

Standard Operating Procedure for soil sample collection and field observations



SOP version 3.0

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Abbreviations

AU	African Union
CAA	Cultivated Aquatic Area
CMTA	Cultivated and Managed Terrestrial Area
CS	Country Supervisor
CSV	Comma separate values
EU	European Union
FYM	Farmyard manure
GPS	Global Positioning System
GPX	GPS eXchange format
IITA	International Institute of Tropical Agriculture
ISRIC	International Soil Reference and Information Centre
KML	Keyhole Markup Language
LCCS	Land Cover Classification System
ODK	Open Data Kit
PSL	Proposed Sampling Location
PSU	Primary Sampling Unit
QR	Quick response
S4A	Soils4Africa
SIS	Soil Information System
SDMT	Survey Data Management Tool
SOP	Standard Operating Procedures
SP	Service Provider
SP-ID	Sampling point identifier
SS-ID	Soil Sample Identification
SSU	Secondary Sampling Unit
TSU	Tertiary Sampling Unit
WP	Work package
Y/N	Yes OR No

Introduction

The Soils4Africa project aims to build an open-access Soil Information System (SIS) for Africa that will allow for monitoring of soil quality. A set of key soil quality indicators has been identified and they will be assessed using field data to be collected from 20,000 sampling sites spread across the African continent. The project is collecting soil samples and making field observations for agricultural land only. We use standard protocols and operating procedures for data collection that allows for repeated assessment and monitoring of soil properties and soil quality. The field survey protocol has been produced along with the instruction manual for the field campaign management. The field survey protocol clearly specifies and explains the materials needed and what preparations need to be made for the field work. It includes important details and caution in the areas of security, navigating in the field and rejection or acceptance of a location as valid sampling point. The protocol also explains and provide illustrations for soil sample collection using different tools, labelling and bagging and how observations need to be made on soil surface characteristics, landform and terrain, land use and land cover, land and water management practices including what to do in special situations. Meanwhile, the instruction manual for survey management is essentially designed for the country supervisors and it contains important information and procedures on how to recruit the field surveyors, generate the barcodes, financial management, and the overall management of the field campaign in each country across Africa. Building on and simplifying the information contained in the field protocol, this document, Standard Operating Procedure (SOP), is hereby developed to provide a stepwise instruction for the field operations. The SOP contains vital information on what to do before going to the field, instructions for sample collection and for recording observations in the and what to do after the return from the field. It provides a step-wise guide to filling the electronic data entry form using ODK Collect.

You will need the following equipment and materials

- ✓ An Android phone or tablet (specification provided in the instruction manual).
- ✓ A tool for navigating in the field (A GPS device is recommended and when available; otherwise use the MAPS.ME app downloaded on your phone).
- ✓ A soil auger marked with coloured tape at 20 and 50 cm from the tip.
- ✓ Two (2) 10-liter plastic buckets or basins of different colour.
- ✓ A 5-liter plastic jerry can for water.
- ✓ 1-liter (min. 23 x 15 cm; 9 x 6 in.) sturdy plastic bag and 1- litre cloth bag, one of each for each soil sample
- ✓ Duplicate soil sample label (QR codes) for each soil sample.
- ✓ Plastic pouches (min. 5 x 7 cm) for the labels
- ✓ Jute bags (50 kg)
- ✓ Permanent markers (2)
- ✓ Power supply (reserve batteries, power bank or other)

- ✓ Knife (with vane or blade of 20cm approx.)
- ✓ Stapler (handheld) and sufficient staples

Before going to the field

1. Install Android software and ODK forms

To use the Soils4Africa ODK field survey form you initially need to install the following applications on your Android device (phone or tablet):

- ✓ ODK Collect (to georeference, time stamp, and log in your soil sample and record field observations)
- ✓ QR and Barcode scanner (to read QR code labels; if not a standard functionality like on older smartphones)
- ✓ MAPS.ME (if you are going to be using your phone or tablet for field navigation rather than a separate GPS unit).

You can locate the applications on [Google Play](#) by searching for them by name. Note that you will need an Internet connection for this.


Once you have installed the software on your Android device: start ODK Collect and then set the server address that will link you to the “*S4A Sample Collection_Standard*” form:

- General Settings > Configure platform > URL. The General Settings menu can be accessed by tapping the <left> menu button on your device.
- Don’t worry about entering a Username or Password. They are not needed.
- Set the URL field to: <http://odk.ona.io/>

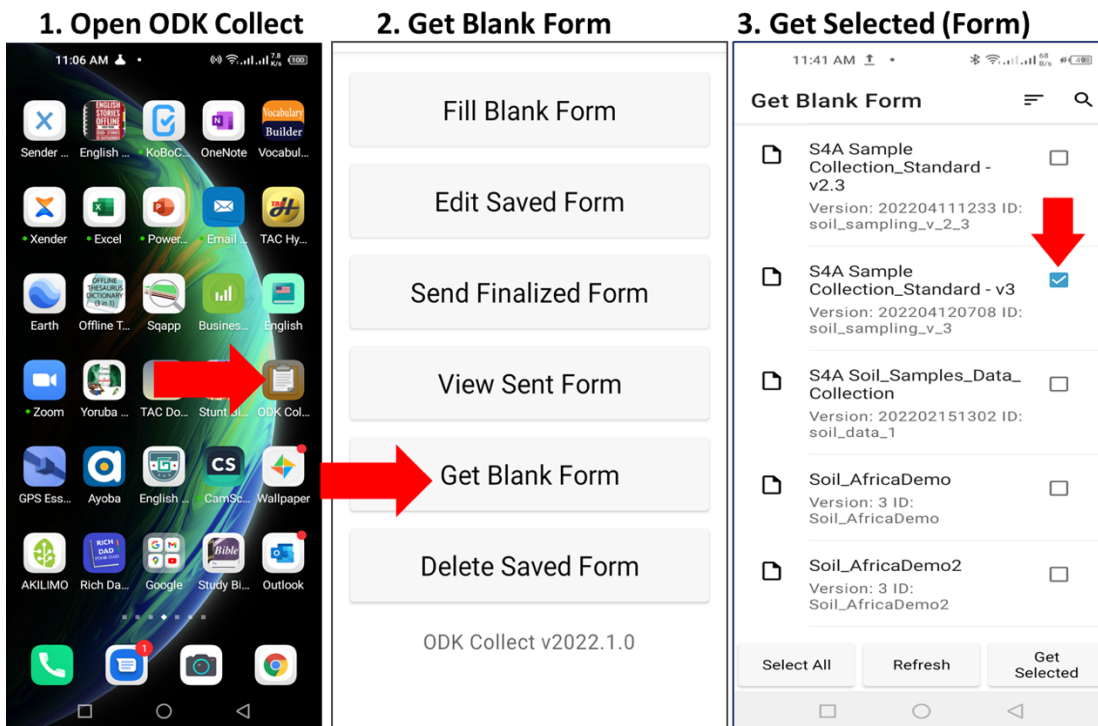
Alternatively, the form can be accessed through a QR code which will be shared with you by your country supervisor.

When you get the QR code, open the ODK Collect App, Click on the setting (icon ‘D’) in the top-right of the screen. Select ‘Add project’ and scan the QR code. You will automatically have access to the “*S4A Sample Collection_Standard*” form; select the latest version. Also in this directory, download ‘*Farmer Consent form*’ this is to filled in when a formal consent is required before access to the farm is given.

You can also generate the form QR code for use by another phone. To do this:

- Open ODK Collect on the phone you have already configured
- Click on the icon in the top-right corner of the screen
- Select ‘settings’
- Select ‘Project management’
- Select ‘Reconfigure with QR code’
- Select ‘QR Code’
- You can screenshot the QR code or click on  icon on the top-right corner to send the QR code by email or WhatsApp.

This allows you to download blank forms for use on your Android device. It also allows you to save any completed forms to a database on the server. To download the blank ODK Soil sample form to your device, follow these 3 steps:



With procedures stated above, the consent form can also be downloaded.

2. Print field books

This is only for the country supervisors, and this is provided as the last resort in case of difficulty when filling the electronic forms in the field

3. Print soil sample labels (duplicate QR codes)

If not already printed, you will need to print soil the sample labels. Use 300 g/m paper for this (A4 cardboard paper). These are generated as machine-readable QR code based on a SS-ID (or unique soil sample ID). Possibly you will have to generate the QR codes yourself, in which case instructions can be found in the “*Protocol for Field Survey Management*”. The reason for having a unique machine-readable label is to be able to decisively track any given soil sample that is collected from the field, through the subsequent laboratory processes, and into the corresponding databases. The reason why they are in duplicate is that later one label remains with the soil sample to be stored and one label goes with the sample to be shipped to the lab in South Africa.



Duplicate SSID labels should go with every soil sample that is collected. The duplicate label needs to be put in the small plastic pouch (ziplock bag) for keeping it dry and it is recommended being done before going to the field. You can already apply the duplicate label to the sampling bags before going to the field, if preferred. We are double bagging, so apply the duplicate label on the outside of the first (inner) plastic bag, on the inside of the second (paper or cloth) bag.

4. Upload sampling locations as waypoints to your GPS or MAPS.ME

This procedure depends on which type of GPS setup you are using for field navigation. A separate GPS unit is recommended, if available, for field navigation rather than using your Android device. This is because of the inherent battery limitations of Android phones and tablets when their internal GPS is switched on. When using the MAPS.ME app on your Android device, make sure you have a back-up phone, battery, or power bank.

The coordinates of the sampling point locations are provided in GPX or KML file format and can simply be transferred from your computer to the GPS device. In case of using MAPS.ME transfer the KML file to your smartphone and open the file with MAPS.ME (select the MAPS.ME option provided when opening the file).

In case the files are not provided in the right format (that is either GPX or KML) the “Instructions for the Field Surveyor” provides instructions on how to convert the file into the right format.

How the field sampling points are organised

For each 2x2 km² sampling cluster 21 field sampling points are provided. That is, for each of the seven (7) 1-ha sampling units three (3) sampling point locations are provided each identified by the sequential number 1, 2 or 3 (e.g., MZ101-1-1, MZ101-1-2, and MZ101-1-3). The seven (7) 1-ha sampling units are likewise identified by a sequential number from 1 to 7 (e.g., MZ101-2-1). The first four (4) 1-ha sampling units are considered in first instance. The 1-ha sampling units with sequential number 5, 6 or 7 are backup locations and only to be considered if one of the four ‘original’ sampling units are rejected. That is, the 1-ha sampling unit with sequential number 5 is considered as the first alternative for the rejected point. The 6th 1-ha sampling unit is considered only if a second point of the original four is rejected, and the 7th 1-ha sampling unit is the alternative point location for the third point rejected from the original four. The same principle applies to the three (3) field sampling points for each of the 1-ha sampling unit. Start with point 1, and only move to point 2 and subsequently point 3 if the field sampling point is rejected.

In the field – Navigating to the sampling point location and getting permission for conducting the survey

Before collecting any soil samples, familiarize yourself with the overall sampling area and the people living there. In most instances it will be helpful to introduce yourself to the local authorities and communities to inform them about the purpose of the soil survey you are conducting and to get their approval. In case points are located on privately owned land you

will need to seek permission to enter and collect soil samples and survey data. An ODK-form (“Consent form”) is developed to get written consent, providing two options for the owner or land manager: one is to consent to collecting soil samples and survey data only, but not giving consent to the data being made available publicly, the other is to give consent to collecting samples and data and to making the data publicly available. The third possibility is that you will not be given permission to collect soil samples in which case the sampling point will be rejected.

It is generally helpful to assess how close you can get to the primary sampling unit (PSU) by car (safely). Park the car in a safe area. If the distance to the sampling point locations is far, record the location where the car is parked as waypoint on your GPS device or on your phone using Maps.me, for ease of finding your way back to the car after the field survey has been concluded. If you had already observed that the distance to the sampling point locations is far from where the car will likely be parked, you should arrange for transport by motorcycle. You move to the first field sampling point of the 1-ha sampling unit that you have targeted, before considering field sampling point 2 and 3.

Further suggestions for navigating in the field are provided in the instruction manual.

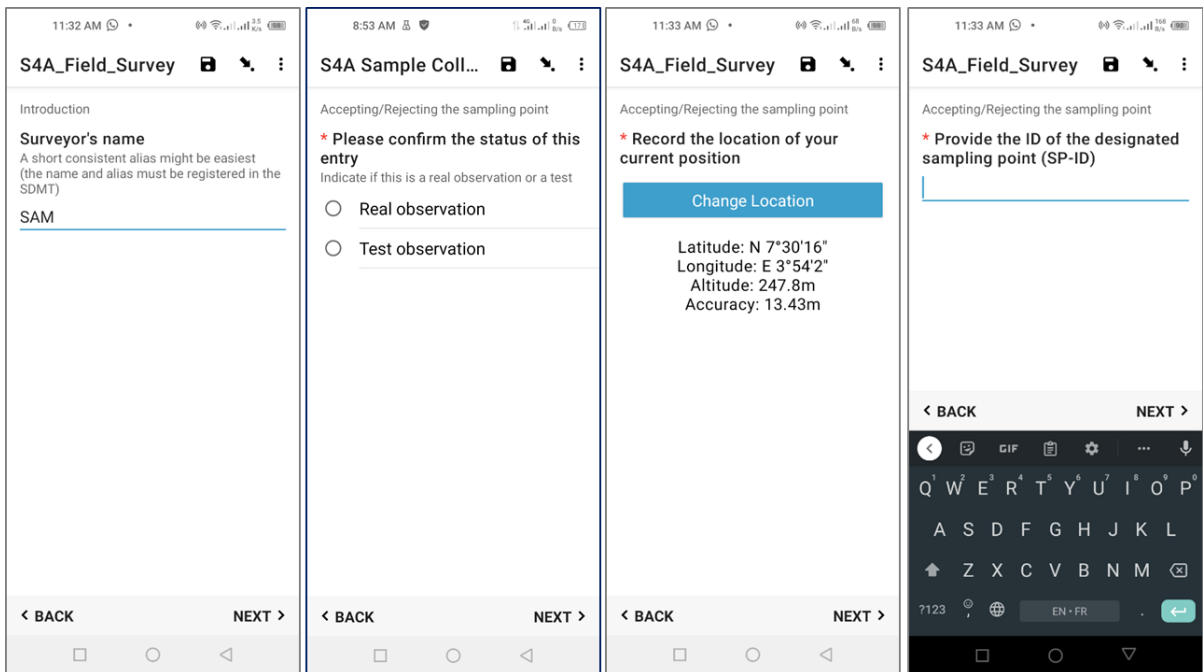
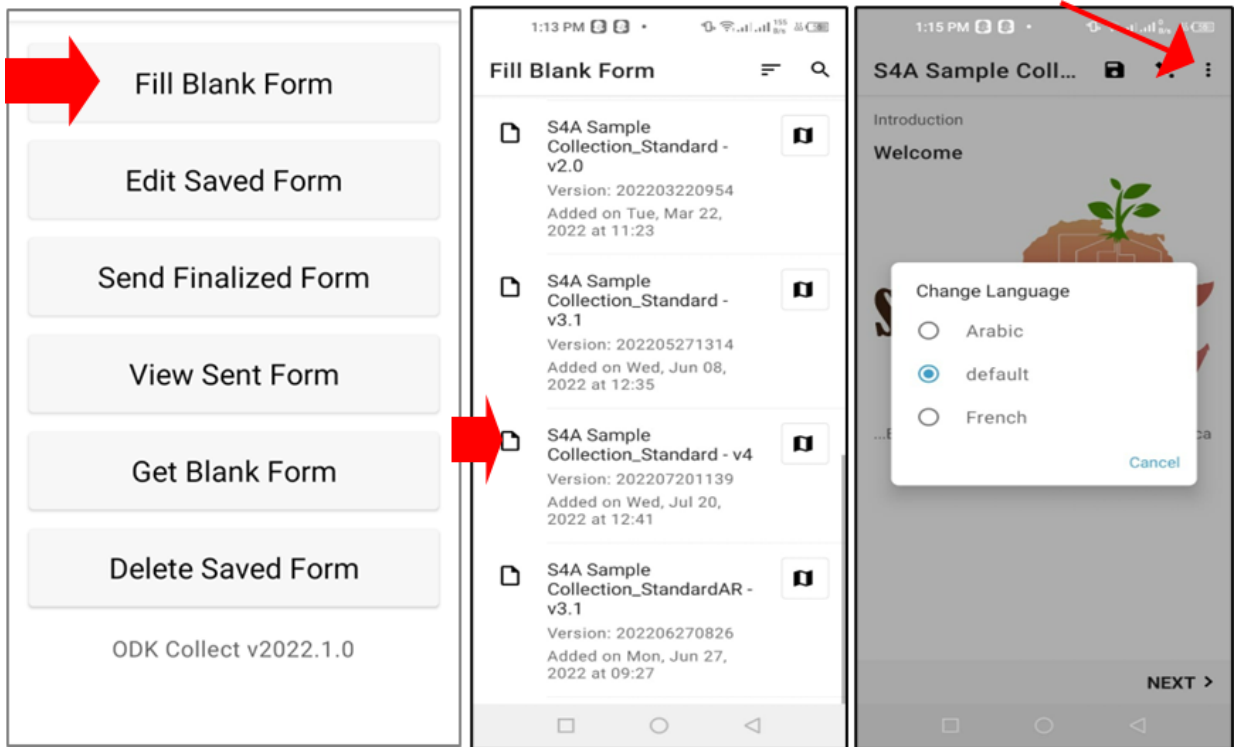
Accepting/Rejecting the sampling point

You arrive at the sampling point location once you are within 10 meters of the designated location. At this point you will need to determine whether it is a valid sampling point, and either accept or reject it and indicate the reason for rejecting in case it is not a suitable point.

It is possible that you are not able to reach the designated sampling because of impassable terrain, obstructions you find on your way, or access is denied. In that case you record the coordinates of the current location, the distance to the designated sampling point location and the reason why the point cannot be reached.

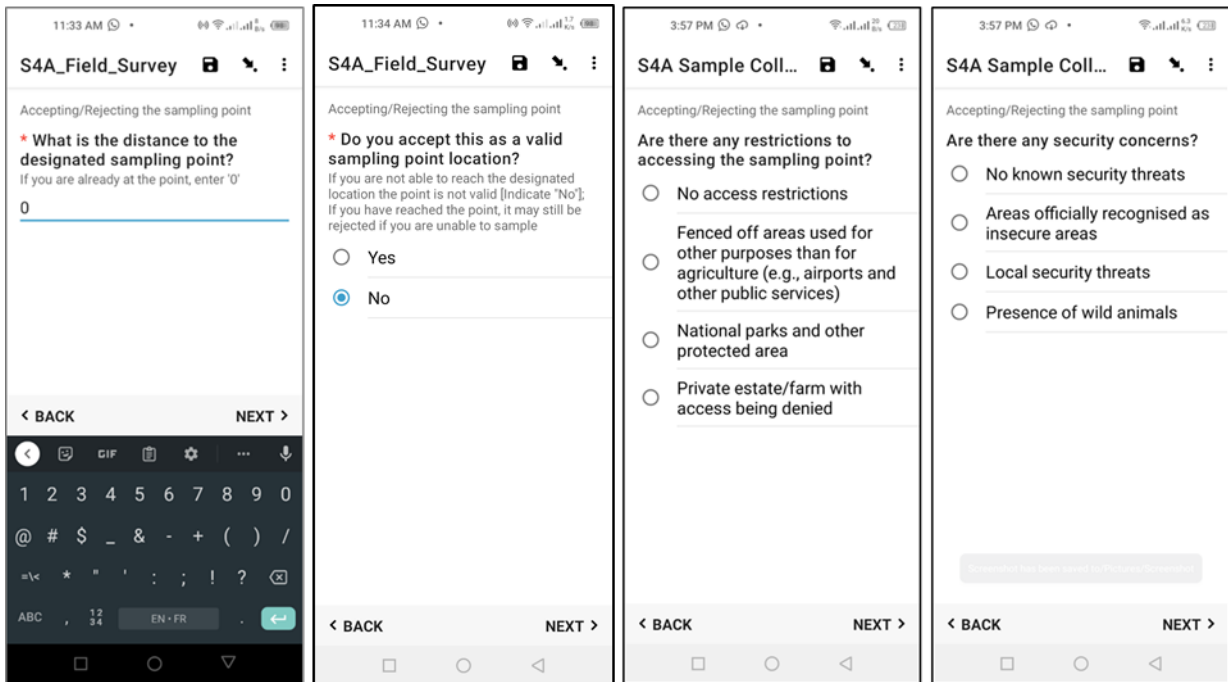
Recording of the acceptance or rejection of a point is done using the ODK form. The steps are indicated in the diagram below.

- *ODK Collect opening screen and option to select → Fill Blank Form*
- *Select form ‘S4A Sample Collection_Standard’; Ensure you download the latest version.*
- *Language selection –You can switch to the preferred language when conducting a survey. In ODK Collect, the form will be displayed in the default language (English). To switch to a different language (French or Arabic), tap on the Settings button on the first page of your survey (where you see the Soils4Africa logo), then select Change Language settings.*
- *Select your preferred language and swipe screen*
- *ODK Collect – Your name? A short consistent alias might be easiest (the name and alias must be registered in the SDMT)*
- *Indicate if this is a real observation or a test*
- *Select your country*
- *Record the location of your current position*
- *Provide the ID of the designated sampling point (SP-ID)*

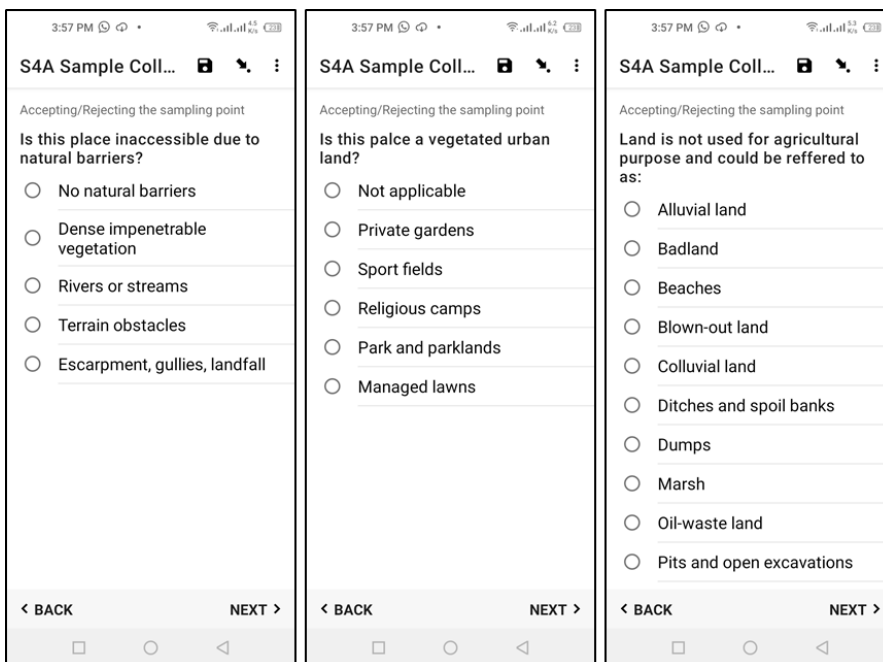


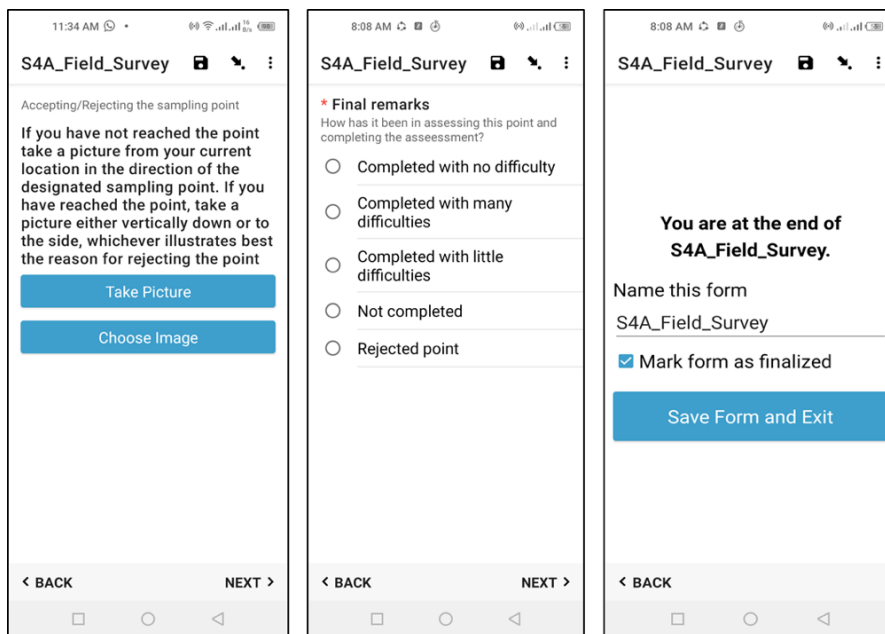
- *What is the distance to the designated sampling point?*
- *Do you accept this as a valid sampling point location? "If you are not able to reach the designated location the point is not valid [Indicate "No"]; If you have reached the point, it may still be rejected [If YES move to the next section; if No move to the next screen]*

- *What is the reason for rejecting the sampling point? (See the list of options and select the appropriate)*



- *“If you have not reached the point, take a picture from your current location in the direction of the designated sampling point. If you have reached the point, take a picture either vertically down or to the side, whichever illustrates best the reason for rejecting the point”.*
- *Final remarks –select “rejected point”*
- *“No further data needs to be recorded for this site” → Safe Form and Exit*





Observations on soil layers and soil sampling

Several observations need to be recorded on the soil layers; this is done based on the soil taken out using the auger. There are three layers on which observations need to be made. The first layer, which is from 0- 20 cm corresponding to the topsoil. The second layer is the 20 - 50 cm depth which is the subsoil layer, and the third layer is the depth beyond the 50 cm soil depth. In each of the layers, the following soil observations are recorded:

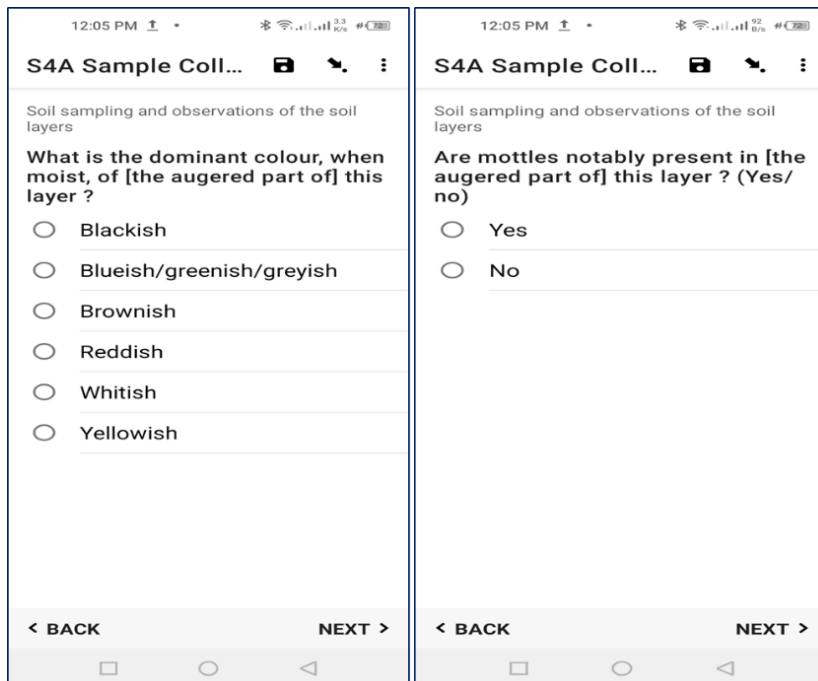
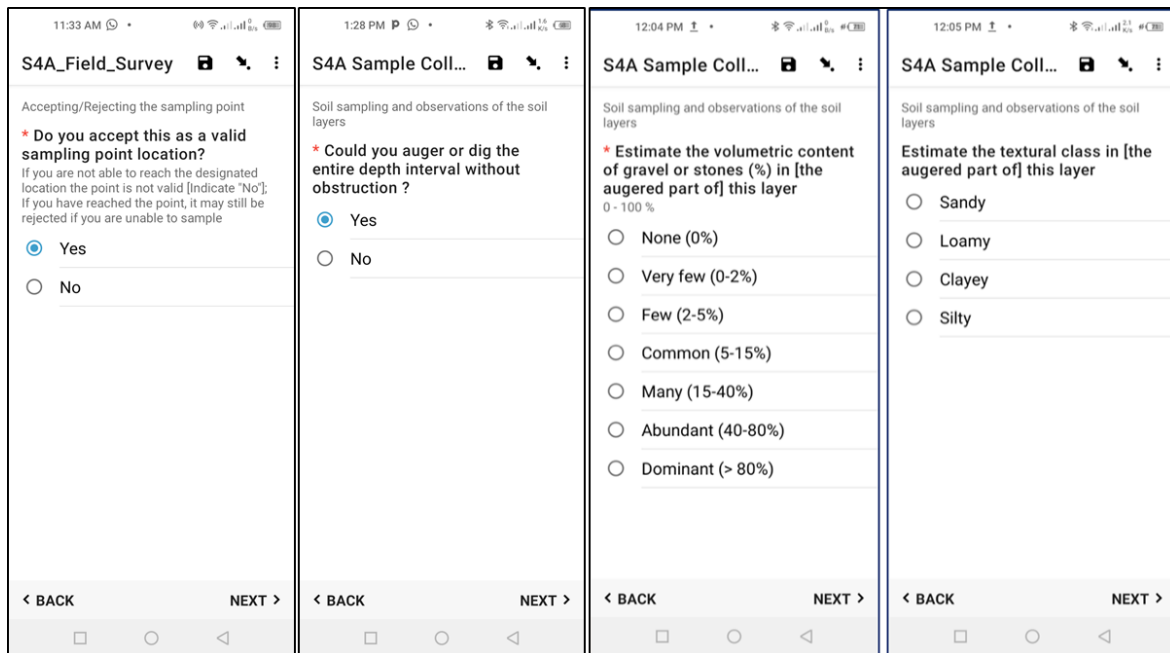
- Percent gravel or stones
- Basic textural class
- Soil matrix colour (dominant colour)
- Presence/absence of mottles
- Soil depth (in case of restrictions in soil sampling)

All the above data are expected to be provided for each layer except when a restriction occurs. For instance, if restrictions occur within the 0-20 cm, you are not expected to fill in the 2nd and 3rd layers and if restrictions occur in the 2nd layer you are not expected to fill in the 3rd layer.

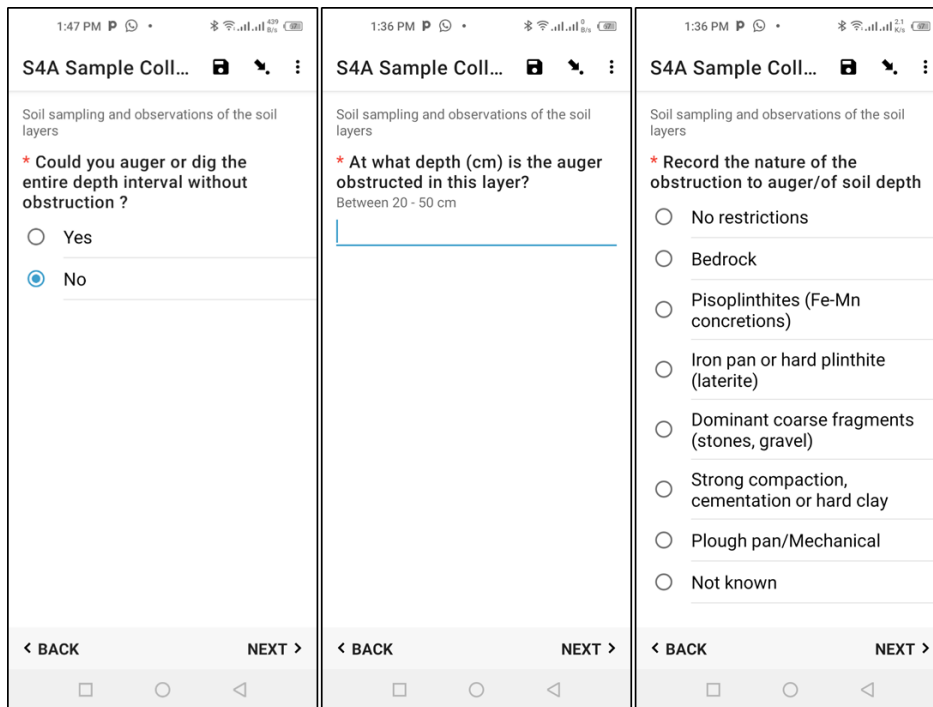
The designated sampling point location that you have arrived at is the centre of the sampling plot and this is point where the observations on the soil layers are done in principle but could also be done on any of the sub-locations of the sampling point.

Note, while doing the observations, the soil taken from the 0-20 cm and the soil taken from the 20-50 cm layers are taken apart and put in the respective buckets to be part of the composite soil samples of the topsoil and subsoil layers. See further the section on 'Taking composite soil samples'.

For each soil layer the question will be asked whether you have been able to auger the entire depth interval and if “Yes”, you will be asked to provide the stoniness, the textural class, the dominant colour of the soil matrix, and to indicate the presence of mottles.



If you have not been able to auger the entire depth interval you will be asked to indicate the depth at which the restriction occurs (in cm) and indicate the nature of the depth restriction. This is repeated for subsequent soil layers.

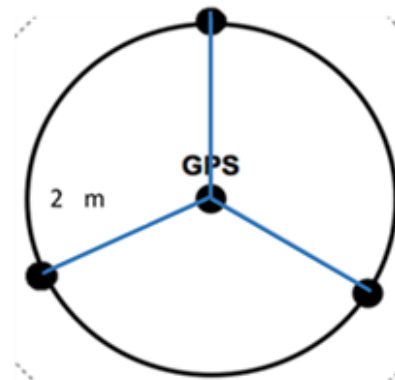


Take composite soil samples and label them

Once you have completed the description of the soil layers, you will proceed taking top- and subsoil samples from the other three sublocations. The soil sample is a composite soil sample with subsamples taken from four sublocation as outlined in the graph below, representing an area of 25 m². How the soil samples are taken using either the soil auger (preferred), spade or pipe is explained in the instruction manual.

Proceed taking samples from the points located at the circle with a radius of about 2 m from the centre point at equal distance from each other:

- At the centre of the plot use your marked soil auger and take a sample of the topsoil (0-20cm)
- Take the subsoil sample (20-50cm) following instructions from the instruction manual
- From the centre point take three steps in the direction of one of the legs of the Y frame and take a topsoil sample and put in the plastic bucket named “topsoil” and take a subsoil sample and place it in the other bucket named “subsoil”
- Repeat the procedure for the other two remaining sub-sample locations (from the centre point take three steps in the direction 120° from the direction of the previous sub-sampling location - either clockwise or anti-clockwise and then do the last sub-sampling point)
- Place all the (0-20 cm) topsoil sub-samples into the same plastic bucket and mix them thoroughly.
- Do the same for the (20-50 cm) subsoil samples, in a separate bucket.



- Place ~500 grams of well-mixed (0-20 cm) topsoil soil into a plastic sampling bag and seal or close; put the plastic bag in the paper or cloth bag (double bagging principle) and write the Sampling Point ID (SP-ID) together with dash T (“- T”, indicating ‘topsoil’) in block letters on the outside. Add a duplicate QR code as Soil Sample-ID to the bag (unless the bags are pre-labelled).
- Repeat the procedure for the subsoil sample: place ~500 grams of well-mixed (20-50 cm) subsoil soil into the plastic bag and seal. Put the bag with the sample in a paper or cloth bag and write the SP-ID together with “- S” (to indicate ‘subsoil’) clearly readable on the bag; add a duplicate QR code as the soil sample ID.
- Do not seal the 2 (top & subsoil) sample bags just yet, as the QR code labels will need to be scanned in with the Soil sample ODK form (see below).

Note that under dry conditions it is often useful to wet the auger location with a small amount of water before collecting the samples. Depending on soil texture and the moisture of the soil being collected, wetting can be repeated as soil is recovered from an auger hole. Make sure that you clean the soil auger before taking samples at any (sub-)sampling location to avoid that subsoil of the previous location is mixed with the topsoil sample of the current location

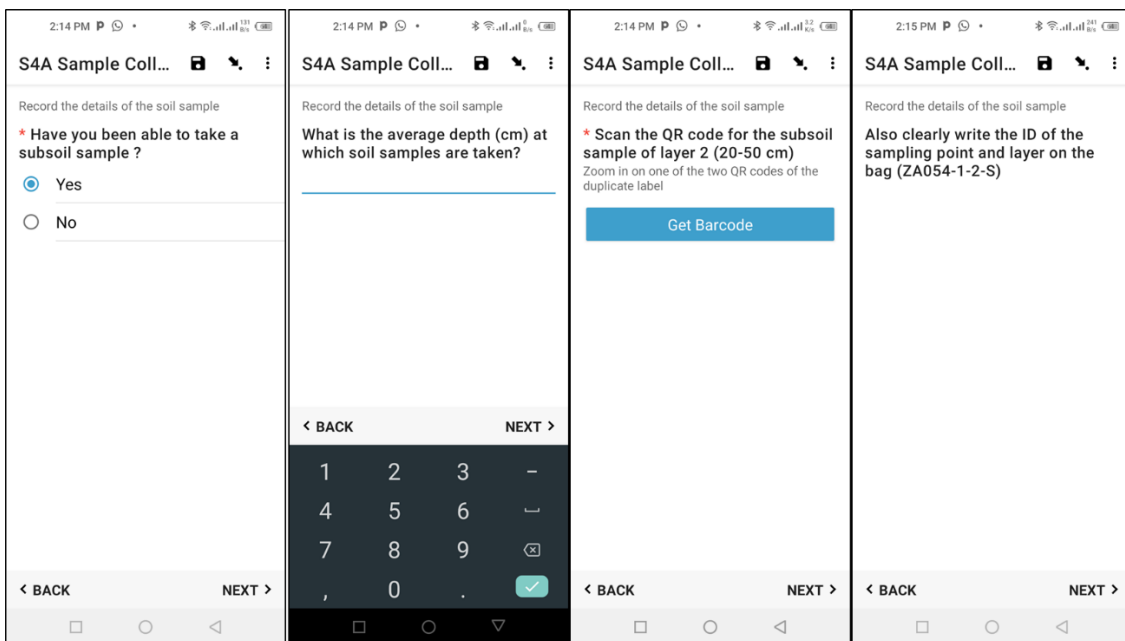
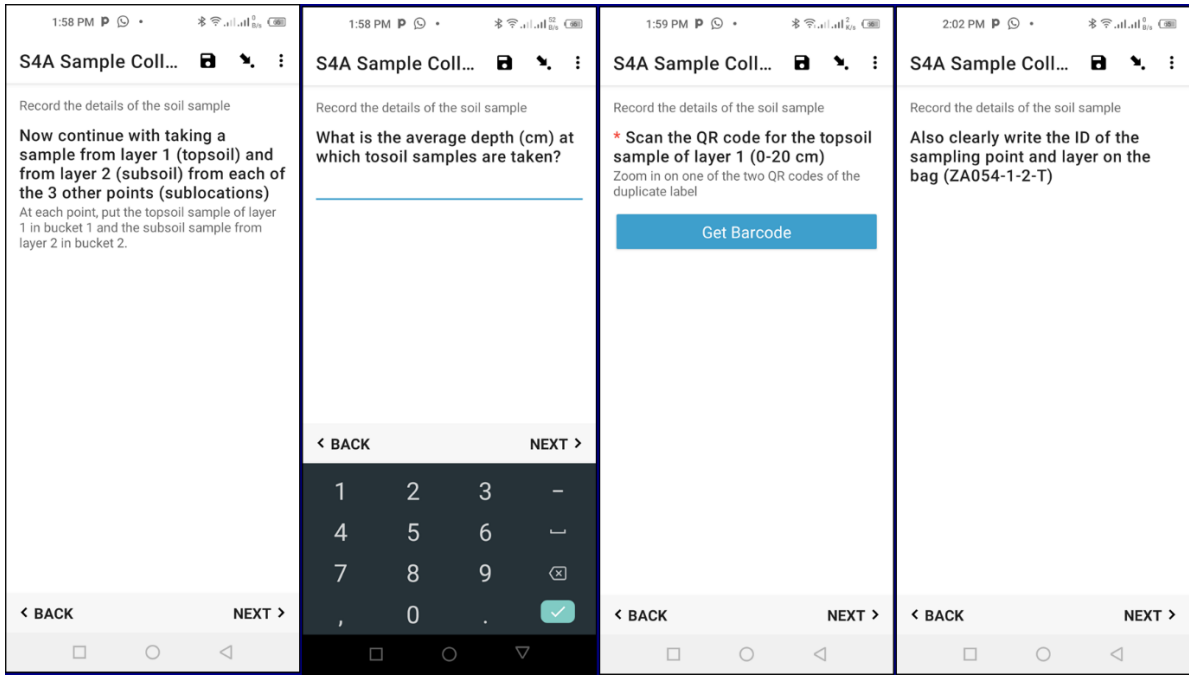
Record your samples using the “S4A Sample Collection_Standard” ODK form

The S4A Field Survey ODK form is intended to allow you to record a uniquely identified, georeferenced, and time-stamped soil sample into the Soils4Africa database.

For any valid sampling point, a topsoil sample is taken at least and the corresponding QR code should be read. If there are depth restrictions

If it is not possible to take a subsoil sample, indicate such in the ODK form and skip to the next screen.

- *Indicate the average depth at which samples are taken in case there are depth restrictions*
- *Scan topsoil sample label (zoom in on one of the two QR codes of the duplicate label) → Get Barcode*
- *Write the ID of the sampling point on the bag*
- *Have you been able to take a subsoil sample → Y/N (if Y go to next screen, if N skip to next section)*
- *Indicate the average depth at which the subsoil samples are taken*
- *Scan subsoil sample label (zoom in on one of the two QR codes of the duplicate label) → Get Barcode*
- *Write the ID of the sampling point on the bag as indicated on the screen*
- *Close the sample bags*



Observations on soil characteristics (drainage)

For the soil characteristics we observe the drainage condition which is determined by the presence of mottles within the soil profile. The drainage condition is recorded by class and is determined by the colour of the soil matrix and depth at which mottles occur. It is explained in detail in the instruction manual and a brief description is provided in the form so that correct option can be selected.

Observations on site characteristics (soil surface and terrain)

The observations refer to soil erosion, stoniness, slope condition (steepness and slope convergence) and landform. The observations refer to either the type (i.e., for erosion) or the degree or severity (in case of stoniness) which is based on the percentage surface cover. The window of observation will be different for the various type of observation. Pictures are taken to provide pictorial evidence and confirmation of the data entered.

Record observation on soil erosion

Observations on water and wind erosion are recorded. For water erosion, it is the type of erosion that is recorded. Sheet erosion refers to soil that is removed and transported over the surface as a sheet of water is left out because it is very hard to determine in the field. Instead, we have included 'stone pedestals' and 'stone pavement' as observational categories. Details are provided in the instruction manual. Stone pedestals or stone pavement as well as erosion rills should be observed in the area within a 16m radius from the centre of the plot. For 'gully erosion' it qualifies if gullies are observed within a 36m radius from the centre point. If there are quite big and deep gullies within the SSU (the one ha surrounding the sampling point) it qualifies as well.

Record the types of erosion that are observed in the direct surrounding in the ODK form

- *Record the type of erosion; multiple options can be selected*
- *Indicate whether there are clear signs of wind erosion (Y/N)*

2:29 PM

S4A Sample Coll...

What is the drainage class?
Record the drainage class code

Very poorly drained (You find water on the soil surface after 24 hours of rain; the soil matrix has greyish colours)

Poorly drained (You find many mottles in the topsoil)

Imperfectly drained (You find few mottles on the topsoil but increasingly within the subsoil)

Moderately well drained (You find mottles only in the subsoil beyond 20 cm depth, but few)

Well drained (You find very few mottles only in the subsoil or no mottles at all, but the soil is not excessively drained)

< BACK NEXT >

2:30 PM

S4A Sample Coll...

Observations on soil erosion
Record the type of erosion; multiple options can be selected

	Yes	No
Are signs of erosion notably present ? (Yes/no)	<input checked="" type="radio"/>	<input type="radio"/>
Rill erosion (by water)	<input type="radio"/>	<input type="radio"/>
Gully erosion (by water)	<input type="radio"/>	<input type="radio"/>
Mass erosion (e.g. landslides) (by water or gravity)	<input type="radio"/>	<input type="radio"/>
Stone pedestals (sheet erosion)	<input type="radio"/>	<input type="radio"/>

< BACK NEXT >

Record observations on surface stoniness

For stoniness we only observe the cover percentage for stones, boulders, and large boulders; that is for coarse fragments larger than 6cm in diameter. You consider an area of approx. 800m² (area with a radius of ~16m) to get positive confirmation of the presence of stones and estimate the cover percentage. For boulders and large boulders, you may even consider the area within a 35m radius to get confirmation of its presence and to get a reliable estimate of the surface cover percentage.

- Record the stoniness class in the ODK form
- *Record the stoniness class (only one value can be entered)*

The image shows two screenshots of an ODK form titled "S4A Sample Coll...". The left screenshot displays a grid of 12 small images representing different stoniness cover percentages: 1%, 3%, 5%, 10%, 15%, 2%, 25%, 30%, 40%, 50%, 75%, and 90%. Below the grid are radio button options for "None (0%)", "Very few (0-2%)", "Few (2-5%)", "Common (5-15%)", and "Many (15-100%)". The right screenshot shows the text "Observations on site characteristics (Soil surface and terrain)" and the question "What is the stoniness class?". Below this are radio button options for "Fine gravel (0.2 - 0.6 cm)", "Medium gravel (0.6 - 2.0 cm)", "Coarse gravel (2 - 6 cm)", "Stones (6 - 20 cm)", "Boulders (20 - 60 cm)", and "Large boulders (60 - 200 cm)". Both screenshots have a status bar at the top showing the time as 2:31 PM and various system icons. Navigation buttons for "BACK" and "NEXT" are visible at the bottom of each screen.

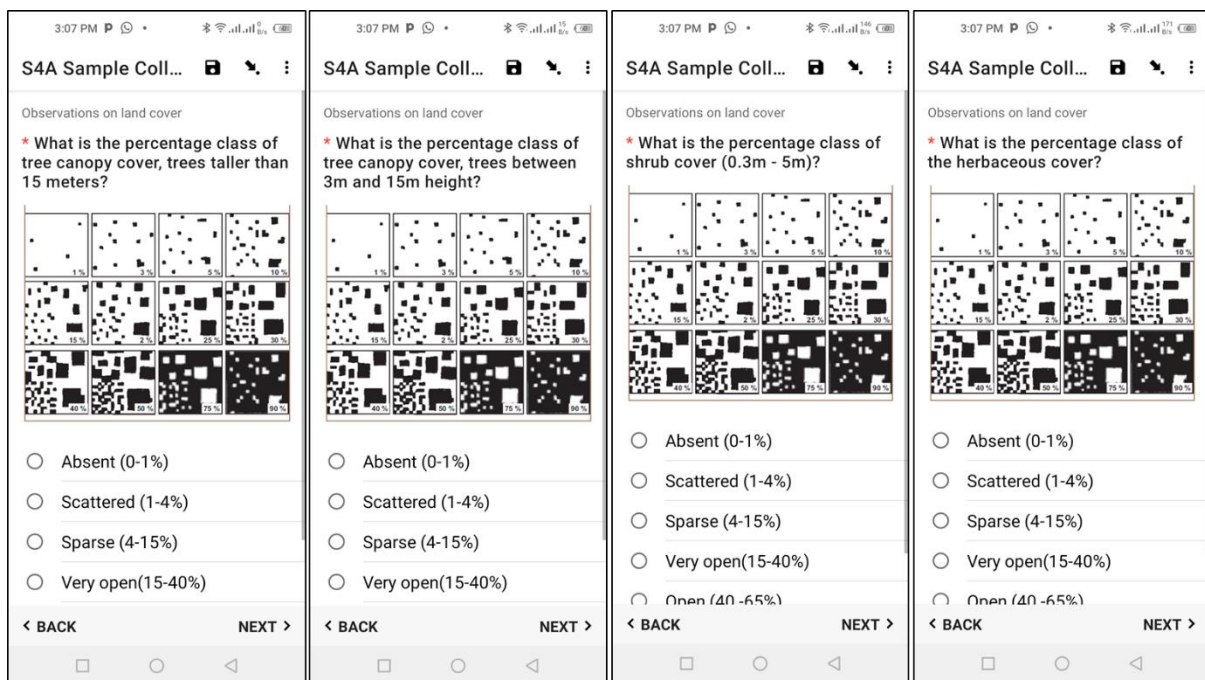
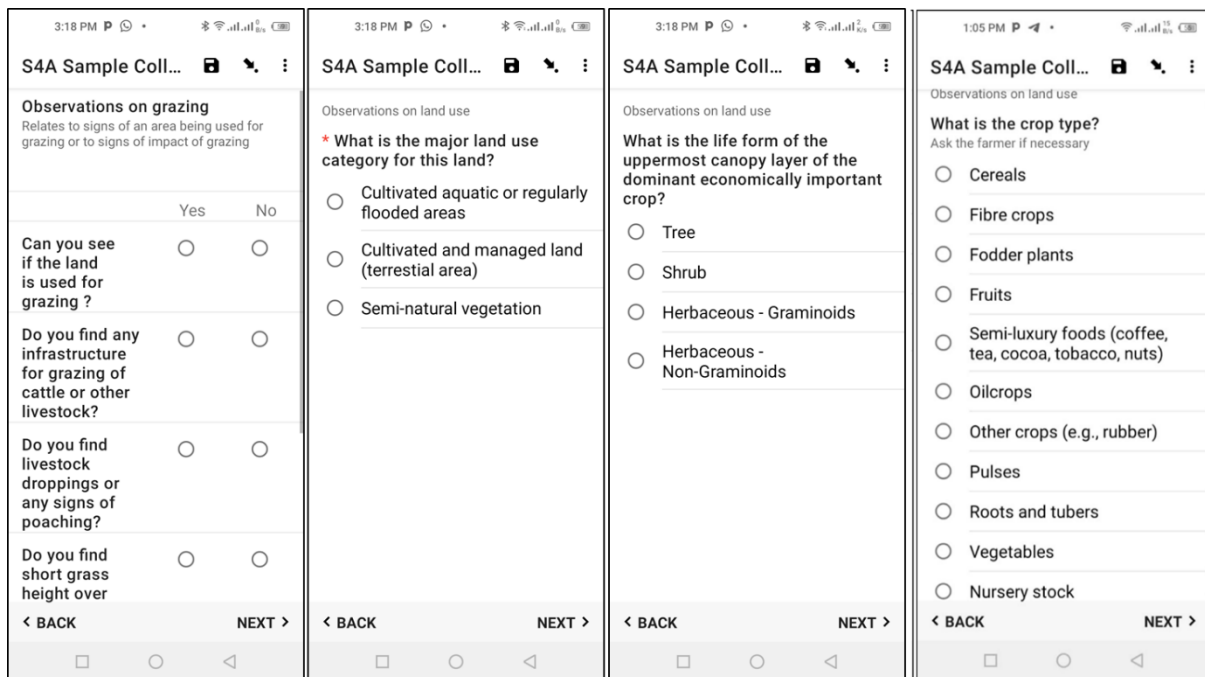
Record slope condition and landform

The slope steepness is recorded as the slope class of the dominant slope within a one-acre area (circular area with a ~35m radius). The same window of observation is used for the observation of slope convergence. The landform refers to a wider area. For hilly terrain, the position within the landscape is recorded

- *Indicate the major landform → (only one value can be entered)*
- *Indicate the slope class of the dominant slope*
- *Indicate your position within the landscape*
- *Choose the slope pathways that apply to the area under observation in case of undulating and hilly terrain.*

location might be used as a window of observation for practical purposes. This corresponds to a circular area with a radius of 17.8, let's say about 20m.

- Record the percentage class of tree canopy cover, trees taller than 15m, and also for trees between 3m and 15m in height.
- Record the percentage class of shrub cover
- Record the percentage class of the herbaceous cover
- Indicate if there is any sign of grazing
- Indicate the major land use category for this land
- Record the life form of the dominant, economically most important crop
- Indicate the crop type



- Indicate the field size and the field distribution pattern

The image displays two side-by-side screenshots of a mobile application interface for field survey data collection.

Left Screenshot: S4A Sample Coll...

Time: 2:23 PM. Status bar shows signal strength, Wi-Fi, and battery at 49%. The app title is "S4A Sample Coll...". Below the title, it says "Observations on land use". The main question is "Estimate the size of the field". There are five radio button options:

- Less than 1 acre ($\pm 0.4\text{ ha}$; <math>< 4000\text{ m}^2</math>)
- 1 to 2 acres ($\pm 0.4\text{ to }0.8\text{ ha}$; $4000\text{-}8000\text{ m}^2$)
- 2 to 5 acres ($\pm 0.8\text{ to }2\text{ ha}$; $8000\text{-}20.000\text{ m}^2$)
- 5 to 12 acres ($\pm 2\text{ to }5\text{ ha}$; $20.000\text{-}50.000\text{ m}^2$)
- More than 12 acres (> $\pm 5\text{ ha}$; > 50.000 m^2)

Navigation buttons at the bottom: "< BACK" and "NEXT >".

Right Screenshot: S4A_Field_Survey

Time: 12:15 PM. Status bar shows signal strength, Wi-Fi, and battery at 91%. The app title is "S4A_Field_Survey". Below the title, it says "Observations on land use". The main question is "What is the field distribution patten?". There are four radio button options:

- (1) Contiguous fields; > 70% – regular pattern
- (2) Contiguous fields; > 50% – irregular pattern and shape
- (3) Fields: 20 – 50%; clustered – irregular pattern and shape
- (4) Fields: < 20%; scattered

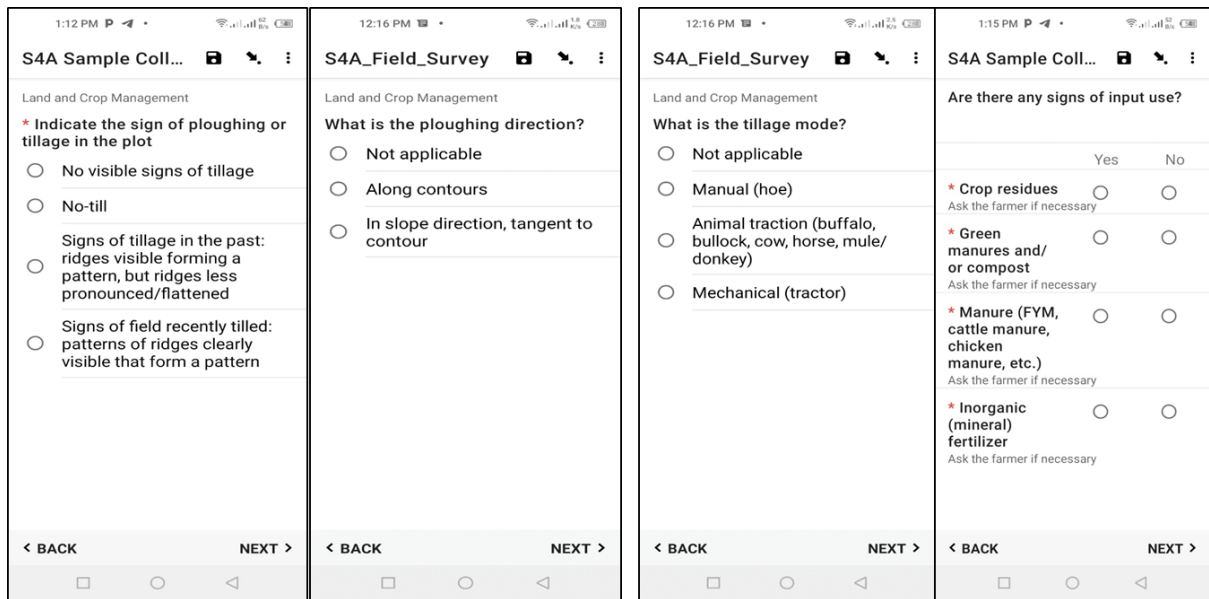
Navigation buttons at the bottom: "< BACK" and "NEXT >".

Observations on land and water management

Land and crop management

Land management data is collected about land preparation; information on crop management is about the use of input. Both provide information on land use intensity, though not very specific. For these two classifiers, the information can be obtained by observation in the field.

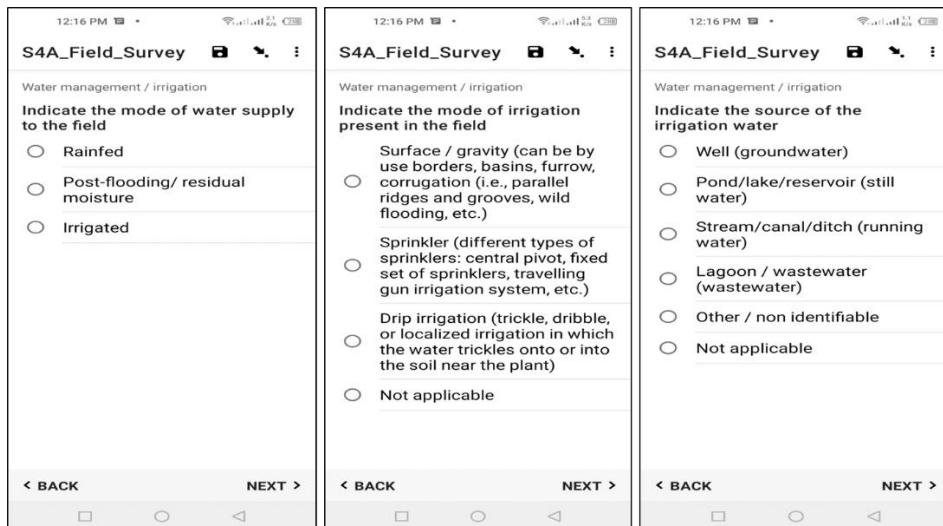
- Indicate the sign any sign of ploughing or tillage in the plot
- What is the ploughing direction?
- What is the tillage mode?
- Indicate if there are any signs of fertilizer use within the plot



Water management/ irrigation

Water management applies to the 'cultivated and managed terrestrial areas'. It does not apply to the (semi-)natural vegetation areas and for the cultivated aquatic areas, the water management is inherent in this type of land use and does not need to be further specified. This section deals with cultural practices related to the water supply to the crop.

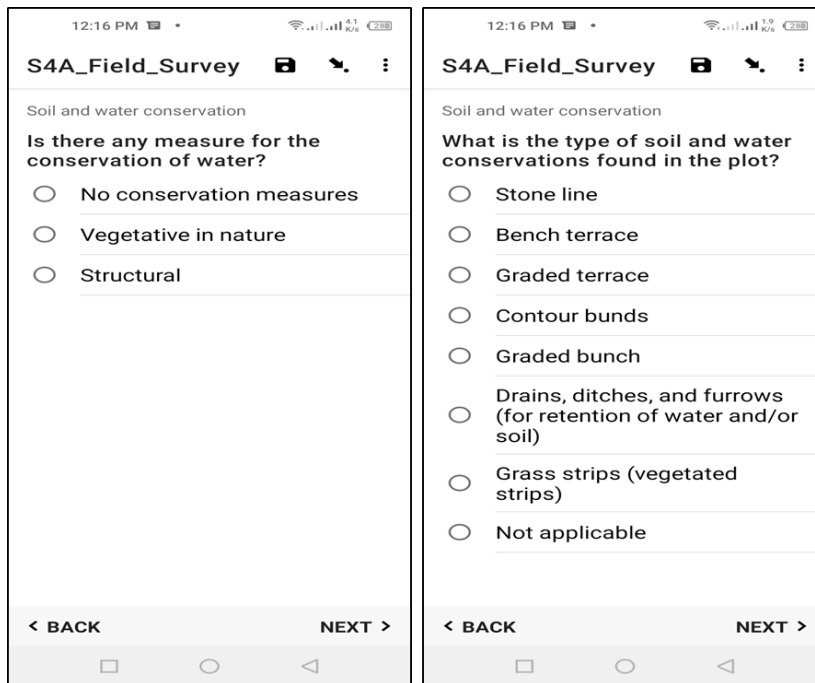
- Indicate the mode of water supply to the field, mode of irrigation, and the source of the irrigation water



Soil and water conservation

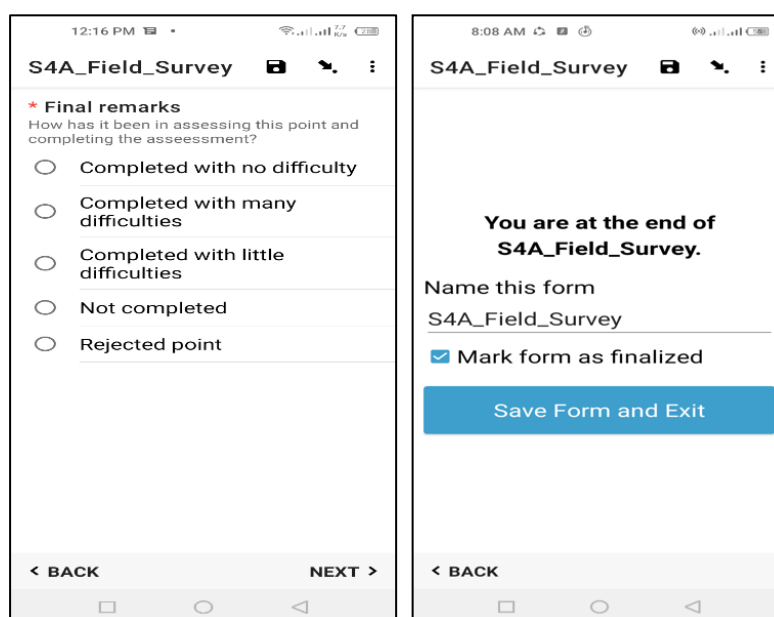
Recording of soil and water conservation measures applies to the cultivated and managed terrestrial areas and to 'cultivated aquatic and temporary flooded' areas. The distinction is made between vegetative and structural measures. Vegetative measures make use of planting barriers (vegetative strips), life fences, and wind barriers, whereas structural measures involve mechanical work to modify the slope, construct banks, dig ditches, and other measures that change the physical appearance of the land surface. Conservation

measures that have to do with agronomic practice and farming methods are not included, because these are difficult to observe directly in the field.



Close and move to the next point

- Select the appropriate remark in the final remark section. Please note only one option can be selected.
- Ensure the 'Mark form as finalized' is selected.
- Click 'Save Form and Exit'
- Close the ODK collect app and move to the next point



Back at the office

Login your samples to the database

- Once you are back from the field or at a place with an Internet connection, you should upload all of your saved forms to the server. All you need to do is to open ODK and then select “Send Finalized Form” from the main screen of ODK. This will prompt you to upload the saved forms on your device.
- Our recommendation is to upload your saved forms as regularly as your Internet access in the field/office permits.

The next step is to prepare the samples for shipment.

- First, air-dried the samples in an open and clean environment but not directly under the sun
- Ensure the labels and the barcodes are intact
- Once the samples are properly dried, pack them properly and send them to your Country supervisor for onward shipment to the Regional office or South Africa.
- Further instructions on shipment and the address of the destination would be provided in a separate communication.