

HOW TO SET UP AN ANDROID SMART PHONE FOR A SENS SURVEY

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I. Background

In the last years, it has become more common to use Android smart phones for collecting data for the Standardized Expanded Nutrition Survey (SENS). In 2015, 80% of the UNHCR operations conducting the SENS were utilizing smart phones. With a rising smart phone penetration in developing countries often new phones are directly purchased in-country. It can be more advantageous to stock Android phones throughout the year especially for operations with nutrition programs covering many locations in more than one region. This short step-by-step serves as guide on how to set up your phones for first use. Detailed settings for [OpenDataKit](#) (ODK), the application used for the data collection can be found on the [SENS webpage](#).

⚠ Overview pictures and detailed instructions are based on the LG 3Gs (LG-D722) or the Xperia Aqua, both still available on the market and used by various operations. The design or the wording on your phones might vary slightly, but should follow the same principle.

II. Phone setup

Phones still packed and straight from the factory typically come with a quick guide. The steps that need to be performed first are the following:

- If you have purchased external SD cards, which is good practice especially for larger surveys and if you expect photographs being taken, insert them in the appropriate slot.
- Insert the battery
- Load the battery by plugging the phone

If you have already made provisions for permanent protection screens and casings:

- Remove the provisional clear files attached to the phone
- Switch on phone through power button (LG: on the back, Xperia right-hand side)
- Set up phone language

Most phones will now guide you through a setup process; this process often prompts you to enter a Wifi connection, Gmail account through direct enter or "Tap and Go",

protection codes, however for a regular survey phone you should only complete the following:

- Enter a working WIFI connection.

Since the phones are not personalized and equipped with SIM cards, it is not advisable to enter a private Gmail account. If you expect that you need to connect to Google Play or any service requiring an account, consider creating a project email account instead.

You can delete and enter the LAN connection you will set up for the survey later, when connected to Internet, things like Time and Date can be set automatically which saves you time.

- Set time zone to your correct time zone.
- Set up a protection code only if you think the phones need to be secured, ensure you note down the codes (*LG opts for knock codes, they can be difficult to remove once set up*) and communicate them to Admin or anyone else who will be responsible in safeguarding them when not used for surveys.

The phone will come with a preset Home page which can be customized. Since the phone in most circumstances will not be equipped with a SIM Card and not be used for phoning, it makes sense to remove everything an enumerator or you as a survey coordinator will not need to use.

- Remove all unnecessary widgets and buttons from home screen by touching them until they vibrate and become moveable and drop them in the recycling bin.
- Add the buttons/widgets you will need often like *Settings, File Explorer*. On some phones it makes sense to add widgets for easily switching to *Airplane/Wifi* and changing *brightness*. However, on many newer phones those aspects are already integrated in the top menu bar, when sliding it down.

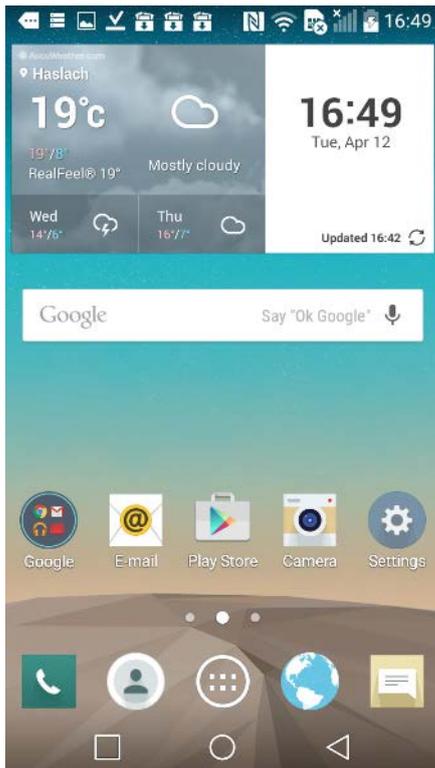


Figure 1: Before removal of widget and buttons



Figure 2: After removal and addition useful buttons

III. Installation of Apps

Apart from ODK Collect itself which is needed to collect the data, it can also make sense to install Android Explorer (some native File Managers do not allow access to all files), BarCode Scanner as well as GPS Test if you plan to take GPS coordinates in your SENS survey.

⚠ If the phone will be regularly used on the internet, it might make sense to think about some Antivirus apps like the free AVG Antivirus app or AVAST. This guideline is not looking further into security apps since usually not of high priority for phones dedicated for mobile data collection.

Whilst installing apps on a phone which has already been used is fairly straight forward, installing apps on a new phone which is not being personalized and consequently will not have Google Play Market set up with a personal account requires some extra steps.

First of all the phone needs to be set up to accept installations of apps from Third Party.

To enable this, you need to:

- ➔ Go to *Settings/General/Security*

- ➔ Here you need to tick the box *Unknown sources* *Allow installations of apps from sources other than Google Play Store*.
- ➔ It is a good idea to also keep the box *Verify apps* ticked, to ensure that apps are verified before they are installed.



Now you can start with installing the apps you need for the SENS.

If you are still on the Wifi, you could navigate to the ODK webpage where both, ZXing Barcode Scanner¹ as well as ODK Collect are referenced.

- ➔ Type in the appropriate search term in your mobile phone browser like ODK Collect or ZXing Barcode scanner and tap on the download button.
- ➔ After the file has downloaded, slide down the top menu notification bar and tap on the new file. Alternatively use the File explorer to navigate to your Download folder and tap here on the apk.
- ➔ Follow the installation process.

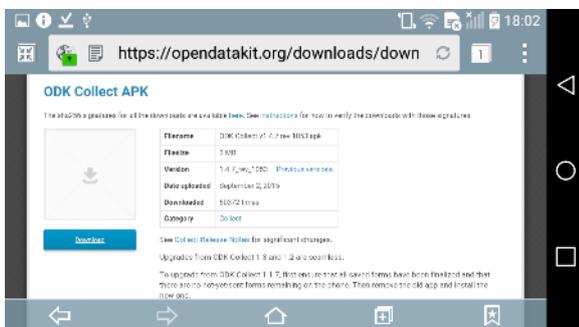


Figure 3: Navigating with Internet browser and download ODK Collect APK

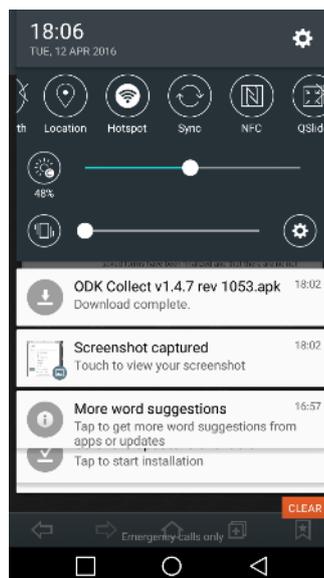


Figure 4: Slide down the top bar after download to tap on the download notification

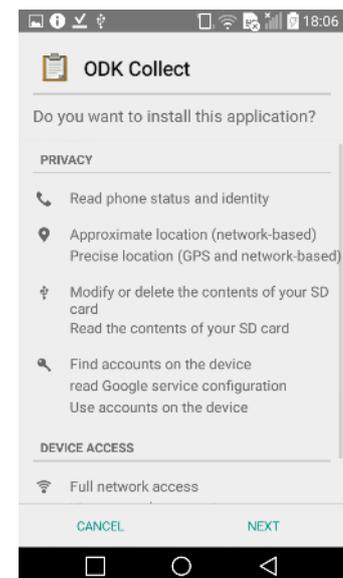


Figure 5: Starting the installation process

¹ Note: only this Bar Code Scanner will work seamlessly with ODK Collect.

If you are not on a WIFI or you want to install other apps like GPS Test² which you already have in a package, or additionally you want to save time and have harvested/assembled all necessary .apk (file extension for Android apps) in one place, you should follow the instructions down below.³

→ Connect your phone to your computer with a USB cable

Most new phones are plug and play devices, installing the correct driver if given the permission. If for some reason either your phone or your computer's operating system do not support self-installation, you will need to download the phone's driver from the manufacturer.

For Sony Xperia this would be the location for the [driver](#); for LG [here](#), the full firmware can be gotten from [here](#).

If the driver installation completed successfully, your phone will most likely already mount as MTP device, allowing you to access the phone's file directory, if it does not,

- Slide down the top bar, tap on *USB options* and choose *Media device (MTP)*
- Your phone should now be accessible like any external USB device.
- Copy the .apk files from your computer in the *Download* folder on your phone.
- Disconnect the phone, navigate to the *Download* folder (use the native file manager app) and proceed with the installation of the .apk by tapping on the file. If you have many files on your Download folder, you can either sort them by date or search for .apk



Figure 6: Select MTP mode after connecting the phone.

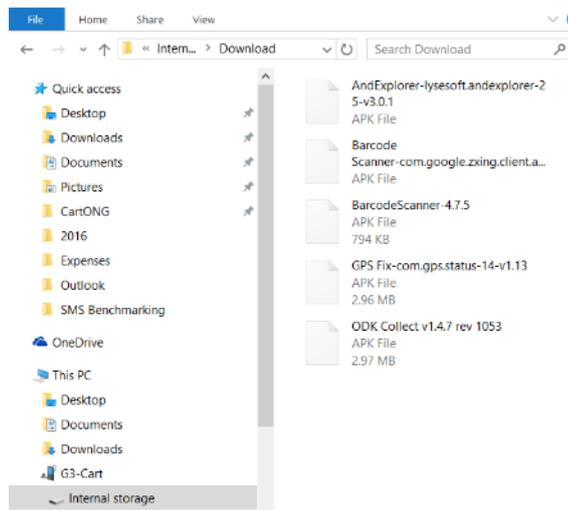


Figure 7: Copy files in the Download folder



Figure 8: Use the native file explorer to access the Download folder

² There are older version of GPS Test Plus which are free, however, the most recent free version is now only called GPS Test. Recently, CartONG has also tested newer applications with similar functions and can therefore also recommend others.

³ There is a folder on the PHS Dropbox MDC Repository: <https://www.dropbox.com/home/Public%20Health%20MDC/Soft/APK>

Last but not least, to make it easier for your enumerators to find the apps, drop a shortcut on the home screen.

- Enter the app menu (on the LG as well as the Xperia Aqua, this is the button with the six dots in the middle ) and touch the ODK button until it vibrates and becomes moveable.
- Now drop the icon on the home screen by sliding to the left.
- Alternatively, touch the home screen until the option to add apps and widgets appear. On the LG as well as the Xperia Aqua you can now select an app you'd like to add.



Figure 9: Sliding the icon of the highlighted app on the home screen



Figure 10: Adding icon through widget after tapping on home screen