Training technical report
Using Open Data Kit (ODK) in animal health surveys

26 & 27/7/2018
30 & 31/7/2018
December 2018 – January 2019
February – April 2019
November 2019

Funded By

The International Center for Agriculture Research in the Dry Area (ICARDA)
GENERAL OVERVIEW
Open Data Kit is a useful tool for data mobile collection in animal health surveys. It is used by thousands of users worldwide, also adopted by WHO (World Health Organization) and CDC (Centers for Disease Control and Prevention). ODK requires smartphone or tablet, and its main advantage is that it is used in remote regions with no Internet connection.

COURSE OBJECTIVES
The main purpose of this course was to initiate veterinarians (epidemiologists, assistant professors, ...) and researchers to ODK application. The major topics that were addressed included:
1. Preparing a questionnaire on XLSForm and conversion to .xlm format
2. Creation of Google sheets and downloading of .xlm in Google Drive
3. Downloading of ODK collect on smartphone/tablets and downloading of the form on it
4. Field data collection through ODK collect
5. Sending of forms to Google Drive
6. Collection of data and conversion to .xl

The course covered theoretical and practical aspects of state-of-the-art knowledge and techniques. The specific objectives of the course were:
- To share experiences on animal health questionnaires and their difficulties through interactive discussion with colleagues
- To strengthen capacity in field data collection and applying it in animal health surveys;
- To encourage and strengthen ODK training by trainees in their institutions.

TARGET AUDIENCE
A total number of 34 participants (17 males and 17 females) from Tunisian and Algerian institutions participated in the training: National School of Veterinary Medicine of Sidi Thabet (NSVM), The Institute of Veterinary Sciences of Constantine (Algeria) (IVSC), The Higher School of Agriculture of Mograne, Tunisia (HAS), The General Direction of Veterinary Services (GDVS), The Institute of Veterinary Research of Tunisia (IVRT) and The National Centre for Zoosanitary Vigilance (NCZV).

Globally, the course targeted veterinary epidemiologists and agronomic engineers working in animal health field, specifically in designing and performing questionnaires to collect animal and herd data.

ORGANIZING COMMITTEE
Dr Médiha Khamassi Khbou, Assistant Professor, Animal infectious diseases department NSVM, Sidi Thabet, Tunisia
Dr Faten Bouaicha, DVM, Resident in veterinary medicine, Parasitology department, NSVM, Sidi Thabet Tunisia.
Dr Rihab Romdhane, DVM, Msc student, Parasitology department, NSVM, Sidi Thabet Tunisia.

COURSE STRUCTURE
The course accounted for a total of about 8 theoretical and practical hours during two days for each session. It was organized into 7 lectures, 4 the first day and 3 the second day:
1. Introduction to ODK (lecture)
2. The questionnaires in animal health (lecture)
3. Initiation to ODK on tablets and smartphones (lecture + practical)
4. Designing the questionnaire XLSForm on Microsoft Excel (lecture + practical)
5. Creation of new Google sheet and link with the questionnaire (lecture + practical)
6. Conversion of the questionnaire from .xl to .xml online (lecture + practical)
7. Data recuperation from Google Sheet for analyze (lecture + practical)

Two demonstrative surveys were prepared and shared with trainees. The first one was tested on ODK immediately by the trainees to show them the different functionalities on tablets. The second survey (questionnaire) was prepared on paper and the trainees were invited to repeat the whole steps until recuperating data on Google sheet.

COURSE IMPLEMENTATION
The course implementation and program is summarized in the course agenda (Annex 1). High level of commitment and presence was shown by all the trainees throughout the theoretical and the practical parts of the course.

GENERAL COURSE EVALUATION BY TRAINEES
At the end of the training, each participant provided feedback on their perception of the effectiveness of the training process, format and content.
Through training evaluation questionnaires, various evaluations were carried out during the course, including the meeting room, the documentation, organization...
Regarding the overall organization of the training course, all the participants qualified it as very good or excellent. Some participants expressed their interest in giving more time for the course and suggested three full days.

CONCLUSION
The course was successful in reaching its specific objectives and much appreciation was expressed by the participating trainees. The course was a forum for very fruitful and constructive discussions and was enriched by the different institutions (second session) which were presented by the participating trainees. In the post-course, it looks very clear that a network of knowledge sharing is already being established between the trainees with a support from NSVM scientists.
CONTINUATION IN 2019

Perception survey on ticks and tick-borne pathogens (December 2018 – January 2019)
A survey among sheep owners was performed in Tunisia, using ODK, to measure their knowledge and perception about ticks and tick-borne pathogens. Totally, 86 farmers from 6 districts in Tunisia, were interviewed, 73 among them using ODK on Samsung Tablets. The questionnaire comprised 60 questions and the mean duration of the total interview, was estimated to 16.23 ± 9.39 minutes. Collecting data on ODK, allowed quick and accurate management and analysis. Even the interviews made on paper, were entered using ODK on tablet after designing the questionnaire in XLS-form. It was easier than entering all data on Excel sheet. In sum, 558 and 165 questionnaires papers about perception on ticks and tick-borne pathogens of DVM students and veterinarians, respectively, were entered using ODK.

Training of DVM students to ODK use (February - April 2019)
One student was trained to use ODK for her DVM thesis: Ms Hajer Tanfous. She is working on perception’s assessment of pet owners on self-using of drugs, particularly acaricides. Ms. Tanfous is supervised by Pr Mohamed A. Darghouth and performing her DVM thesis in the Laboratory of Parasitology at the National School of Veterinary Medicine, of Sidi Thabet. In a period of two months, 314 were interviewed using ODK, through smartphone. Ms Tanfous reported that, a lot of time was saved, when using ODK, in comparison with paper form (used for testing the reliability of the questionnaire) and this has allowed her to interview more pet owners.

Training of researchers in agronomy from INRAT (November 2019)
We participated with ICARDA to train 30 researchers from different institutes linked to agriculture and agronomy field on using ODK. The training was achieved from 5th to 7th November 2019 in INRAT, and both theoretical and practical courses were realized. A template prepared by ICARDA staff was suggested to be tested and was successfully prepared by almost all the trainees. Documentation (Paper and power point slides, in Annex IV), explaining the principles of ODK and the step-by-step questionnaire design was shared with all trainees.
Annex I: Course Program

<table>
<thead>
<tr>
<th>Course N°</th>
<th>Title</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIRST DAY</td>
<td>Registration</td>
<td>8:30-9:00</td>
</tr>
<tr>
<td>Course 1</td>
<td>Introduction to ODK</td>
<td>9:00-9:15</td>
</tr>
<tr>
<td>Course 2</td>
<td>Questionnaires in animal health</td>
<td>9:15-10:00</td>
</tr>
<tr>
<td>Course 3</td>
<td>Practical initiation to ODK on tablets</td>
<td>10:00-11:00</td>
</tr>
<tr>
<td></td>
<td>Coffee-break</td>
<td>11:00-11:30</td>
</tr>
<tr>
<td>Course 4</td>
<td>Designing questionnaire in XLSForm</td>
<td>11:30-13:00</td>
</tr>
</tbody>
</table>

SECOND DAY

| Course 5  | Creation of Google sheet (blank) on Google Drive | 9:00-9:30 |
| Practical course | Transforming a questionnaire from paper to ODK | 9:30-13:00 |
|           | Coffee-break                                   | 11:00-11:30|
| Course 6  | Conversion of the questionnaire to .xml        | 11:30-12:30|
| Course 7  | Recuperation of data from Google sheet for analyzing process | 12:30-13:00|

Annex II: Trainers
Dr Médiha Khamassi Khbou, Assistant professor in the NSVM, Sidi Thabet, Tunisia

Annex III: Trainees
Annex IV. Power point presentation on the use of ODK tool in animal health surveys
Utilisation de l’application ODK dans les enquêtes

Dr. Médîha KHAMASSI KHBOU
Service de maladies contagieuses émergentes, législation sanitaire- ÉCOLE NATIONALE DE MEDICINE VETERINAIRE DE SIDI THABET

THANKS

Khaled El-Sham’aa
Research Database Manager and Senior Analyst, ICARDA, Cairo, Egypt
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OPEN DATA KIT
• Fondé en 2008
• Google (projet) + Université de Washington
• Donation : communauté d’utilisateurs
• But : Open source tools, easy to try, easy to use, easy to modify and easy to scale
  • https://opendatakit.org/
  • Utilisation mondiale

https://opendatakit.org/community/history/

Noble objectif
...is to create technologies that improve the lives of the underserved. Our current focus is designing, building, deploying, and supporting mobile data collection systems that work well in challenging environments ...

https://nafundi.com/about/
Questionnaires “papier”

Erreurs de saisie

Et les autres?

Principe

1- Conception du questionnaire
2- Téléchargement du questionnaire sur serveur cloud d'ODK
3- Téléchargement questionnaire sur tablette/smartphone
4- Collecte des données à partir du terrain
5- Envoi des données au serveur cloud d'ODK
6- Téléchargement et analyse des données

Comment ça marche?
Installer **ODK collect** sur tablette/smartphone

Faire le design du questionnaire sur Fichier excel ordinaire

Convertir le fichier .xls ➔ .xml (https://opendatakit.org/xlsform/)

Placer le fichier .xml dans Google Drive
Télécharger le questionnaire (tablette)

Remplir un formulaire
Éditer un formulaire sauvegardé (1)
Envoyer un formulaire finalisé (1)
Voir formulaire envoyé (1)
Télécharger un formulaire vierge
Supprimer formulaire

Sélectionnez votre questionnaire xml à partir de Google Drive/Partagé

Soit
Demonstrative survey for the ODK training at the National Veterinary School of Sidi Thabet in 26th and 27th July 2018

Get the GPS coordinates of the field
Best practice: take it at the center of the field

Démarrer le PointGéo

Modifiez la localisation

Latitude: N 36°54'21"
Longitude: E 10°23'27"
Altitude: 78m
Précision: 16m

Take a Photo (optional)

Prendre une photo
Choisir une image
**Fichier google sheet**

<table>
<thead>
<tr>
<th>Avantages</th>
<th>Inconvénients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facile, rapide</td>
<td>Incompatible avec iOS et autres</td>
</tr>
<tr>
<td>Sans internet</td>
<td>Impossible de faire marche-arrière</td>
</tr>
<tr>
<td>Nombre illimité de questions et formulaires</td>
<td></td>
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<tr>
<td>Plusieurs langues</td>
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<tr>
<td>Plusieurs utilisateurs</td>
<td></td>
</tr>
<tr>
<td>Utilisation dans plusieurs domaines/façons</td>
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</tr>
</tbody>
</table>

**Data analysis**
Contactez-moi

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