

Mobile Data Collection (MDC) with OpenDataKit

2024

Enumerator Training

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can be hidden if not necessary
- 02 Phases of a Mobile Data Collection**
mandatory
- 03 Phase 2 – Collect : Getting to know ODK Collect**
mandatory
- 04 Standard Operating Procedures (SOPs)**
mandatory

Introduction

- **What is MDC (Mobile Data Collection) ?**
- MDC with UNHCR

What is Mobile Data Collection ?

Mobile Data Collection

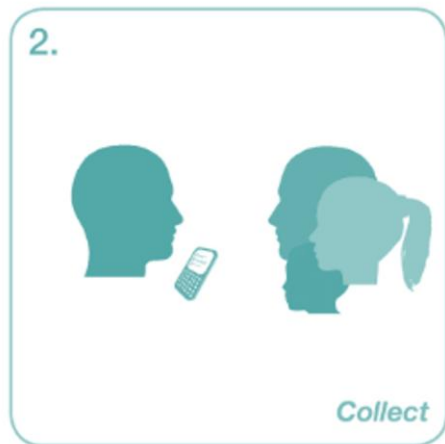
- MDC: use of new technologies to collect data (smartphones or tablets instead of paper forms).
- Used by CartONG since 2010 with many partners (UNHCR, Terre des Hommes, MSF, Solidarités International, REACH, Caritas, UNICEF, etc.)
- Possible use cases: surveys, assessments (potentially in emergency), tracking (distributions & such), monitoring and evaluation, etc.



MDC

Mobile Data Collection

- Mobile tech is a major improvement in information management (IM).
- It is now possible in real time or near real time to :



Exercise 1

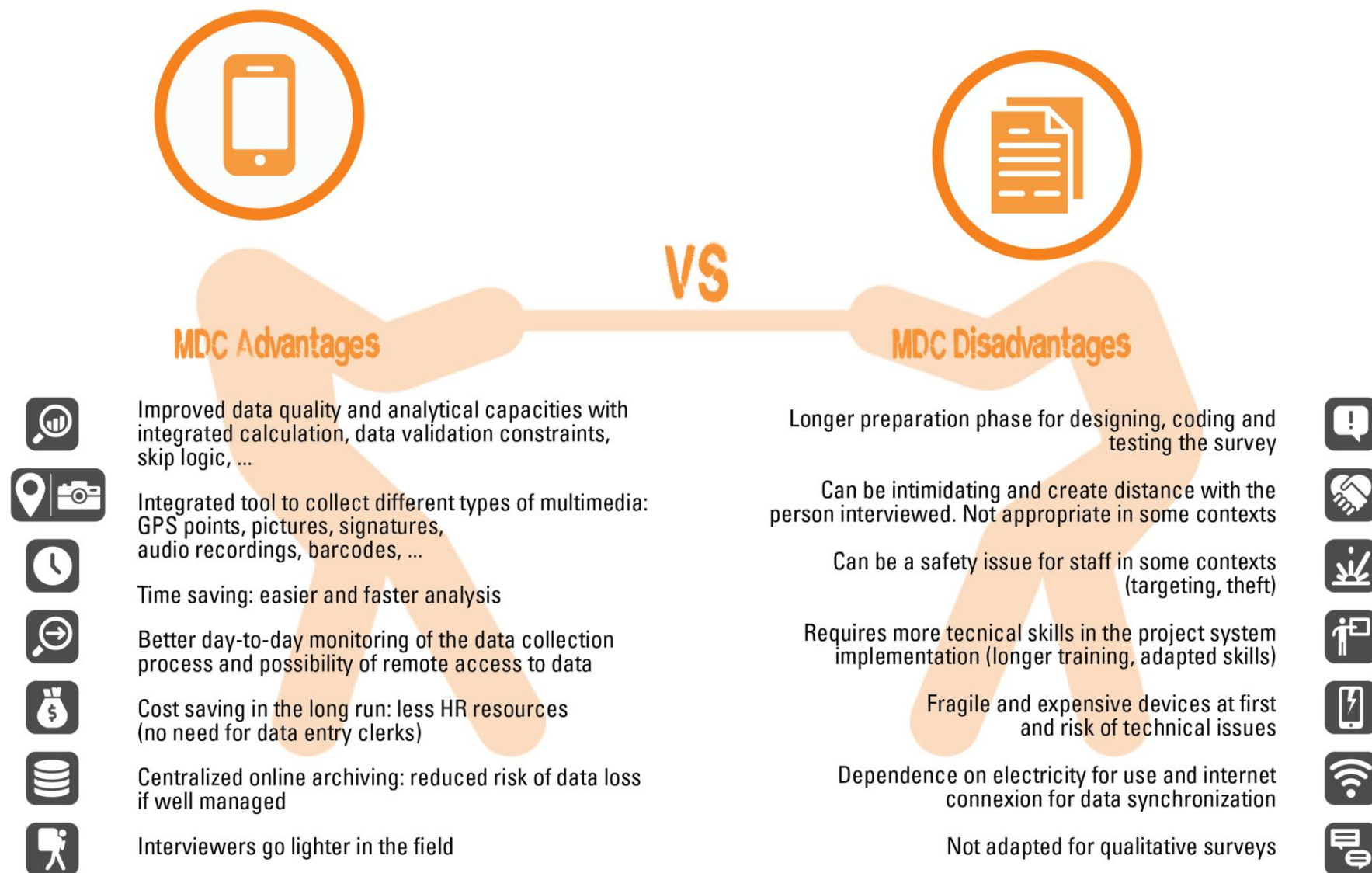
Mobile Data Collection

MDC Advantages

MDC Disadvantages

Exercise 1

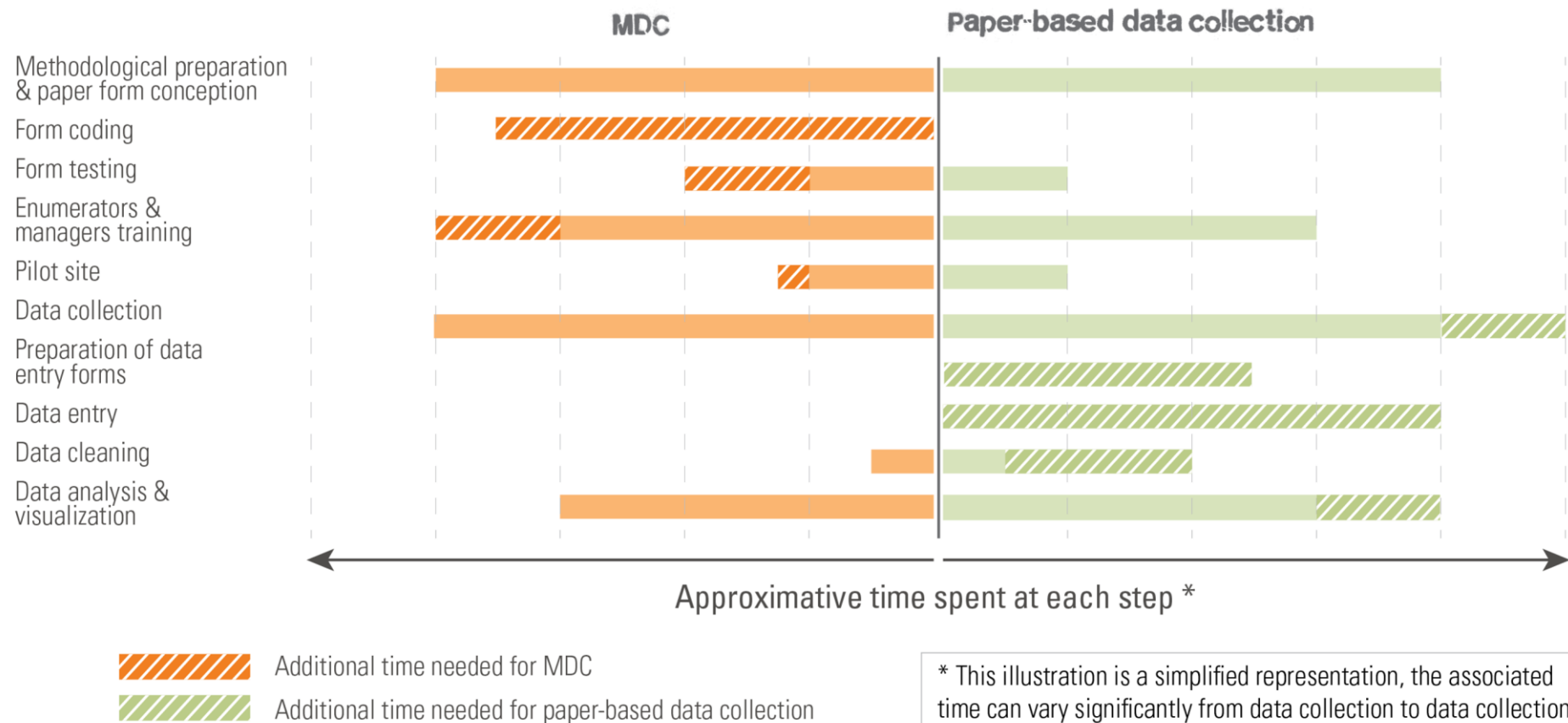
Mobile Data Collection



Data collection workflow (time spent)

Mobile Data Collection

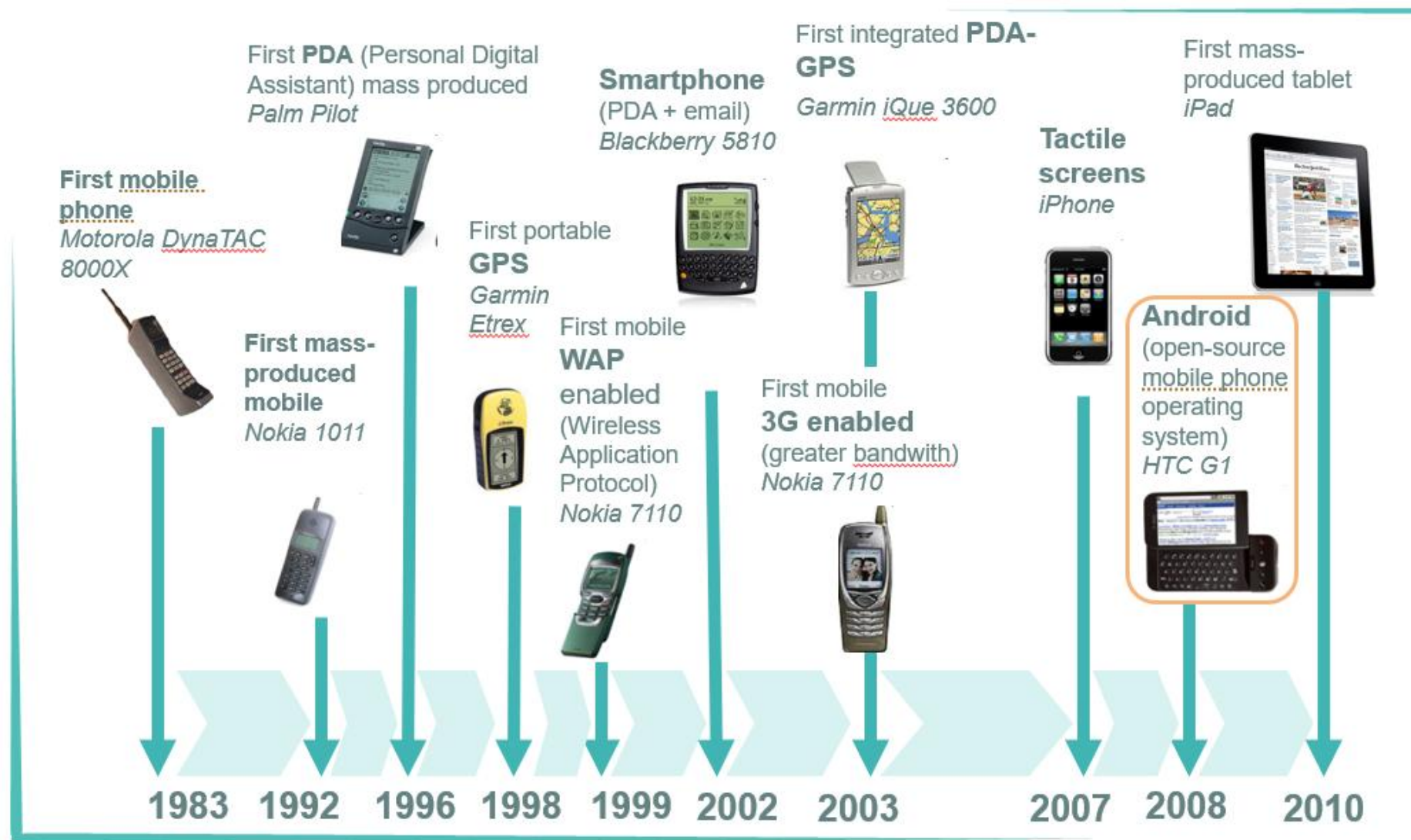
MDC versus paper-based data collection workflow approximative time spent at each step



* This illustration is a simplified representation, the associated time can vary significantly from data collection to data collection

Evolution of technology

Mobile Data Collection

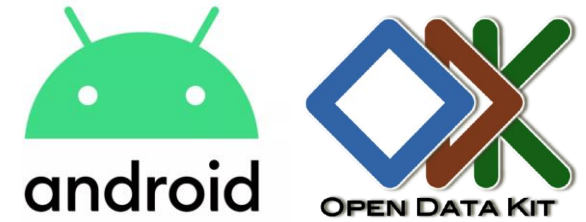


Introduction

- What is MDC (Mobile Data Collection) ?
- **MDC with UNHCR**

MDC for PHS (UNHCR)

Mobile Data Collection



- First deployment :
 - Kenya: Mosquito nets with ODK (Open Data Kit) 2010, UNHCR
 - Tools: ODK Collect & ODK Aggregate
- Since then, dozens of deployments!



From the field : Sara Hoibak, consultant UNHCR

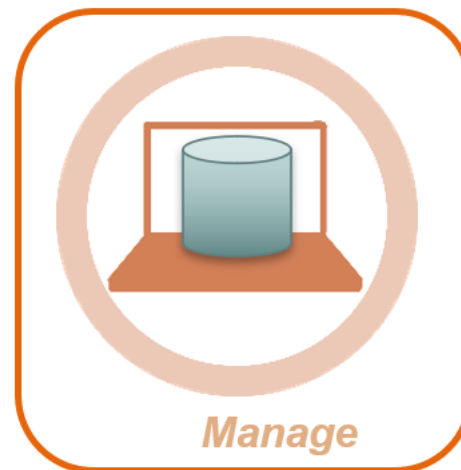
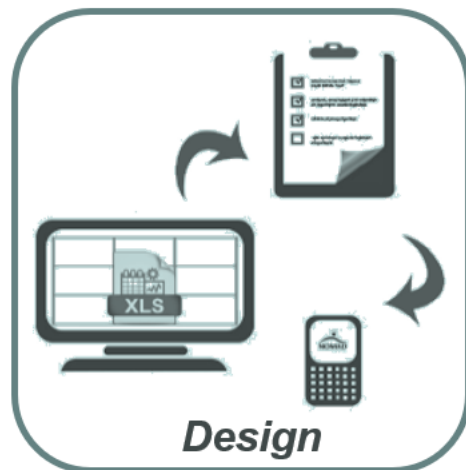
Exercise 2

Mobile Data Collection

What are the main phases of a mobile data collection campaign for you?

Phase of a Mobile Data Collection

Phases of a MDC



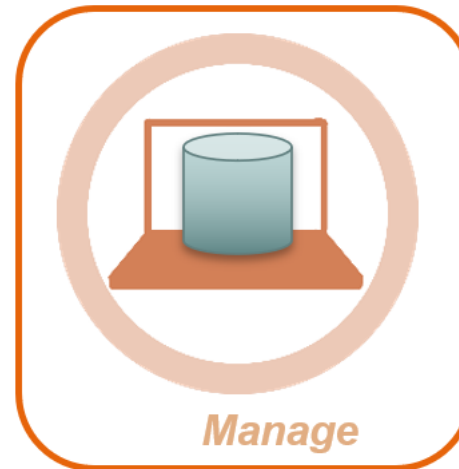
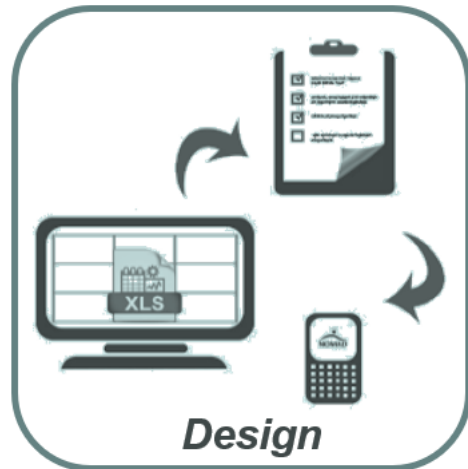
Phase 2 – Collect :

Getting to know ODK Collect

- **Check smartphone's settings**
- ODK data entry, review, and edit

Phases of an MDC

ODK Collect



Smartphones (1) - Model

ODK Collect

Sony Xperia :



Xiaomi :



Samsung :



Please make sure that you have the latest android enabled phone.

Smartphone (2) - Control

ODK Collect

- Varies from models to models (layout, buttons physical VS virtual etc.)
- Core components are similar between models :



Smartphones (3) - Homescreen

ODK Collect

- Example : Samsung Galaxy

1

Status bar : WIFI / Network /
Flight Mode /USB / Battery.

2

Homescreen : Bring all necessary applications to your homescreen and delete all apps which will not be used in survey.

3

ODK Collect : The application used for data collection on the phone.

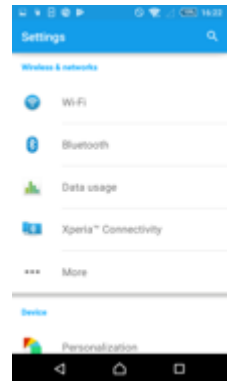
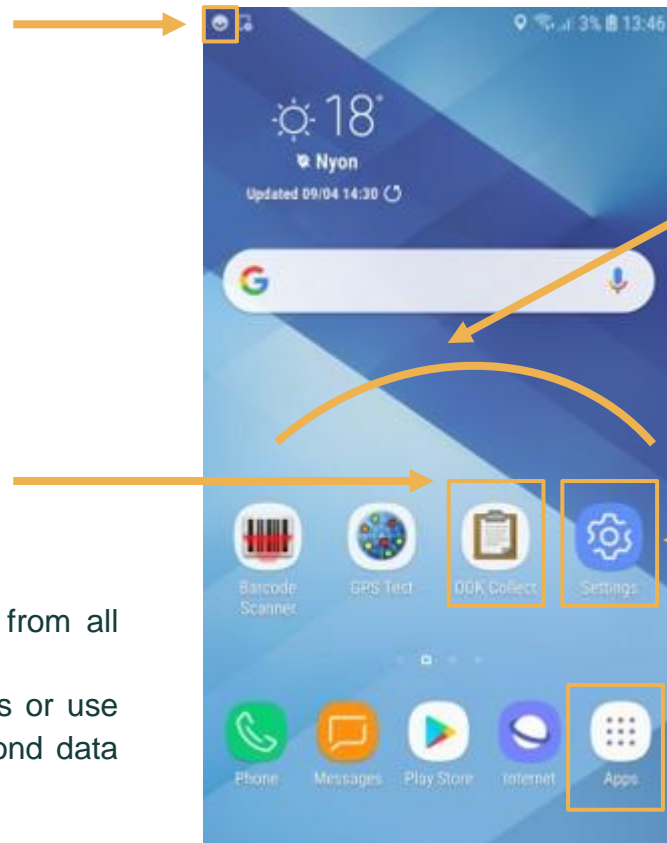
4

Settings :
Change various phone settings.

5




Applications : Access all applications installed on the phone.

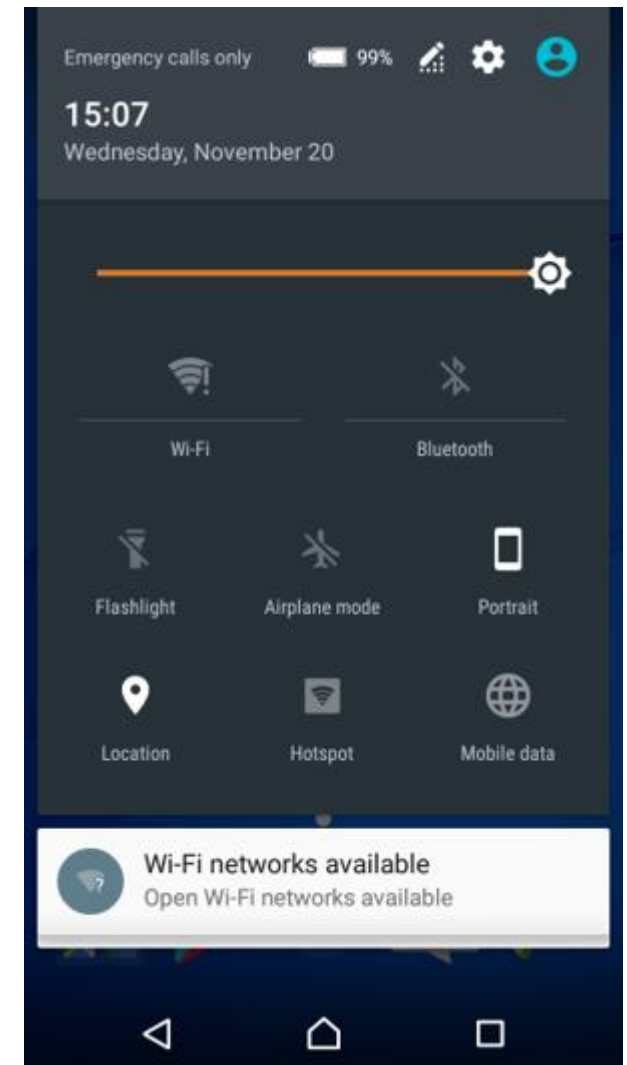
- Shortcuts at the bottom are accessible from all screens.
- Please don't download unnecessary apps or use the survey phone for other purpose beyond data collection.



Smartphones (4) – Energy Saving

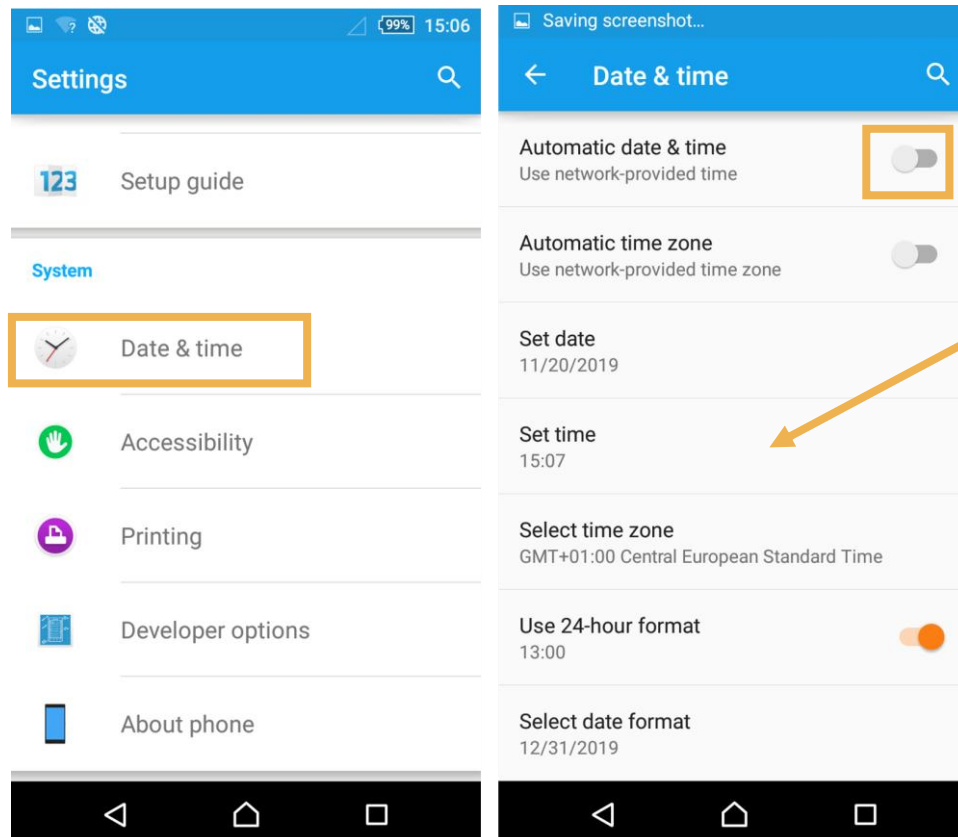
ODK Collect

- To save energy:
 - Plane mode 
 - WIFI OFF 
 - Lower luminosity of the display;
 - Set display turn off;
 - Charge up battery daily if possible;
 - Turn off GPS when not in use 
 - Use dark themes on ODK Collect (change settings in ODK Collect);
 - Use Power Bars / USB Chargers for remote place.



Smartphones (5) – Date & Time

ODK Collect



If auto parameters are not correct, uncheck « Automatic » & adjust date/time manually.

- Set the time zone first, then date/time. These parameters must be correct.

Apps (1) – OpenDataKit (ODK) Collect

ODK Collect

- Most well-known MDC solution in the humanitarian sector.
- Open-source solution for Android :
 - Widely used
 - Basis for numerous systems
 - Powerful and flexible
 - Secure storage on your own servers possible
- Different deployment profiles possible (offline with USB, offline on local network, online, etc.)



Exercise 3

ODK Collect

- Set parameters on the phone
 - Set the date to today's date and the current time.
 - Ensure that the phone is in flight mode, that the WIFI is off and display brightness is set to low.
- Discussion:
 - How do these settings impact the survey?
 - What happens if you accidentally remove the ODK Collect shortcut from the home screen?

Phase 2 – Collect :

Getting to know ODK Collect

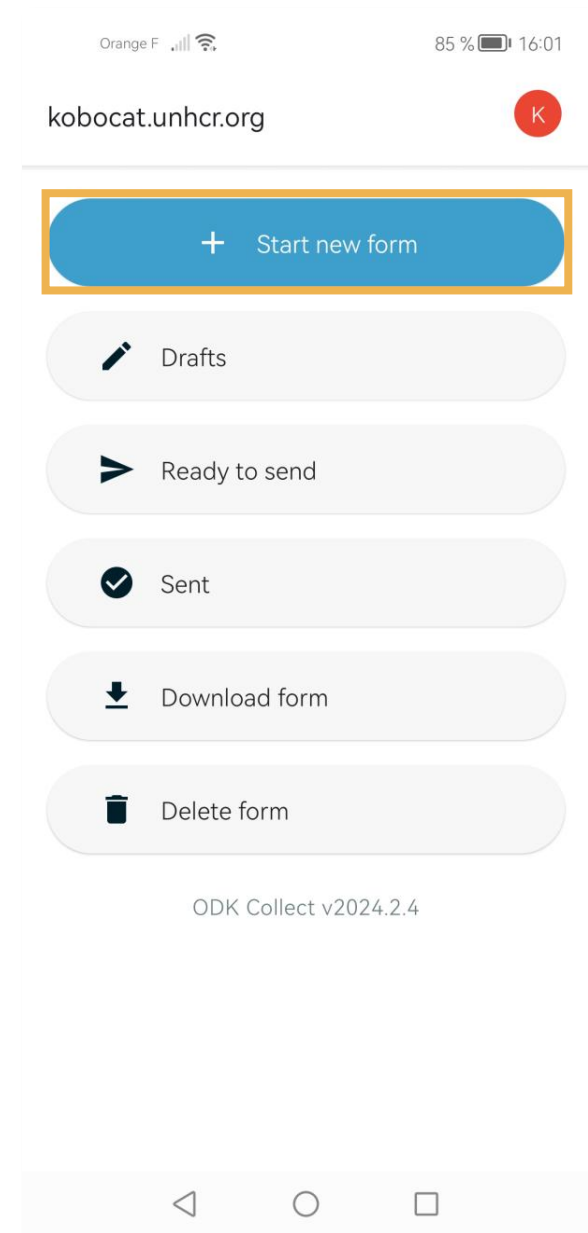
- Check smartphone's settings
- **ODK data entry, review, and edit**

Fill the Form (1) – Start new form

ODK Collect

- The most commonly used feature is « + Start new form ».

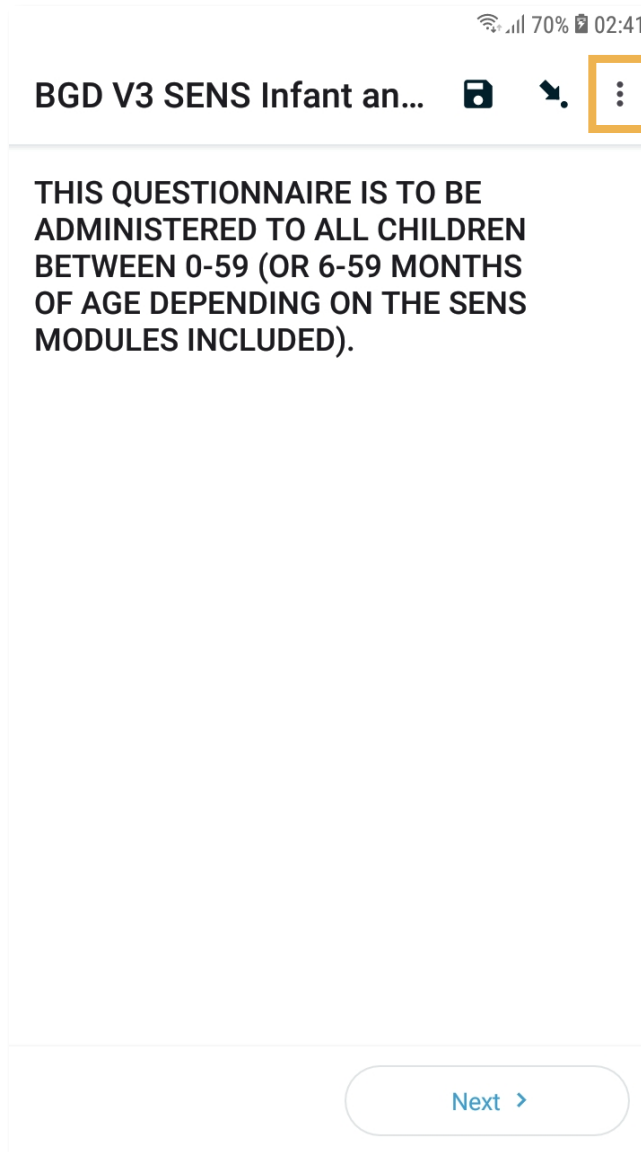
→ Used to enter a new data entry.



Fill the form (2) – Change Language

ODK Collect

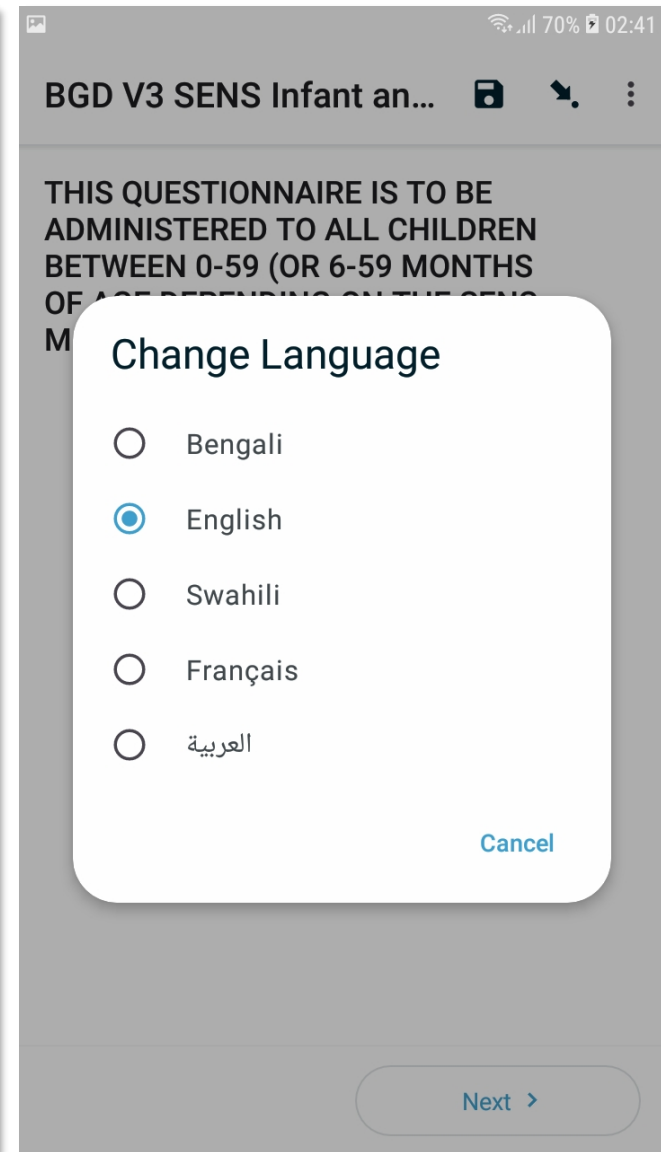
- To change the survey language, open a blank form or an already saved form.
- Then tap the « Menu » button top right and tap « Change Language ».



BGD V3 SENS Infant an...

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 0-59 (OR 6-59 MONTHS OF AGE DEPENDING ON THE SENS MODULES INCLUDED).

Next >



BGD V3 SENS Infant an...

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 0-59 (OR 6-59 MONTHS OF AGE DEPENDING ON THE SENS MODULES INCLUDED).

Change Language

☐ Bengali

☒ English

☐ Swahili

☐ Français

☐ العربية

Cancel

Next >

Fill the form (3) – Navigation in form

ODK Collect

- You can slide your finger to the left or the right to move forward or backward in the form, much like reading a book.
- The 3 following navigation options can be found in the “User interface”

BGD V3 SENS Infant an...

Survey Area:

☐ Kutupalong Mega Camps

☐ Kutupalong Registered Refugee Camp

☐ Nayapara Registered Refugee Camp

backward to previous prompt

forward to next prompt

< Back Next >

User interface

Theme
Use device theme

Language
English

Navigation

☐ Use horizontal swipes

☐ Use forward/backward buttons

☒ Use swipes and buttons

Cancel

Fill the form (4) – Select an option

ODK Collect

- In this example one of the answers can be selected.
- When the icon is a circle (radio button), only ONE answer can be selected.

BGD V3 SENS Infant an...

Survey Area:

☒ Kutupalong Mega Camps

☐ Kutupalong Registered Refugee Camp

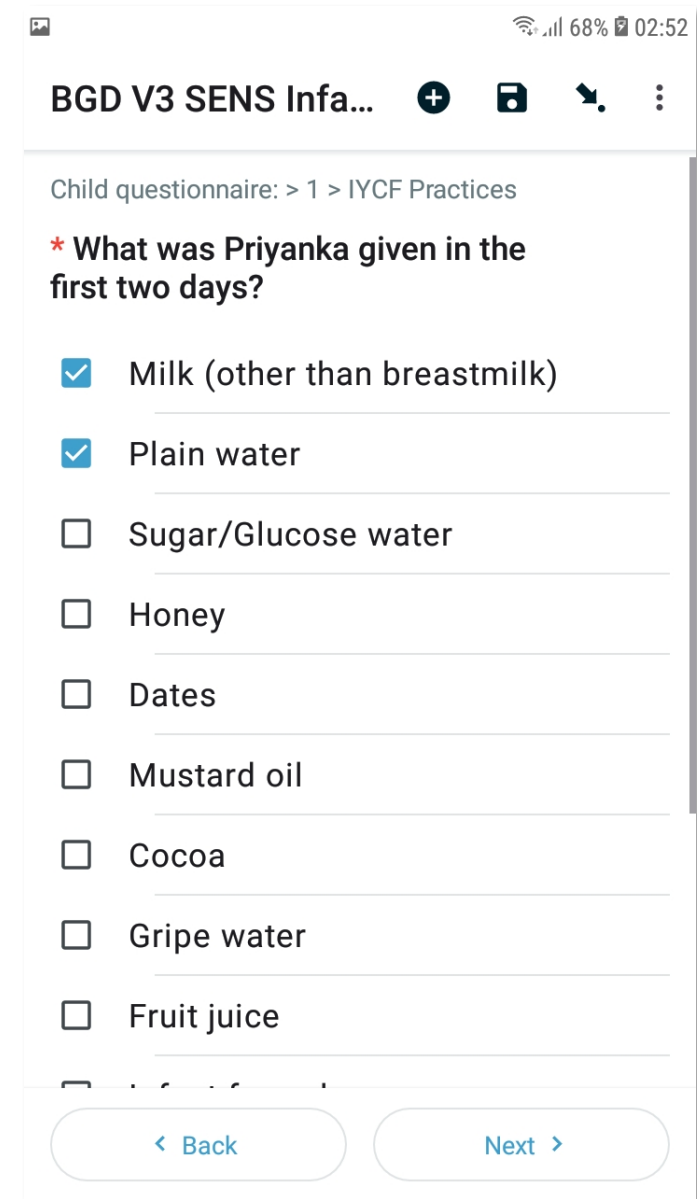
☐ Nayapara Registered Refugee Camp

< Back Next >

Fill the form (5) – Select multiple options

ODK Collect

- When the icon is a square, **SEVERAL** answers can be selected.
- The questions asked to the respondents are in bold.
- The capitalized sentences are the instruction to you, please don't read the instruction to the respondents, and operate following the instruction.



The screenshot shows a mobile application interface for ODK Collect. At the top, the status bar displays signal strength, 68% battery, and the time 02:52. The app title bar reads "BGD V3 SENS Infa..." with icons for adding, saving, and navigating. Below the title bar, the breadcrumb trail is "Child questionnaire: > 1 > IYCF Practices". The main question is "★ What was Priyanka given in the first two days?". It is a multiple-select question with a list of options: "Milk (other than breastmilk)", "Plain water", "Sugar/Glucose water", "Honey", "Dates", "Mustard oil", "Cocoa", "Gripe water", and "Fruit juice". The first two options are selected, indicated by blue checkmarks in square boxes. At the bottom, there are two buttons: "< Back" and "Next >".

Fill the form (6) – Enter text / number

ODK Collect

- Example :
 - Some questions require text entries.
 - For some fields, only **letters** can be used, while for others both **integers/letters** are accepted. Constraints may also be used to control input.

BGD V3 SENS Infa... + [icons]

Child questionnaire: > 1

* Name of the child:
ONLY WRITE FIRST NAME.

Priyanka

< Back Next >

[Full QWERTY Keyboard]

BGD V3 SENS Infa... + [icons]

Child questionnaire: > 1 > First measure

Priyanka's weight in kilograms (±0.1kg):
DON'T FORGET THE DECIMAL.

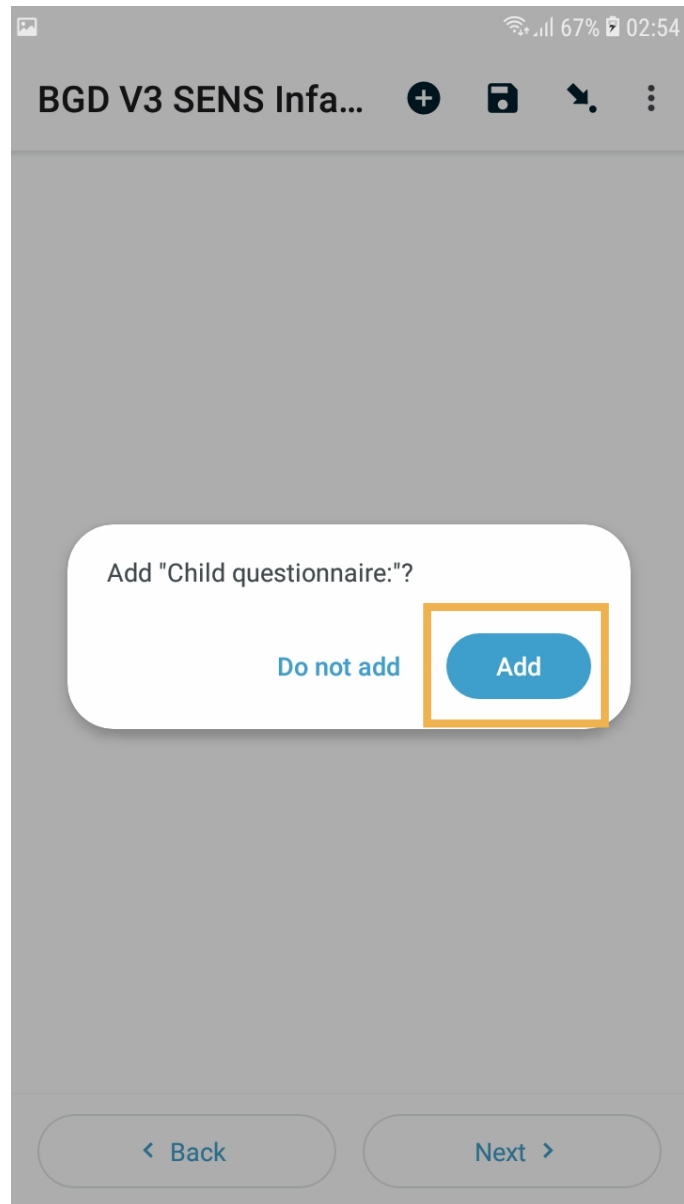
4

< Back Next >

[Numeric Keypad]

Fill the form (7) – Add a group

ODK Collect

A screenshot of the ODK Collect app interface. At the top, the status bar shows signal strength, 67% battery, and the time 02:54. The app title bar reads "BGD V3 SENS Infa...". Below the title bar, there is a large grey area. In the center, a white dialog box with rounded corners is displayed. The dialog box contains the text "Add 'Child questionnaire:'?" and two buttons: "Do not add" and "Add". The "Add" button is highlighted with an orange border. At the bottom of the screen, there are two buttons: "< Back" and "Next >".

- Example:

- Adding a group for the « Child » form
- Each child in the HH will be a group member

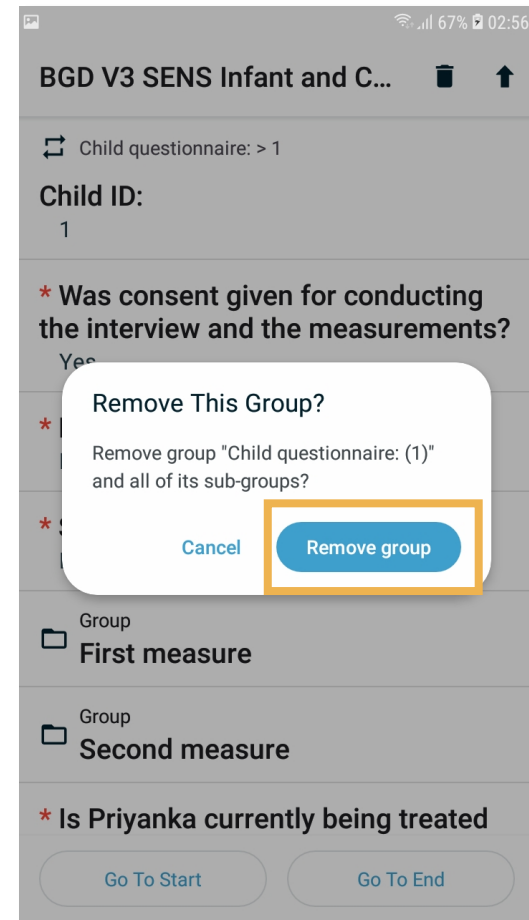
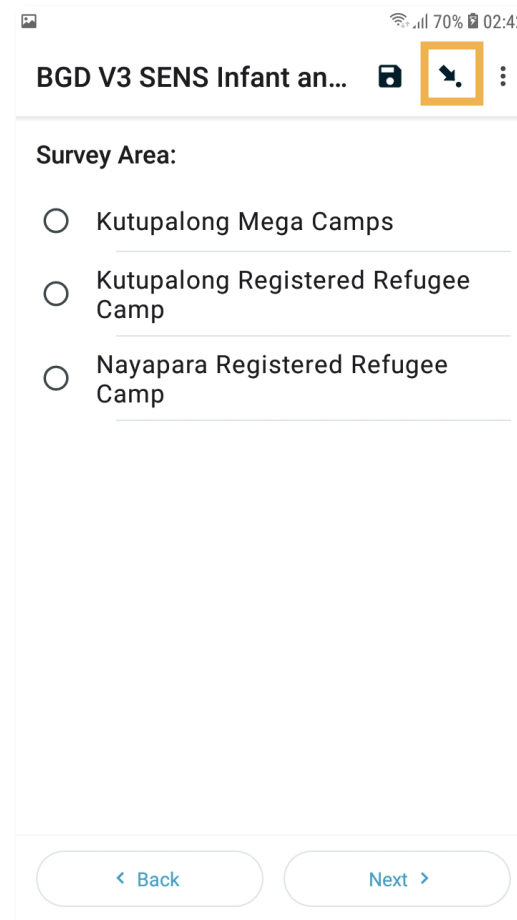
If the filled group number doesn't match the total number of the member in the household, a notification will be given before it can be finalized. Please review the number of group and add/delete the missing/repeated member accordingly.

How to remove a group if too many have been added ?

Fill the Form (8) – Delete a group

ODK Collect

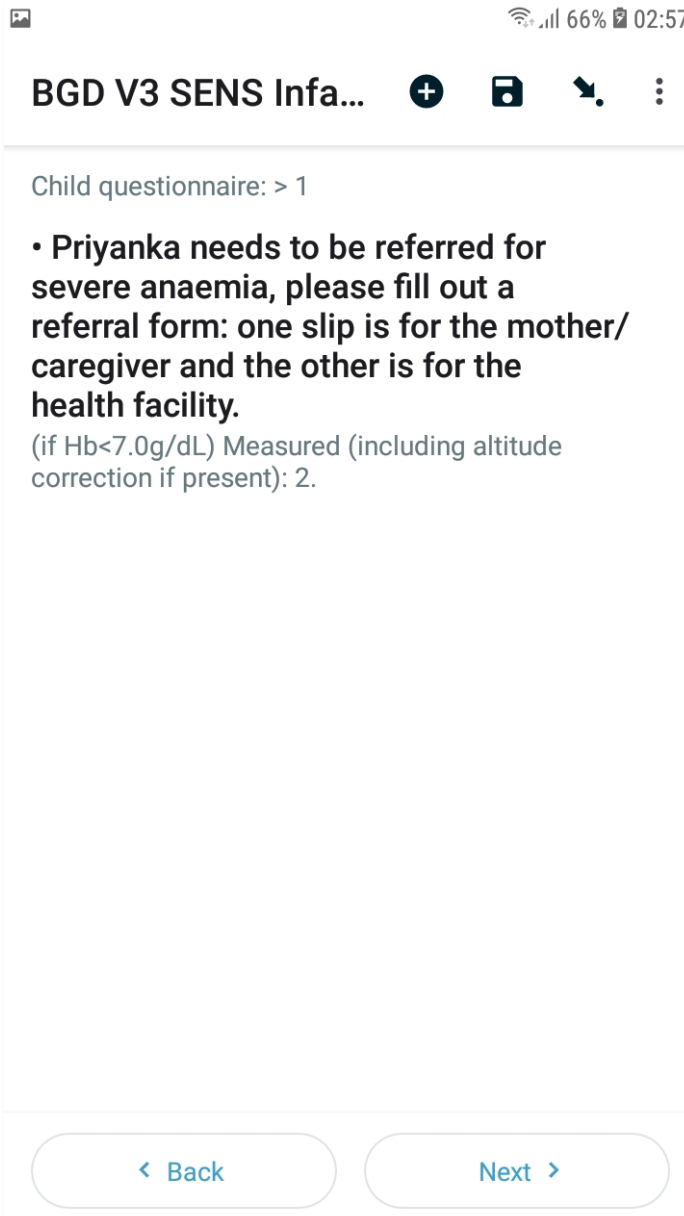
- In forms where groups are used, if a group has been erroneously added, it can be removed.
- To do so, press and hold on the response field.
- Then select « Remove group ».



Fill the Form (9) – Automatic Referral

ODK Collect

- If the child is either malnourished or has severe anaemia, and is not involved in the treating program, an automatic referral information will be shown on the screen.
- Please fill the referral slips accordingly.

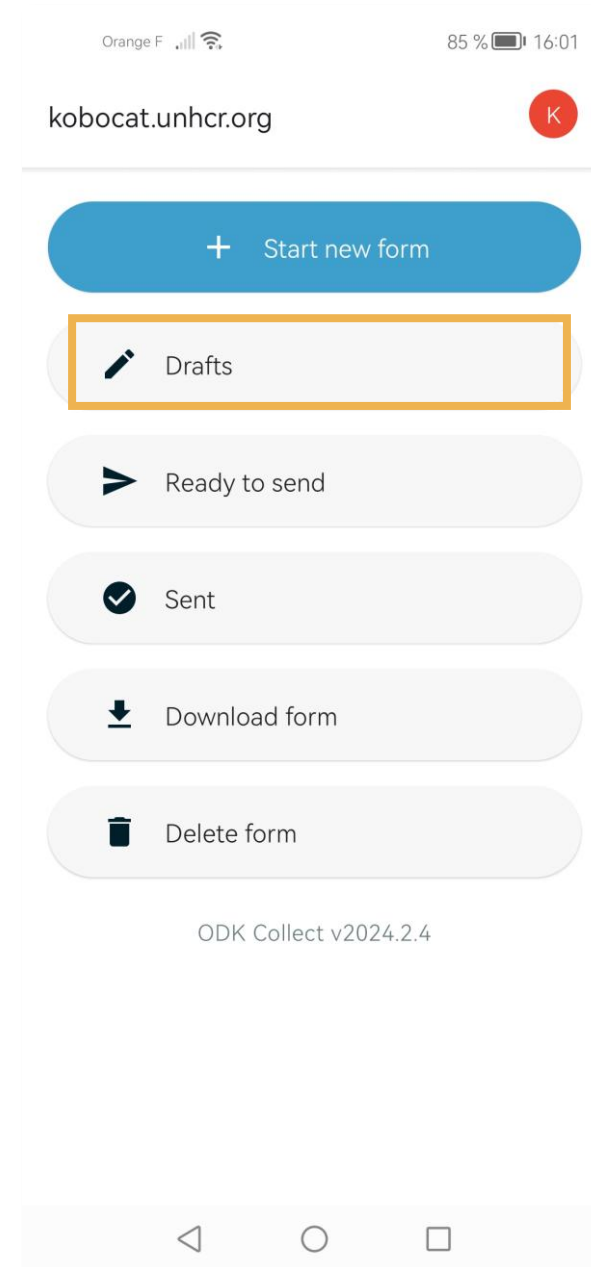


The screenshot shows a mobile application interface for ODK Collect. At the top, the status bar displays signal strength, 66% battery, and the time 02:57. The app title bar reads 'BGD V3 SENS Infa...' with standard Android navigation icons. The main content area is titled 'Child questionnaire: > 1' and contains a bold instruction: '• Priyanka needs to be referred for severe anaemia, please fill out a referral form: one slip is for the mother/caregiver and the other is for the health facility.' Below this, it states '(if Hb<7.0g/dL) Measured (including altitude correction if present): 2.' At the bottom, there are two buttons: '< Back' and 'Next >'.

Review and Edit Data (1)

ODK Collect

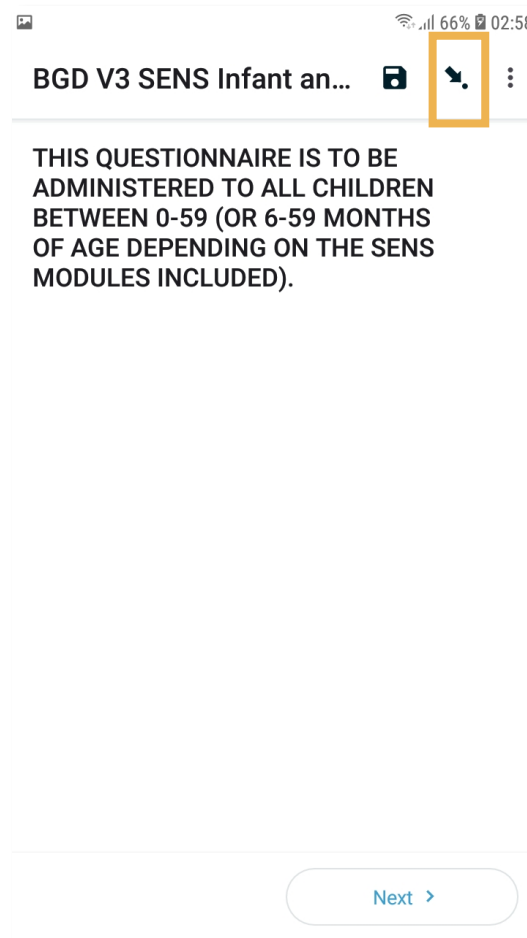
- If a form has been saved (done automatically as it is filled), it is possible to edit the answers with: “Drafts”.



Review and Edit Data (2)

ODK Collect

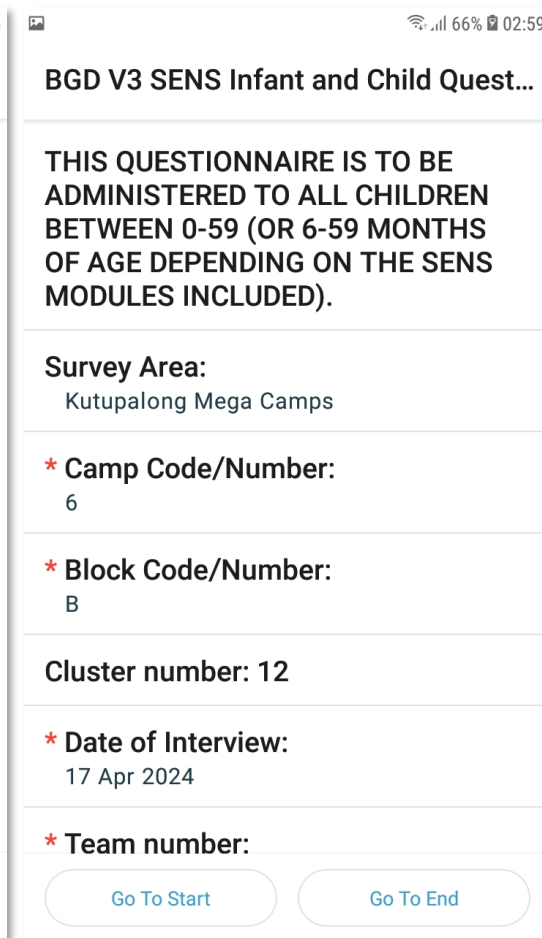
- Once the form is selected, click on the arrow in the top right of the screen for “prompt mode”.
- This allows all the responses to be reviewed more conveniently as shown in second screenshot.



BGD V3 SENS Infant an...

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Next >



BGD V3 SENS Infant and Child Quest...

THIS QUESTIONNAIRE IS TO BE ADMINISTERED TO ALL CHILDREN BETWEEN 0-59 (OR 6-59 MONTHS OF AGE DEPENDING ON THE SENS MODULES INCLUDED).

Survey Area:
Kutupalong Mega Camps

* Camp Code/Number:
6

* Block Code/Number:
B

Cluster number: 12

* Date of Interview:
17 Apr 2024

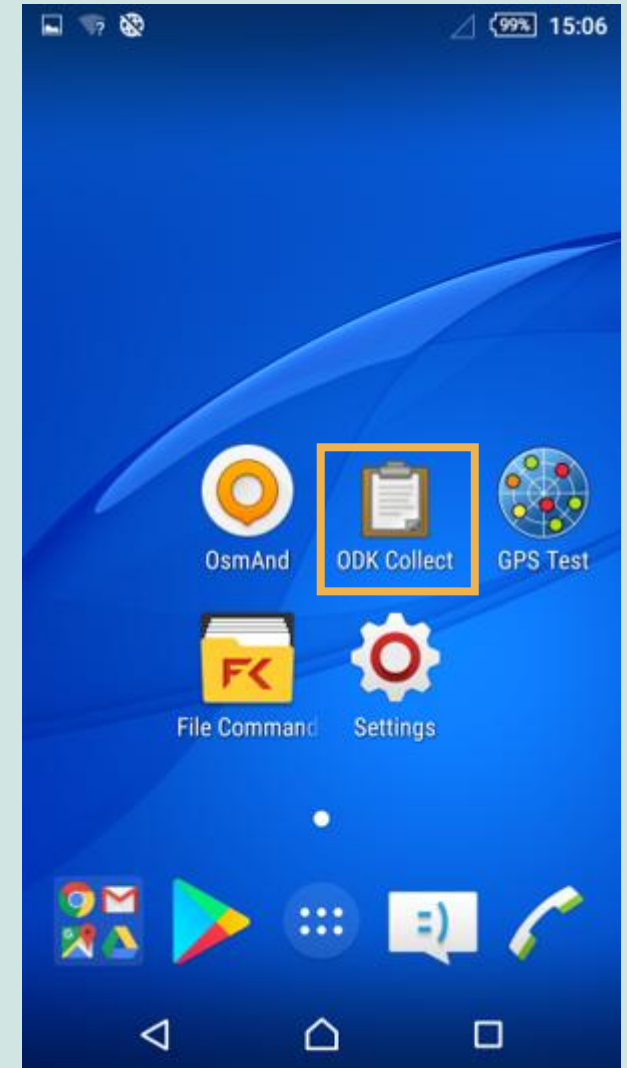
* Team number:

Go To Start Go To End

Exercise 4

ODK Collect

- Tap the « ODK Collect » icon.
- Select « + Start new form ».
- Fill out the « Global V3 SENS Women Questionnaire » form and keep it saved on your form.

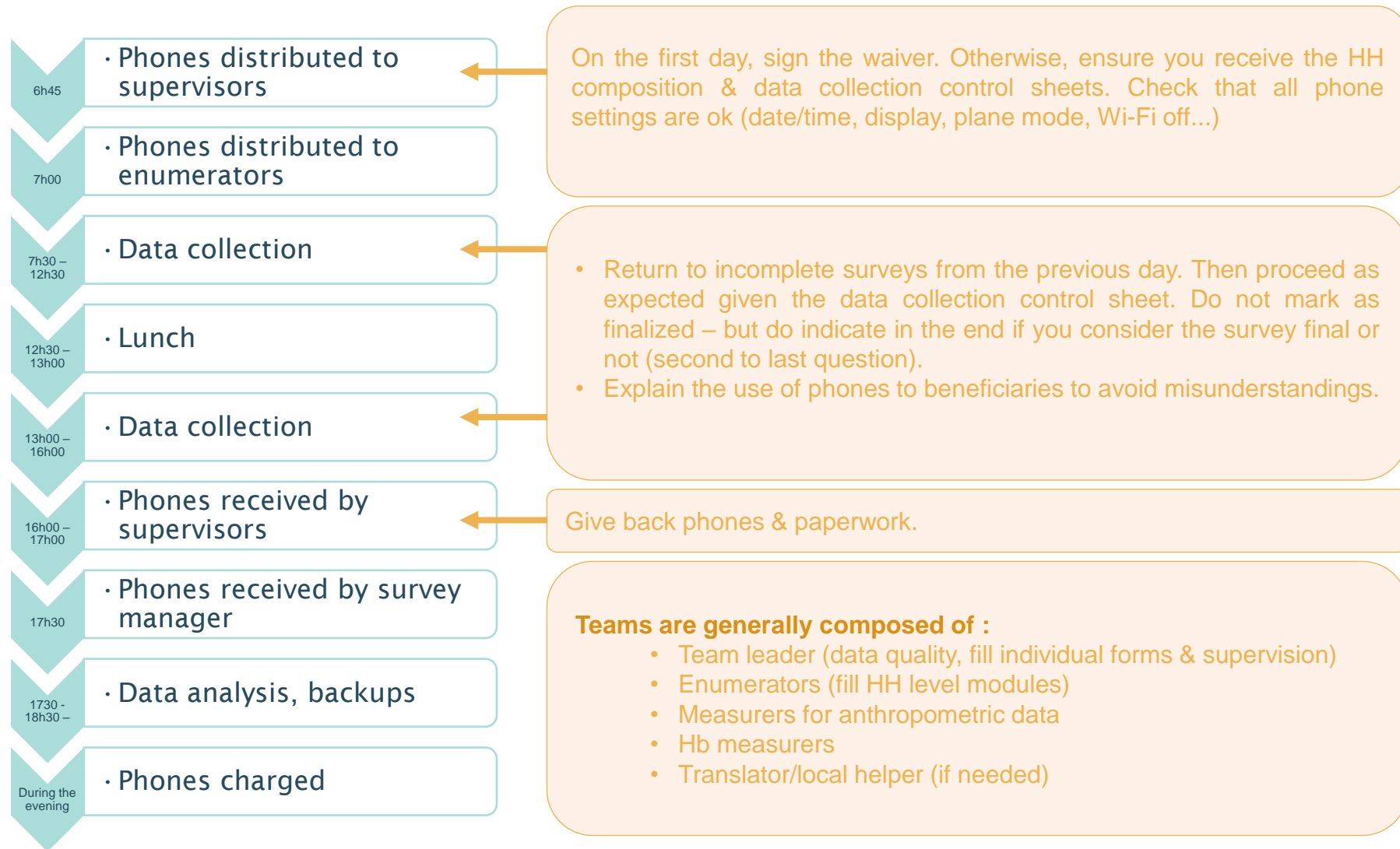


Standard operating procedures (SOPs)

- In-deployment : SOP of enumerators

Typical day : Enumerators

SOPs



To be adapted to your context.

Lifecycle of a form

SOPs

Ongoing (not finalized, absent, etc.)

Considered finished by enumerator

Considered finished by supervisor

Marked as finalized by supervisor

The sequence of screenshots illustrates the lifecycle of a form in the OpenDataKit application:

- Screenshot 1 (Ongoing):** Shows the 'Interviewer: I confirm that questionnaire is complete.' screen with the 'Yes' radio button selected. Below it, the 'Supervisor: I confirm that questionnaire is complete.' screen is visible with the 'No' radio button selected. At the bottom, a 'Save as draft' button is highlighted.
- Screenshot 2 (Considered finished by enumerator):** Shows the 'Interviewer: I confirm that questionnaire is complete.' screen with the 'Yes' radio button selected. The 'Next >' button is visible at the bottom.
- Screenshot 3 (Considered finished by supervisor):** Shows the 'Supervisor: I confirm that questionnaire is complete.' screen with the 'Yes' radio button selected. The 'Next >' button is visible at the bottom.
- Screenshot 4 (Marked as finalized by supervisor):** Shows the 'You are at the end of Child_HH2.' screen. A message box states: 'Finalized forms are not editable. If you need to make edits to your form, "Save as draft" until you're ready to send. [Learn more](#)'. The 'Finalize' button is highlighted.

Support documentation

SOPs

- **Data collection control:**
 - Overview of all HH to be visited;
 - One per block/cluster.

Date of sampling: dd / mm / yyyy			Section No.:			Block No.:			Cluster No. (if applicable):			Team No.:		
HH No.	Anthropometry and health Children 6-59 mo.			Anaemia Children 6-59 mo.			Anaemia Women 15-49 y			IYCF Children 0-23 mo.		WASH	Food Security	Mosquito Net
	No. in HH	No. surveyed	No. referred	No. in HH	No. surveyed	No. referred	No. in HH	No. surveyed	No. referred	No. in HH	No. surveyed	1=completed 2=absent 3=refused	1=completed 2=absent 3=refused	1=completed 2=absent 3=refused
01														
02														
03														
04														
05														
06														
07														


- **HH composition sheet:**
 - Overview of the composition of each HH;
 - One per HH.

Date _/_/___	Camp _____	Zone _____	Block _____	HH Number _____	Cluster no. _____	Team number _____
Please complete using the following order: HH head, adult males, adult females, children, infants, other relatives						
Identification and age			Anthropometry and health			Anaemia
HH #	Name	M/F	Age • If age ≥5 y: unit is years • If age <5 y: unit is months	Weight Kg Children 6-59	Height cm Children 6-59	MUAC cm / mm Children 6-59
						Referred? Y/N
						Hb g/dL • Children 6-59 • Non-pregnant women
						Referred? Y/N

Only useful when it is actually being used!

Phone ownership and responsibilities

SOPs


UNHCR
The UN
Refugee Agency

ANDROID PHONE HANDOVER

General Statement

- The android phone issued is property of UNHCR and should be handled with utmost care against loss or damages of any kind.
- You are liable to ensure that the phone is returned in a good working condition
- This letter serves as a confirmation that you accept responsibility for the phone provided by UNHCR with the description attached:

PHONE IMEI:

I have received the above items in good working condition. I have also read and agree to the statement explained above and assume full responsibility

Name of receiver.....
Signature.....
Date.....

Name of issuer.....
Signature.....
Date.....

Date of final Return:
Signature of Responsible person:

Signed once before the start of the survey when the phones are distributed.

Daily phone management

SOPs

Burkina Faso Food Security Survey List of phones by team and by day

DATE:

PreTest	Xperia Barcode/IMEI	G1 Barcode/IMEI	Team leader	Signature	Team colour
Team 1	351676030088209	12468001490007			red
Team 2	351677030034813	12468001495048			yellow
Team 3	351677030073092	12468001496087			pink
Team 4	351677030072961	12468001493050			orange
Team 5	351676030030847	12468001494843			blue
Team 6	351676030122990	12468001495998			green

Must be signed once by the enumerator in the morning, when they receive the material. The supervisor signs at the end of the day when the phones are returned.

Support documentation available

SOPs

MDC Tools

Here, we provide you with standardised tools for implementing a SENS using mobile phone technology. The tools describe the various steps from setting up the system to data extraction and the daily use of mobile phones. They also include standard forms to assist in data collection, as well as tips and tricks for the various survey staff.

If you wish to implement a SENS using mobile technology, please contact: HQP@unhcr.org.



Downloads

All MDC Tools – Combined Download **MDC Tools 1 – 9**



1. SETTING UP MDC TOOLS:

1. **MDC Tool 1** – Tutorial – How to set up the phone for SENS surveys
2. **MDC Tool 2** – Using GPS Coordinates in SENS surveys
3. **MDC Tool 3** – Tutorial – Setup and Use of Kobo Server Training Documents



2. TRAINING DOCUMENTS:

1. **MDC Tool 4** – MDC Training for Survey Managers
2. **MDC Tool 5** – MDC Training for Enumerators



3. DOCUMENTS TO SUPPORT LOGISTICS:

1. **MDC Tool 6** – To Print – Phone Handover
2. **MDC Tool 7** – To Print – Phone Daily Inventory
3. **MDC Tool 8** – Daily Use and Logistics



4. ADDITIONAL TUTORIALS:

1. **MDC Tool 9** – Tutorial – How to add Images to questions in your SENS survey

