

Introduction to Paperless Surveys or Electronic Data Collection

Short seminar organized for ACBF staff

19 May, 2017

By Dr. Jean Providence NZABONIMPA

Objectives

- ❑ Introduce the use of paperless surveys and other forms of e-data collection
- ❑ Look into the existing electronic data collection platforms to determine what fits the ACBF current (and future) electronic data collection needs
- ❑ Assess the possibilities of piloting one paperless survey at a smaller scale in 2017

Overall goal

Adopt the culture and use of technology for efficient and effective data collection

Overview of the session

1. Introduction to Electronic Data Collection
2. Current practices and latest developments
3. Advantages and disadvantages of e-data collection
4. Options for ACBF & Way forward

Warm-up



- 1. How many in the room have got paper and pen/pencil?*
- 2. How many in the room have got phone/smartphone?*

History?

VITAL SIGNS: (After 5 min seated & 1-2 min apart)
Use Digital BpTru cuff
Use Non-dominant arm (preferred)
**Use Hide Mode, leave the room to allow Digital machine to acquire all 6 BP's*
Average BP's 3, 4, & 5: then insure that each BP does not differ > 5mmHg of the average BP.

Blood pressure: (after sitting 5 min. & 1-2 min apart)

Arm: R or L Cuff Size: Reg. or Large

1) Time: 10:28 BP: 132/82 mmHg Pulse: 78 bpm

2) Time: 10:30 BP: 149/81 mmHg Pulse: 81 bpm

3) Time: 10:32 BP: 131/84 mmHg Pulse: 79 bpm

4) Time: 10:34 BP: 144/85 mmHg Pulse: 84 bpm

5) Time: 10:36 BP: 123/78 mmHg Pulse: 79 bpm

6) Time: 10:38 BP: 128/85 mmHg Pulse: 85 bpm

*Weight: 90.6 kg = 199.6 lbs (2 consecutive measurements must not differ > 0.25kg)

*Weight: 90.4 kg = 197.4 lbs

(*Study Specific TANITA scale: w/o coat & shoes after voiding)

Height: 165.7cm Height: 165.8cm BMI: 33.3 10:41 127 86 80

(*should not differ > 2.5cm)

Baseline Day -1

Site #: 4101 Screening#: 7538926 Visit: Baseline Day -1

☒ I have verified that this is the correct chart.

Visit Information

Visit date: 10 / JUN / 2013

☒ Yes ☐ No Has the subject refrained from any strenuous physical exercise (e.g., weight training, aerobics, football) for 7 days before dosing?

☒ Yes ☐ No Has the subject refrained from any alcohol intake since 48 hours before dosing?

☒ Yes ☐ No Has the subject refrained from the intake of food or beverages containing xanthine (e.g., caffeine) since 48 hours before dosing?

Comments:

Comments can be written anywhere; just like paper

Informed Consent

☒ Yes ☐ No Is a new version of the Informed Consent available?

☐ Yes ☐ No Was the subject given adequate time to read the informed consent and had his/her questions addressed prior to signing the form?

☐ Yes ☐ No Was informed consent discussed? If yes, by: [dropdown]

☐ Yes ☐ No Has the subject voluntarily signed informed consent?

Version date: [] [] / [] [] [] / [] [] [] []

Signed on: [] [] [] / [] [] [] / [] [] [] [] at: [] [] : [] []

☐ Yes ☐ No Was informed consent signed prior to any study procedures being performed?

☐ Yes ☐ No Was a signed copy of the informed consent given to the subject for his/her records?

Use comment section to record subject questions and your response.

Comments:

Yellow highlights indicate required fields; dependent/conditional fields are shown.

Protocol #: 123-456-789 1 V 1.252 (Last Updated 15/Jun/2012)

History?

Paper & Pencil

- Surveys/quantitative and narratives/qualitative methods
 - Note-taking on hard copies
 - Return hard copies, wait and get what you get
 - Data entry, manual cleaning, manual verification, etc.
-
- **Cumbersome, slow, costly, error-prone, etc.**

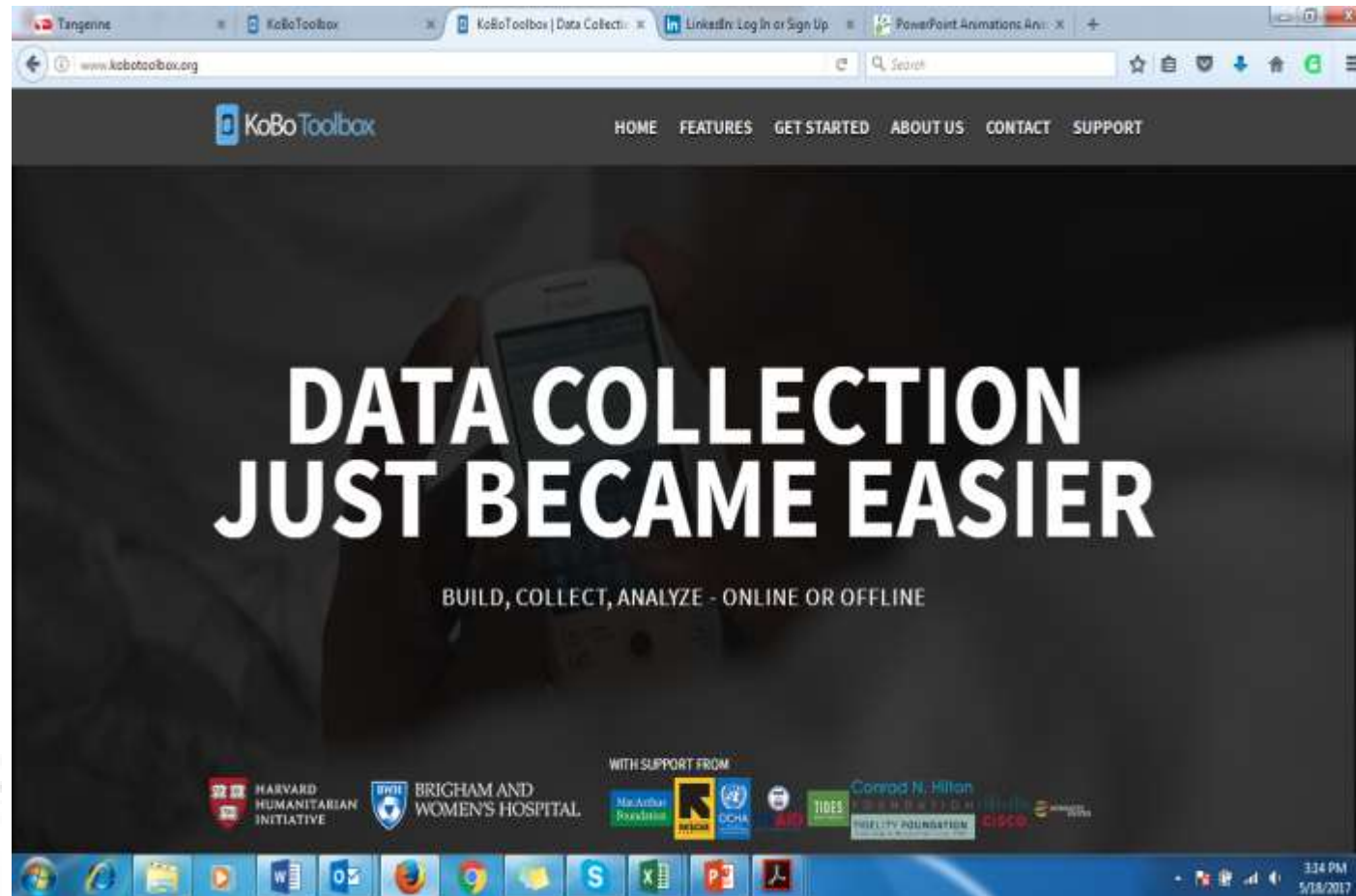


PresenterMedia



PresenterMedia

New Era?



New Era in Data Collection?

- Limited resources – cost-effectiveness, save cost
- Time pressure – to deliver more in limited time
- Quality – a big issue in big data

New Era in Data Collection? (Cont'd_1)

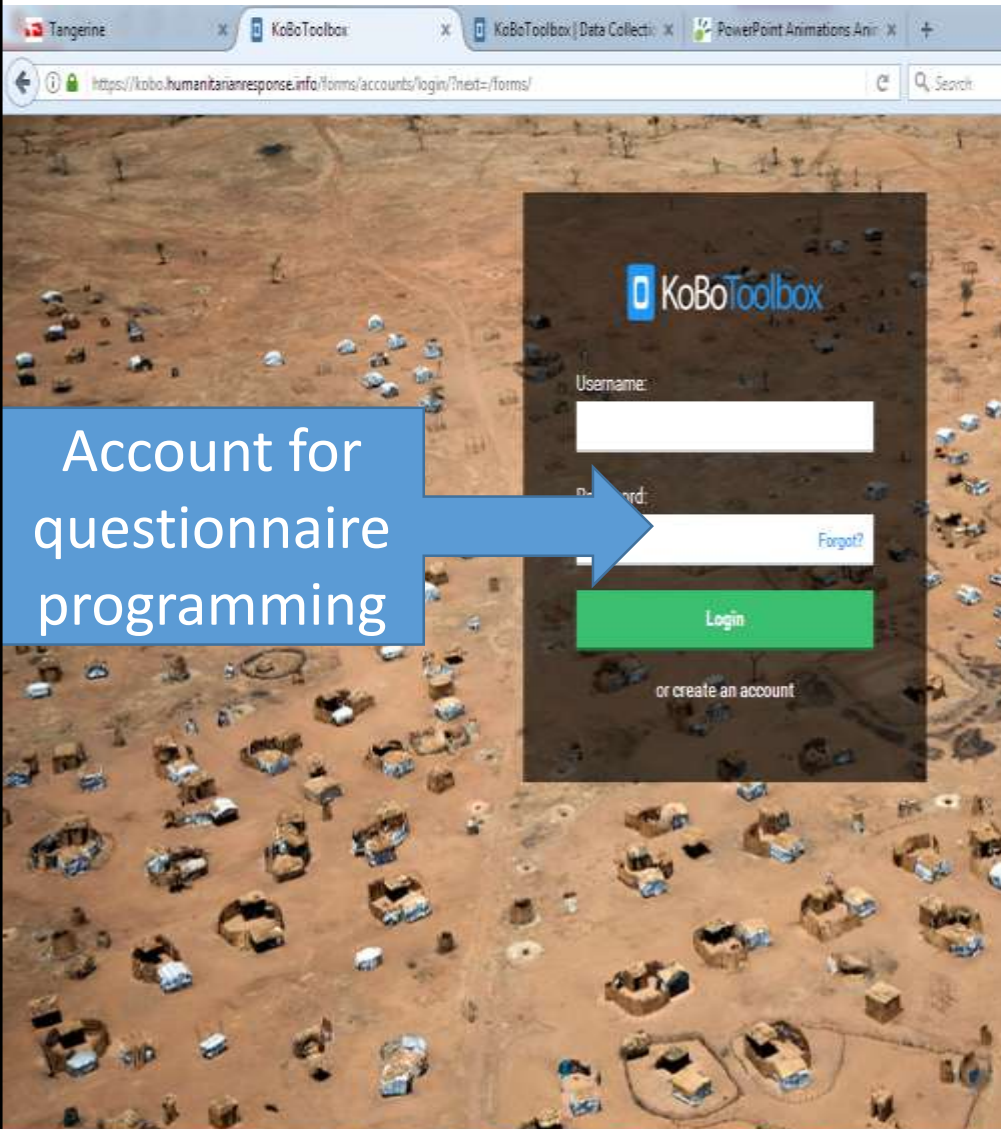
- Statistics = data, but all data $\neq$ statistics:
 - need more photos,
 - geo-locations and maps,
 - Narratives – scripts, audio and video

New Era in Data Collection? (Cont'd_2)

- Working in teams across the globe – global village
- Accountability and data revolution

Current practices and latest developments

Account/Username and password



Automate Start and End Date and Time

Using tablets for real-time data c... x Mobile Data Collection | Bett... x AFRICA CAPACITY INDICATORS x Tangerine x

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#run/86c6aeb8-d847-4db6-d243-06114aee3e09 Search

User nzjeap Logout

PARENTS QUESTIONNAIRE - final

Date

Year	Month	Day
2017	May	18

Time

10:33

Next

3a.0.14-8f555b7 tangerine

10:34 AM 5/18/2017

Date is auto-filled

Time is auto-filled

Quality Checks

Using tablets for real-time data c... x Mobile Data Collection | Bett... x AFRICA CAPACITY INDICATORS x Tangerine x +

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#run/86c6aeb8-d847-4db6-d243-06114aee3e09 Search

PARENTS QUESTIONNAIRE - final

Enumerator ID

Please answer this question.

Enumerator

Calliope Dusabe	Innocent Musangamfura	Denys Tuyishime	Shumbusho Emmanuel	Irene Furaha
Josephine hategekimana	Nzabonimana Theophile	Mukabarezi Jeanne Francoise	Joseph Murinzi	
Sarah Ingabire	Solange Uwitonze	James Serikanuye	Jean Claude Habineza	Jeannine Mukundwa
Diogene Sibomana	Fidele Ukobizaba	Ak		ose
Innocent Habima	Nyirakama			
Hillary Mukam	wamari	Nzabimana Irene Grace	AKOZIMANA Fidele	Amode Tuyisenge
Rachel Mu		unda	Vidiedon Kubwimana	Jackson Nkesiga
Jean M	Sylvain Niyibizi	Immaculee Mukabugingo	Mukeshimana Laetitia	

Please correct the errors on this page.

Next

3a.0.14-8f555b7 tangerine

By trying to go next without filling in required questions You will not be allowed to

10:36 AM 5/18/2017

Skip logic

Using tablets for real-time data c... Mobile Data Collection | Bett... AFRICA CAPACITY INDICATORS x Tangerine

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#run/86c6aeb8-d847-4db6-d243-06114aee3e09 Search

Household District and Village (Northern Province)

District where Household is Located

Rulindo Gakenke Musanze Burera Gicumbi

Village where Household is Located (Rulindo District) **Skipped**

Village where Household is Located (Gakenke District) **Skipped**

Village where Household is Located (Musanze District) **Skipped**

Village where Household is Located (Burera District) **Skipped**

Village where Household is Located (Gicumbi District) **Skipped**

By selecting the District, then sampled villages from that District will appear

10:41 AM 5/18/2017

Relevant questions

Using tablets for real-time data c x Mobile Data Collection | Bett x AFRICA CAPACITY INDICATORS x Tangerine x +

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#run/86c6aeb8-d847-4db6-d243-06114aee3e09 Search

Household District and Village (Northern Province)

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Rulindo Gakenke **Musanze** Burera Gicumbi

Village where Household is Located (Rulindo District) **Skipped**

Village where Household is Located (Gakenke District) **Skipped**

Village where Household is Located (Musanze District)

Rubaka Nyejoro Nyakinama Other

Village where Household is Located (Burera District) **Skipped**

Unique Identifier

Tangerine

databases.tangerinecentral.org/group-rct_fsmidline_april2016/_design/



CAREGIVER QUESTIONNAIRE"

Parent unique Identifier

Help

Random identifier

Generate

Back

Tangerine

databases.tangerinecentral.org/group-rct_fsmidline_april2016/_design/ojai/index.html#run/da3ef8dd-9900-0277-c33a-bf995f73aa20



CAREGIVER QUESTIONNAIRE"

Parent unique Identifier

Help

Random identifier

MUHQAA

Generate

Back

Using more than one language

Tangerine

databases.tangerinecentral.org/group-rct_fsmidline_april2016/_design/ojai/index.html#run/da3ef8dd-9900-0277-c33a-bf995f73aa20

What is the relationship between you and the child
Mufitanye iyihe sano?

Mother/Nyina Father/Se Grandmother or Grandfather / Nyirakuru cyangwa Sekuru

Other (specify..../Undi murezi (Sobanura))

Other (specify) Skipped

What is the other parent's age?
Imyaka y'undi mubyeyi

What is your current main occupation?
Mu buzima busanzwe ukora iki? (Andika igisubizo kimwe gusa)

Unemployed /Looking for work / Nta kazi mfite/Ndimwo ndashaka akazi

More than one questionnaire

Tangerine

AFRICA CAPACITY INDICATORS

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#assessments

User nzjeap Logout

Groups APK Results

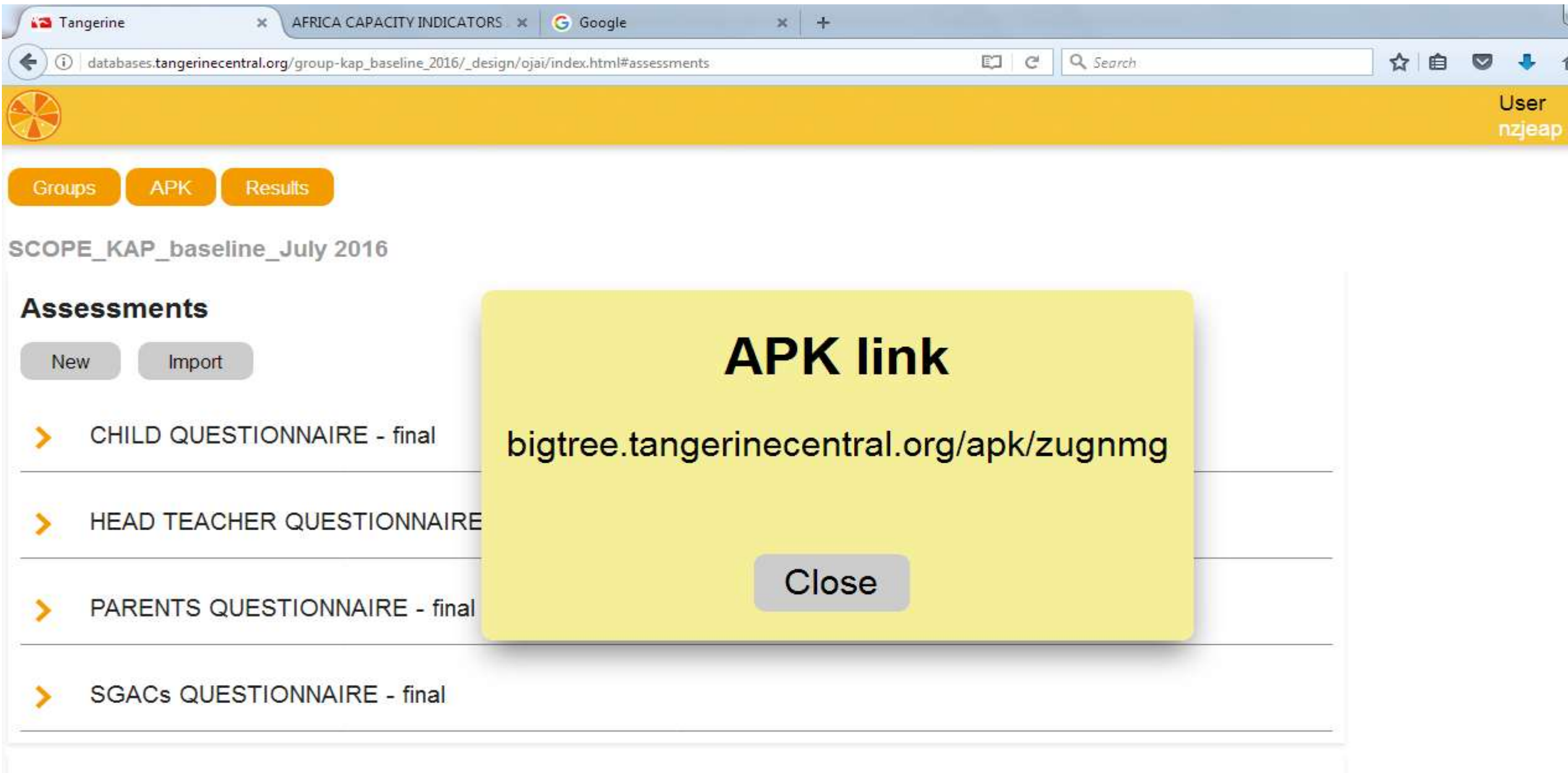
SCOPE_KAP_baseline_July 2016

Assessments

New Import

- ✓ CHILD QUESTIONNAIRE - final
Download key f4194
- ✓ HEAD TEACHER QUESTIONNAIRE - final
Download key 2f967
- ✓ PARENTS QUESTIONNAIRE - final
Download key e3e09
- > SGACs QUESTIONNAIRE - final

Easy to upload in electronic devices



The screenshot shows a web browser with multiple tabs. The active tab is titled 'databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#assessments'. The browser's address bar shows the URL. The page has a yellow header with a Tangerine logo on the left and 'User nzjeap' on the right. Below the header, there are three orange buttons: 'Groups', 'APK', and 'Results'. The main content area is titled 'SCOPE_KAP_baseline_July 2016' and 'Assessments'. Under 'Assessments', there are two buttons: 'New' and 'Import'. A list of assessments is shown, each with a yellow arrow icon and a title: 'CHILD QUESTIONNAIRE - final', 'HEAD TEACHER QUESTIONNAIRE', 'PARENTS QUESTIONNAIRE - final', and 'SGACs QUESTIONNAIRE - final'. A yellow modal box is overlaid on the page, containing the text 'APK link' and the URL 'bigtree.tangerinecentral.org/apk/zugnmng'. At the bottom of the modal is a 'Close' button.

Tangerine

AFRICA CAPACITY INDICATORS

Google

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#assessments

Search

User nzjeap

Groups APK Results

SCOPE_KAP_baseline_July 2016

Assessments

New Import

> CHILD QUESTIONNAIRE - final

> HEAD TEACHER QUESTIONNAIRE

> PARENTS QUESTIONNAIRE - final

> SGACs QUESTIONNAIRE - final

APK link

bigtree.tangerinecentral.org/apk/zugnmng

Close

Easy to export

Tangerine AFRICA CAPACITY INDICATORS

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#res

CHILD QUESTIONNAIRE - final Results

Save options

CSV

Results (Results 1-100 of 2762)

Page 1 per page 100

No ID - 2016-Jun-27 17:31 (11 months ago) Details

No ID - 2016-Jun-27 14:43 (11 months ago) Details

No ID - 2016-Jun-27 13:07 (11 months ago) Details

No ID - 2016-Jun-27 17:25 (11 months ago) Details

No ID - 2016-Jun-27 16:21 (11 months ago) Details

No ID - 2016-Jun-27 15:51 (11 months ago) Details

Tangerine AFRICA CAPACITY INDICATORS

databases.tangerinecentral.org/group-kap_baseline_2016/_design/ojai/index.html#results/f4f46d3e-6082-9d43-fc1b-3d65df7f4194

CHILD QUESTIONNAIRE - final Results

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Page 1 per page 100

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No ID - 2016-Jun-27 17:25 (11 months ago) Details

No ID - 2016-Jun-27 16:21 (11 months ago) Details

No ID - 2016-Jun-27 15:51 (11 months ago) Details

Opening kap_baseline_2016-child-questionnaire---final.csv

You have chosen to open:

kap_baseline_2016-child-questionnaire---final.csv
which is: Microsoft Excel Comma Separated Values File (5.4 MB)
from: http://databases.tangerinecentral.org

What should Firefox do with this file?

☒ Open with Microsoft Excel (default)

☐ Save File

☐ Do this automatically for files like this from now on.

OK Cancel

User nzjeap Logout

12:21 PM 5/18/2017

Data exported in CSV/Excel format

kap_baseline_2016-child-questionnaire---final [Read-Only] - Excel (Product Activation Failed)

Jean Providence Nzabonimpa

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	enumerator	year	month	date	sgprovinc	hhid	HQ11	HQ12	HQ13	HQ19	HQ20	HQ21	HQ21_0	HQ22	HQ23_1	HQ23_2	HQ23_3	HQ23_4	HQ23_6	HQ23_7
2	theophile	2016	8	4	3	9	1	0	5	1	1	1	logicSkipped	0	0	0	0	0	0	
3	xavier	2016	7	26	2	9	1	1	10	1	1	3	logicSkipped	0	0	0	0	0	0	
4	denys	2016	7	11	5	23	1	0	5	1	1	2	logicSkipped	0	0	0	0	0	0	
5	laetitia	2016	7	21	5	12	1	1	5	1	1	2	logicSkipped	0	0	0	0	0	0	
6	aline	2016	8	2	4	17	1	1	10	1	1	3	logicSkipped	0	0	0	0	0	0	
7	laetitia	2016	7	8	5	7	1	0	4	1	1	2	logicSkipped	0	0	0	0	0	0	
8	amede	2016	8	3	4	24	0	1	5	1	1	2	logicSkipped	0	0	0	0	0	0	
9	claud	2016	7	19	3	22	1	1	5	1	1	2	logicSkipped	0	0	0	0	0	0	
10	james	2016	8	6	1	6	0	0	6	1	1	3	logicSkipped	0	0	0	0	0	0	
11	irene	2016	8	4	3	17	1	1	4	1	1	2	logicSkipped	0	0	0	0	0	0	
12	uhawenayo	2016	7	8	2	18	1	1	3	1	1	1	logicSkipped	0	0	0	0	0	0	
13	donatien	2016	7	23	5	15	1	0	6	1	1	2	logicSkipped	0	0	0	0	0	0	
14	amede	2016	7	8	4	10	1	0	7	1	1	3	logicSkipped	0	0	0	0	0	0	
15	grace	2016	8	24	3	16	1	1	8	1	1	3	logicSkipped	0	0	0	0	0	0	
16	solange	2016	7	17	3	11	1	0	5	1	1	1	logicSkipped	0	0	0	0	0	0	
17	immaculee	2016	7	15	3	5	1	1	5	1	1	1	logicSkipped	0	0	0	0	0	0	
18	hilary	2016	7	21	2	1	1	0	6	1	1	2	logicSkipped	0	0	0	0	0	0	
19	josiane	2016	7	9	4	17	1	0	8	1	1	3	logicSkipped	0	0	0	0	0	0	
20	sylvain	2016	8	1	3	14	1	1	5	1	1	1	logicSkipped	0	0	0	0	0	0	
21	vidiedon	2016	7	29	3	1	1	0	3	1	1	1	logicSkipped	0	0	0	0	0	0	
22	theophile	2016	7	19	3	7	1	0	5	1	1	1	logicSkipped	0	0	0	0	0	0	
23	theophile	2016	7	9	5	7	1	0	4	1	1	1	logicSkipped	0	0	0	0	0	0	
24	theophile	2016	7	9	5	7	1	0	4	1	1	1	logicSkipped	0	0	0	0	0	0	

kap_baseline_2016-child-questionnaire---final

Your data in MS Excel !

- Remote monitoring during data collection
- Quality checks and feedback
- Supervisory support
- Data cleaning, even pre-analysis

Advantages and disadvantages of e-data collection



Why e-data collection

- ❖ Data collection: huge investment in time, human resource, and cost.
 - One is compromised, quality of data suffers.
- ❖ When data is collected using paper-based formats:
 - Errors happen despite clear instructions in the questionnaire.
 - More time is also lost in transferring data from hard to soft version
 - Data cleaning and analysis take more time than analysts/researchers can afford
- ❖ Electronic Data collection, using:
 - Mobile phones; Android-based tablets; Laptops/PC

Advantages of e-data collection

- User-friendly, except for the technophobia
- No data entry and related cost
- No internet connection required when in the field
- Data quality is far higher, more accurate
- Real-time access to data
- Take pictures, videos, audios, etc. to aid visual analysis
- Free open platforms for e-data collection

Advantages of e-data collection (Cont'd)

- Save paper and ink, environment-friendly
- Save money from data entry
- We can hire skilled staff in data analysis and info management
- GPS mapping if required, geo-tagging our data

Good news: not rocket science!

- Hassle-free sign-up and set-up process
- Build forms easily: intuitive web interface/upload existing XLSform
- Allows for complex survey logic, different types of data/languages
- Works on Android, iOS and many other devices, offline or online
- Automatic sync to the cloud or server and fast analysis
- Data can be exported in a variety of formats



... not rocket science!

Tangerine x AFRICA CAPACITY INDICATORS x KoBoToolbox | Quick Start O x +

https://kobo.humanitarianresponse.info/forms/#/forms/aaF3awmwFad856A6J2SUBL/edit Search

AFRICA CAPACITY INDICATORS 2018 SAVE

Layout Search Library

Signature of data Expert	
* Official working language(s)	

Select One

1.0 Decimal

GPS

Note

Select Many

Date

Photo

Barcode

abc Text

Time

Audio

Acknowledge

123 Number

Date & time

Video

1+1 Calculate

What do you need to get started?

- Commitment
- Computer or laptops
- Android devices or Tablets
- Internet connection (during the design, e-monitoring, up/downloading)
- Questionnaire (usually already designed the traditional way)
- Programmer/digitize the questionnaire
- Data collectors, YOU are one!

BUDGET and ENOUGH EVIDENCE TO CONVINCE MANAGEMENT AND TECHNOPHOBIA TO SWITCH FROM PAPER TO TECHNOLOGY

Disadvantages of e-data collection

- Reliable internet connection during the programming.
- Some e-data collection platforms are not maintained
- Cloud computing, whose cloud is it? Who is accountable?
- Technophobia – fear of change

Options for ACBF & Way forward

Options for ACBF

- Multiple options: KoBo, Tangerine, ODK, Ona, etc.
- Viable option: Tangerine, RTI has a responsive technical team – though a subscription fee is required

Way forward

OVER TO YOU !



References

- Mobile Data Collection (mobile phones, tablets or PDAs for programming or data collection) http://www.betterevaluation.org/evaluation-options/mobile_data_collection
- Using Mobile Data Collection for Development <https://docs.gatesfoundation.org/Documents/Using%20Mobile%20Data%20for%20Development.pdf>
- Free and open-source set of tools <https://opendatakit.org/>
- - Originally designed for EGRA and EGMA but can accommodate all types of surveys, used to be free but now entering a subscription fee paying structure <http://www.tangerinecentral.org/>
- Free and open source <http://www.kobotoolbox.org/>

THANK YOU!

QUESTIONS AND THOUGHTS?