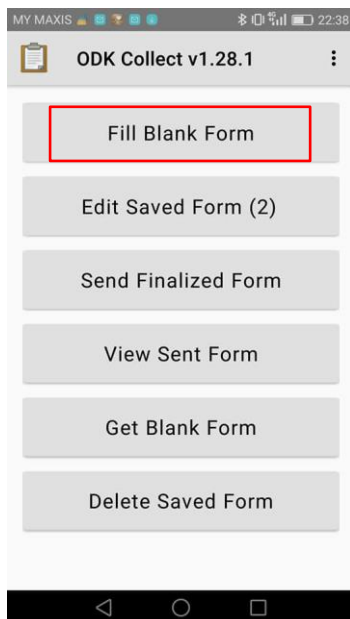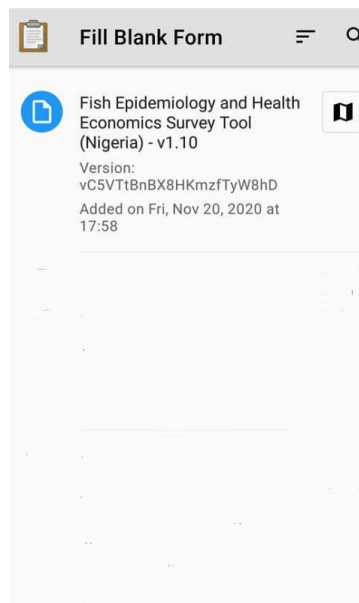4. Go back to the main menu, and press 'Delete Saved Form.'

5. Select the 'Blank Forms' tab.

6. Select the form you wish to delete (normally an older version of it), then press 'Delete Selected.'


7. Return to the main menu and select 'Fill Blank Form.'

8. To begin the survey, select the new form you wish to access. In this case, it is the "Fish Epidemiology and Health Economics Survey Tool (Nigeria) – v1.10."

10. Analyzing and validating submitted data in KoBoToolbox

1. On the KoBoToolbox user home page, click on the clipboard icon on the left side of the screen to display the list of all active surveys in the right pane. From this list, select the name of the form you wish to access. In this example, select the "Fish Epidemiology and Health Economics Survey Tool (Nigeria) – v1.10."
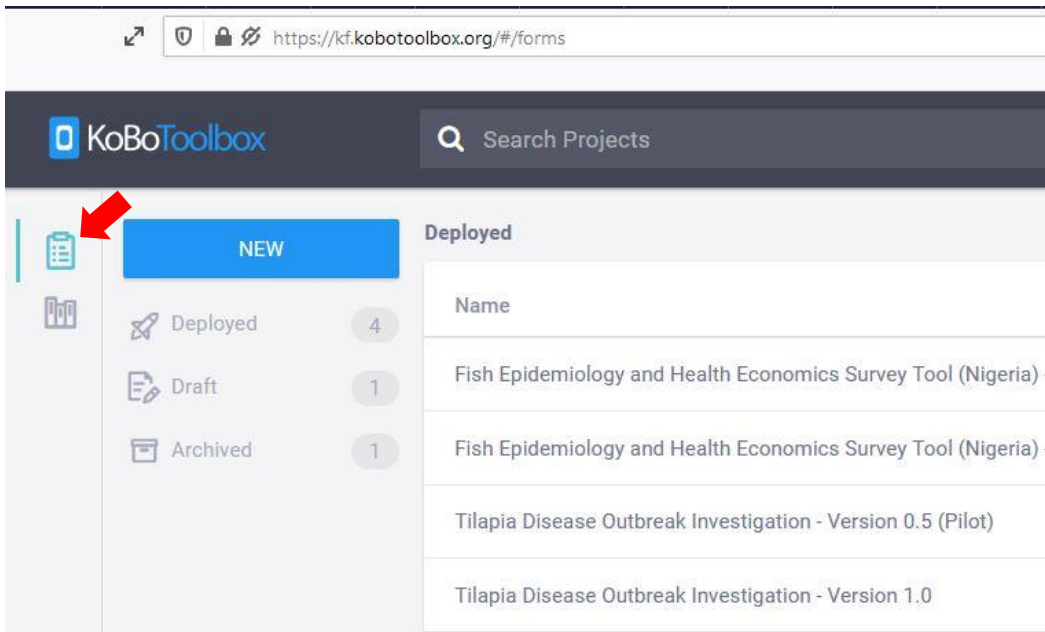
2. After selecting the project, the 'Summary' tab will display the overall analytics of submissions. Click on the 'Data' tab to see the received data related to the project. In the example below, we selected the "Tilapia Disease Outbreak Investigation – Version 0.5 (Pilot)" form, which has seven submissions.
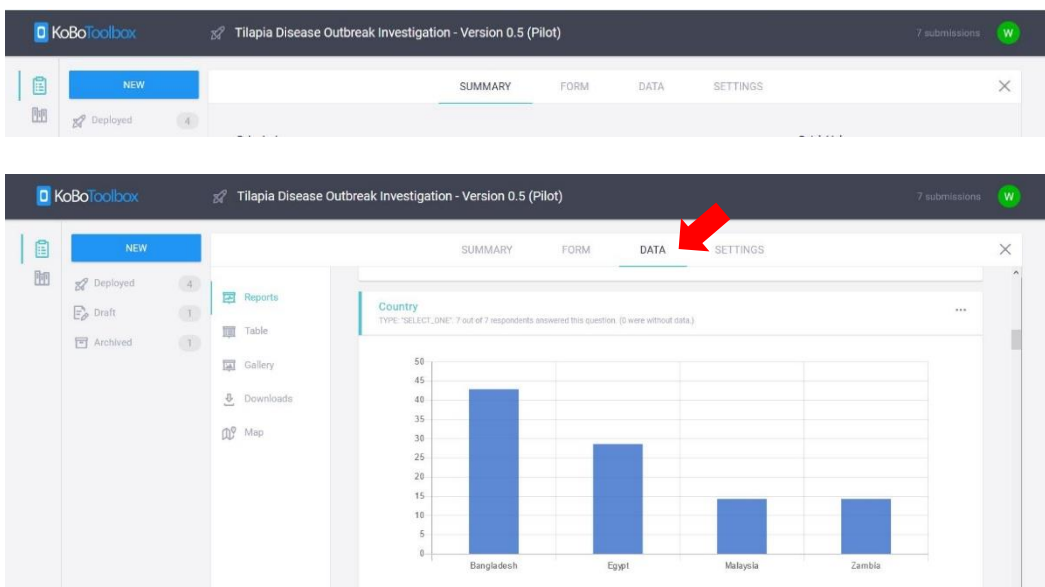
3. Under the 'Data' tab, click the 'Reports' button in the left sidebar to view the findings of all questions in figures. Scroll to the top of the section and click on the settings (cog) icon located beside 'Custom Reports' near the top of the screen. In the 'Edit Report Style' window, select your preferred chart display and click on 'Save.'
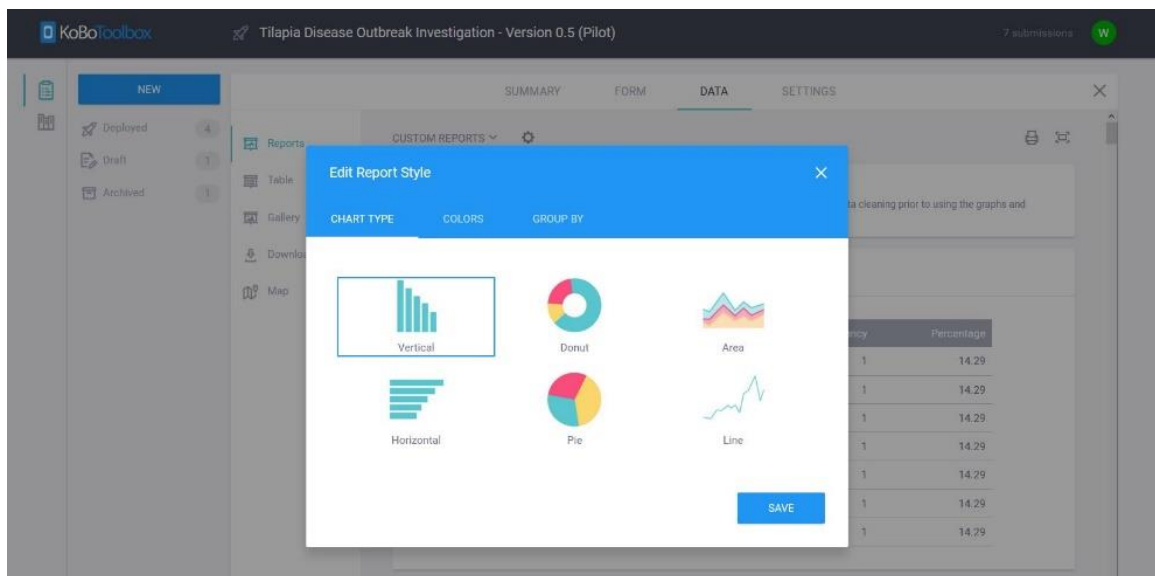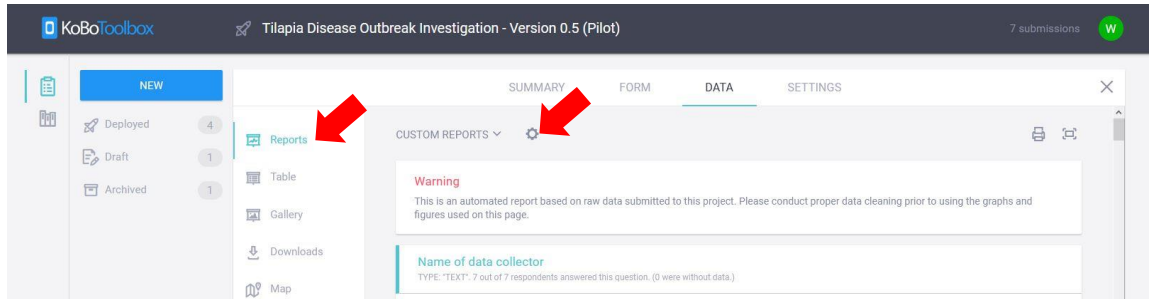
4. Under the 'Data' tab, click on 'Table' in the left sidebar to display and capture details of submitted data. A list will be displayed where you can analyze enumerator ID, date, country and number of respondents. To see the data better, click on the full screen (expanding rectangle) icon located at the top right of the screen next to the settings (cog) icon.
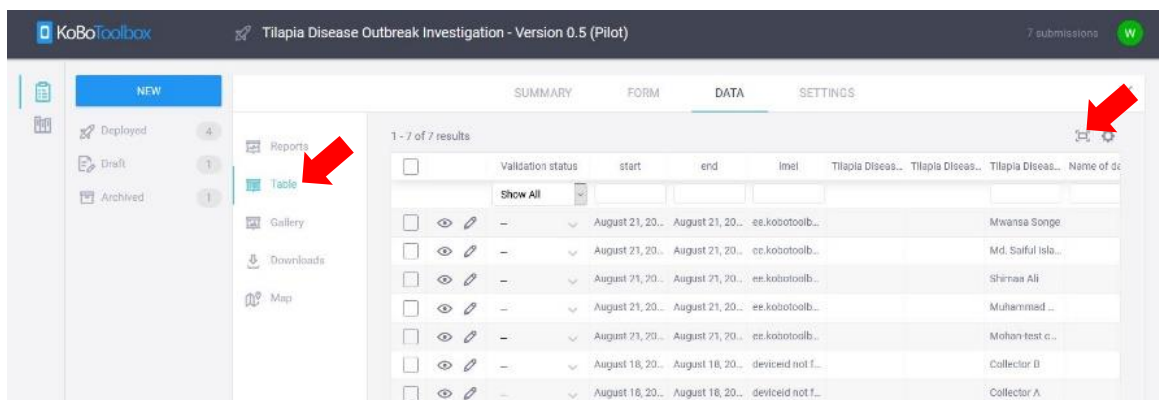
5. Once the full-screen view appears, click on the preview (eye) icon located on the left side of the list to see the individual's submitted responses.

6. A 'Submission Record' window will appear. Select the 'Validation status' drop-down option at the top right of the window to validate the submission ('Not Approved'/'Approved'/'On Hold') after checking the data.

7. As an alternative, you may also download the data for analysis. To do this, click the 'Downloads' button in the left sidebar of the 'Data' tab. Select your preferences and click the 'Export' button to download the data.
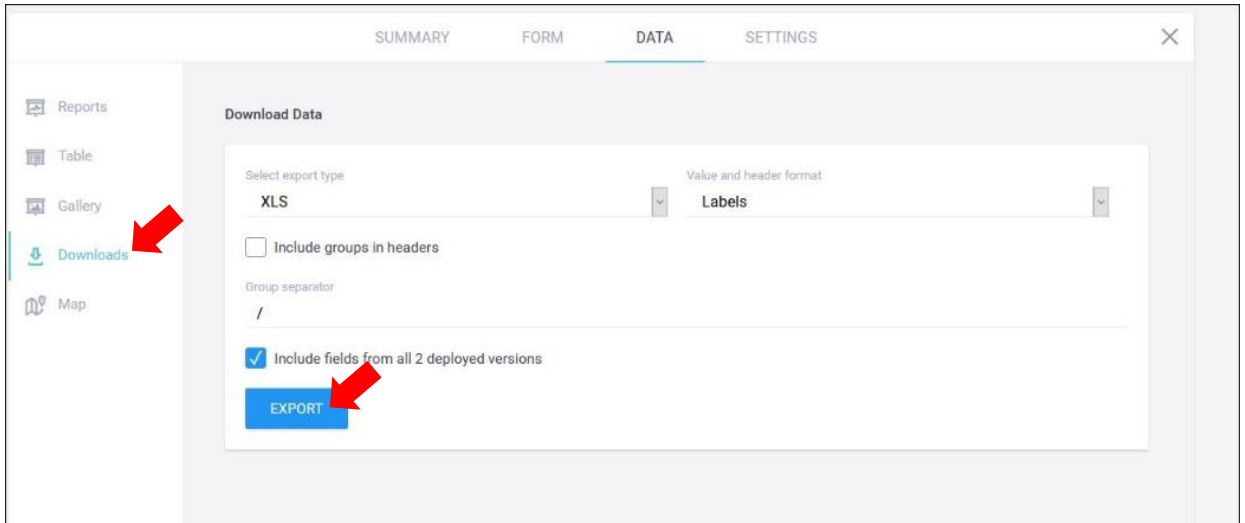
8. Below is a screenshot of the downloaded data.

11. Adding pictures to an existing XLSForm survey template

1. Refer to the PI, co-PI or team leader on where to get the XLSForm sheet that was used to create the questionnaire. In this example, we will refer to the dataset from the FEHE survey. Open the XLSForm and click on the 'survey' tab at the bottom of the sheet.
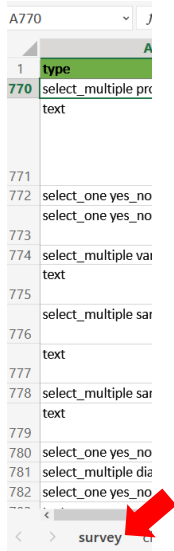
2. Scroll down the row to locate the section where you want to add your pictures. In this example, it is section 'P,' question 'P01,' which is to select multiple 'Prominent clinical signs.'

type	name	label
770	select_multiple prominent_clinical_s	P01	P01. Prominent clinical signs

3. For that question, select the text under the 'type' column and copy the words "prominent_clinical_sign." (Highlight then hold down the 'Ctrl' and 'c' key buttons to copy).

4. Click on the 'choices' tab at the bottom of the sheet.
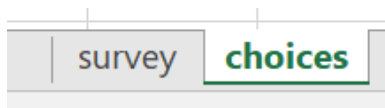
5. Under the 'choices' tab, use the Excel Find/Search function and paste the words "prominent_clinical_sign" to look for the rows listing those words.

|	A	B	C	D	E	F
1	list name	name	label	filter	country	administrative1
235	prominent_clinical_sign	Lethargy	Lethargy			
236	prominent_clinical_sign	Loss_of_appetite	Loss of appetite			
237	prominent_clinical_sign	Swimming_at_the_surface	Swimming at the surface			
238	prominent_clinical_sign	Erratic_swirling	Erratic swirling			
239	prominent_clinical_sign	Fish_gasping_air_at_the_surface	Fish gasping air at the surface			
240	prominent_clinical_sign	Eye_exophthalmia	Eye exophthalmia			
241	prominent_clinical_sign	Eye_opacification	Eye opacification			
242	prominent_clinical_sign	Skin_erosions_with_haemorrhagic_	Skin erosions with haemorrhagic lesions			
243	prominent_clinical_sign	Skin_discoloration	Skin discoloration			
244	prominent_clinical_sign	Open_wounds	Open wounds			
245	prominent_clinical_sign	Abdominal_distension_swelling	Abdominal distension/swelling			
246	prominent_clinical_sign	Scale_protrusion_detachment	Scale protrusion/detachment			
247	prominent_clinical_sign	Anemia_with_abnormally_gill_pale	Anemia with abnormally gill paleness			
248	prominent_clinical_sign	Fin_rot	Fin rot			
249	prominent_clinical_sign	Other	Other (specify)			

6. Create a new column next to administrative1 and name it 'image.' Then enter the image names with '_' in between words (no spaces are allowed). The image extension should be .png (not .jpeg) format.

| list name	name	label	filter	country	administrative1	image
prominent_clinical_sign	Swimming_at_the_surface	Swimming at the surface				swimming_at_the_surface.png
prominent_clinical_sign	Erratic_swirling	Erratic swirling				
prominent_clinical_sign	Fish_gasping_air_at_the_surface	Fish gasping air at the surface				fish_gasping_air_at_the_surface.png
prominent_clinical_sign	Eye_exophthalmia	Eye exophthalmia				eye_exophthalmia.png
prominent_clinical_sign	Eye_endophthalmia	Eye endophthalmia				eye_endophthalmia.png
prominent_clinical_sign	Eye_opacification	Eye opacification				eye_opacification.png
prominent_clinical_sign	Skin_erosions_with_haemorrhagic	Skin erosions with haemorrhagic lesions				skin_erosions_with_haemorrhagic_lesions.png
prominent_clinical_sign	Skin_discoloration	Skin discoloration				skin_discoloration.png
prominent_clinical_sign	Open_wounds	Open wounds				open_wounds.png
prominent_clinical_sign	Abdominal_distension_swelling	Abdominal distension/swelling				abdominal_distension_swelling.png
prominent_clinical_sign	Scale_protrusion_detachment	Scale protrusion/detachment				scale_protrusion_detachment.png
prominent_clinical_sign	Anemia_with_abnormally_gill_pale	Anemia with abnormally gill paleness				anemia_with_abnormally_gill_paleness.png
prominent_clinical_sign	Fin_rot_tail_rot	Fin rot and tail rot				fin_rot_and_tail_rot.png
prominent_clinical_sign	gills_rot	Gills rot				gills_rot.png
prominent_clinical_sign	swallon_anus	Swollon anus				swollen_anus.png
prominent_clinical_sign	Other	Other (specify)				

7. Connect to your KoBoToolbox account and select your particular project in the 'Deployed' table under the 'Name' column.
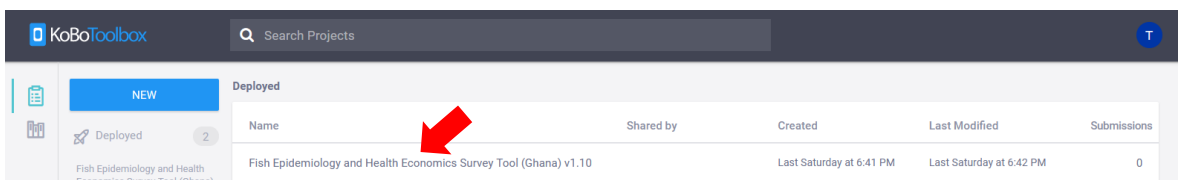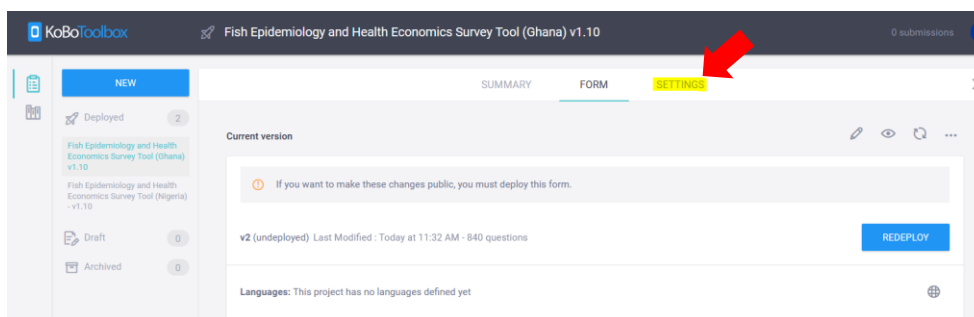

8. Select the 'Form' tab at the top and select the 'replace form' (refresh) icon at the top right of the screen.
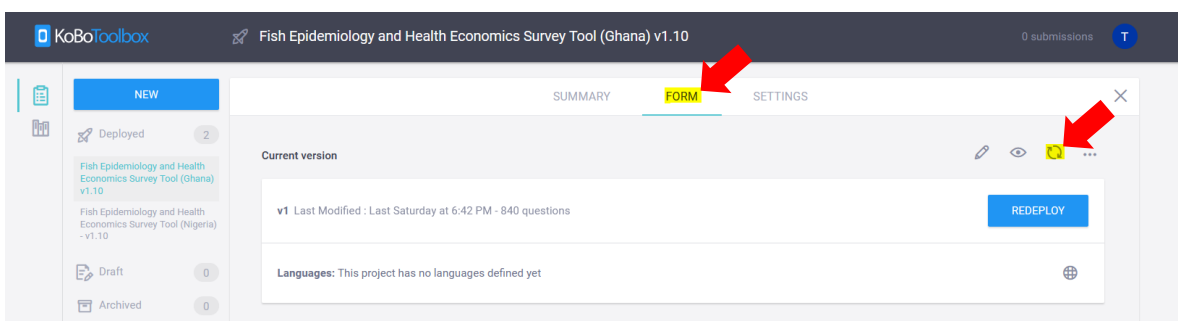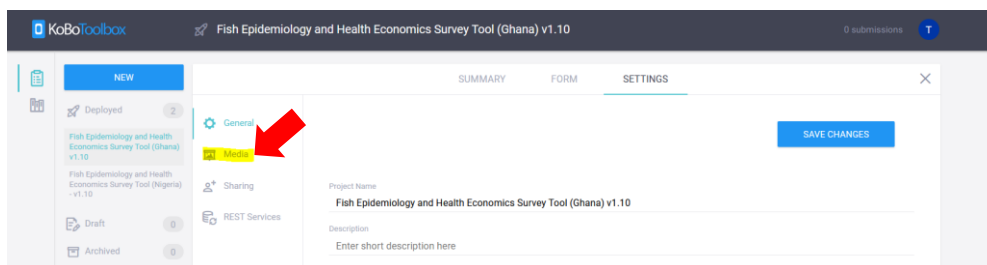
9. When the 'Replace form: Choose a source' window appears, click on 'Upload an XLSForm' and upload your file to replace the old form.
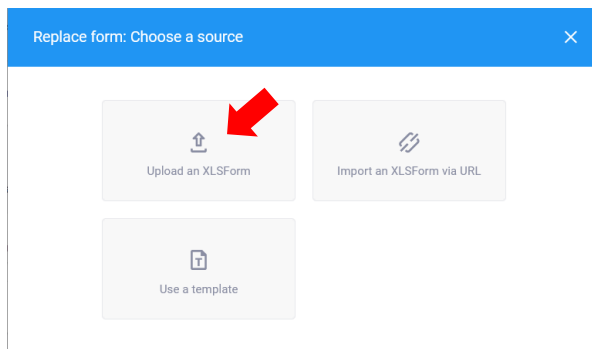
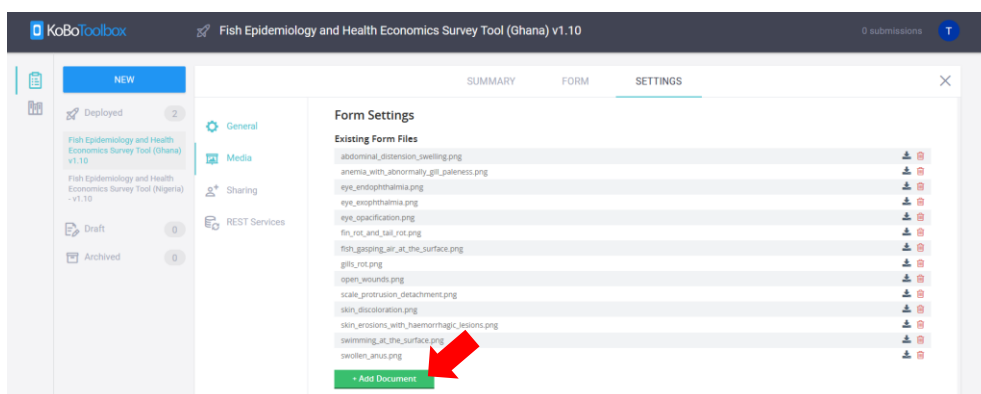10. Then click on the 'Settings' tab at the top of the screen.


11. Under the 'Settings' tab, click on the 'Media' button in the left sidebar.

12. When the 'Form Settings' list appears, add the .png pictures there by clicking the 'Add Document' button at the bottom of the screen. Select the pictures you wish to upload. Make sure the names are identical to the ones you entered in the XLSForm.

13. Once your upload is complete, select the 'General' button in the left sidebar, then click on 'Save Changes' at the top right of the screen.
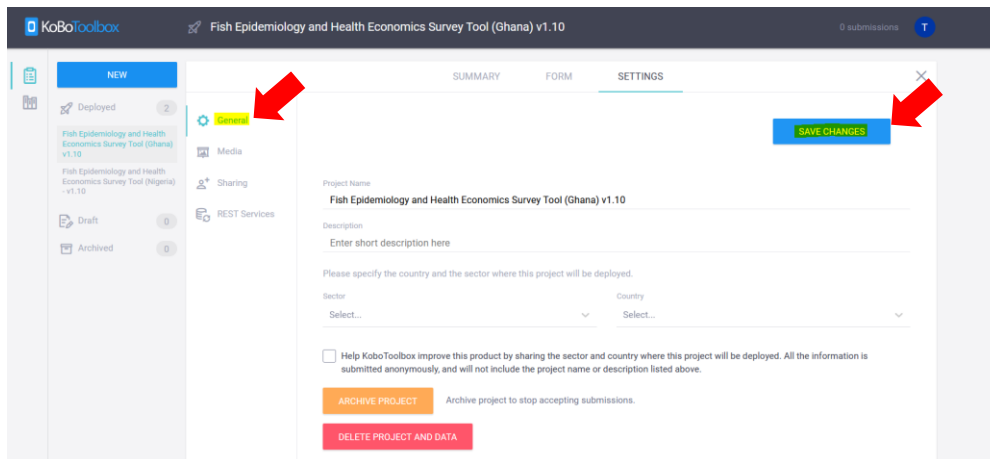
14. Once saved, select the 'Form' tab at the top of the screen and click the 'Redeploy' button on the right of the screen.

About WorldFish

WorldFish is a nonprofit research and innovation institution that creates, advances and translates scientific research on aquatic food systems into scalable solutions with transformational impact on human well-being and the environment. Our research data, evidence and insights shape better practices, policies and investment decisions for sustainable development in low- and middle-income countries.

We have a global presence across 20 countries in Asia, Africa and the Pacific with 460 staff of 30 nationalities deployed where the greatest sustainable development challenges can be addressed through holistic aquatic food systems solutions.

Our research and innovation work spans climate change, food security and nutrition, sustainable fisheries and aquaculture, the blue economy and ocean governance, One Health, genetics and AgriTech, and it integrates evidence and perspectives on gender, youth and social inclusion. Our approach empowers people for change over the long term: research excellence and engagement with national and international partners are at the heart of our efforts to set new agendas, build capacities and support better decision-making on the critical issues of our times.

WorldFish is part of One CGIAR, the world's largest agricultural innovation network.

For more information, please visit www.worldfishcenter.org