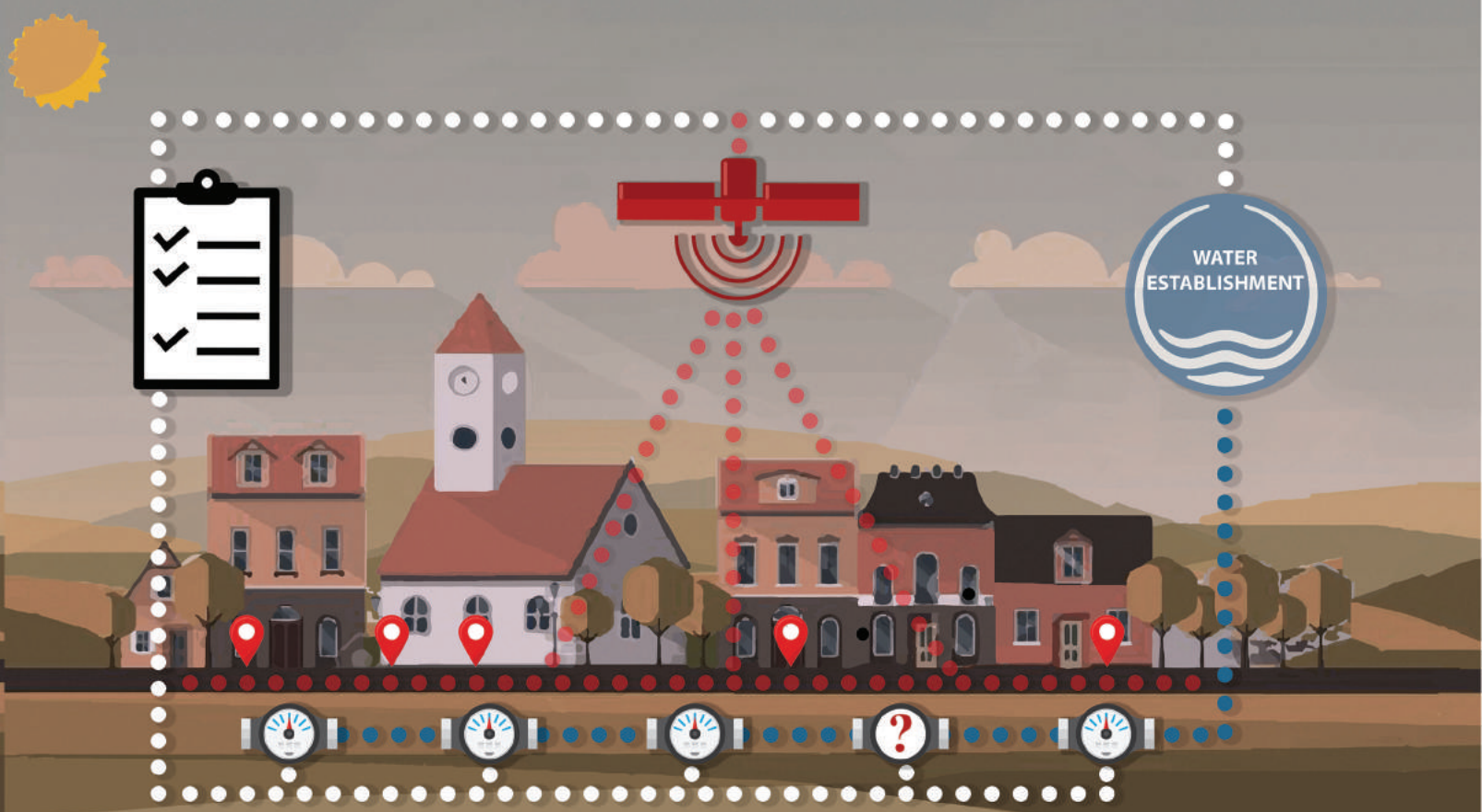
miyahcon
consortium for water accountability in lebanon

CUSTOMER DATABASE UPDATE MANUAL



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EU REGIONAL TRUST FUND 'MADAD'
"مدد" : الصندوق الائتماني الأوروبي

MiyahCon Customer Database Update Manual is a step-by-step approach for each of the four phases needed when updating subscriber information in Water Establishment Customer Databases. It is one of the publications produced within the framework of the project "Promoting Sustainable Management of Water Services and Resources in Countries Affected by the Syrian Crisis" financed by EU-MADAD.

This manual is available in English & Arabic.

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November 2018

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miyahcon
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تعزيز حس مسؤولية المواطن تجاه قطاع مياه لبنان

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November 2018

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1 INTRODUCTION

This Manual was developed by the MiyahCon consortium in the framework of the project "Promoting Sustainable Management of Water Services and Resources in Countries Affected by the Syrian Crisis", funded by the European Union (TF-MADAD/2016/T04.20).

MiyahCon is a consortium financed by the European Union's MADAD fund, led by GVC and with the partners CISP and ACWUA – who work in collaboration with the Water Establishments to improve public water services in Lebanon. The project aims to manage water demand through activities at infrastructure and institutional levels, as well as engaging citizens. Infrastructure improvements are mainly through rehabilitation and upgrading of existing infrastructure to enable more reliable water supply. These improvements, combined with institutional support to the Water Establishments for management of their customer service, lead to higher customer satisfaction. Working closely with citizens and their representatives to ensure their satisfaction and subsequent payment of water fees is crucial to secure revenue collection by Water Establishments and enable further improvements in the operation and maintenance and water demand management.

This Customer Database Update Manual summarizes the process of identifying and geo-referencing the subscribers before handing the information over to the Water Establishments to insert in their customer database and system.

The Central Administration of Statistics and the german development agency, GIZ, had previously conducted customer identification and database updates in selected areas. MiyahCon attempted to integrate the lessons learnt from these experiences into its process and conducted several variations of the process in pilot localities, in order to identify the most efficient and effective practice. The Water Establishments, who were involved at each step of the process by MiyahCon, can benefit from these experiences, and choose a suitable approach for approval and adoption. In addition, this final version includes some of the outcomes discussed during the National Customer Database Workshop held on 29th June 2018. We thank all the actors that participated and contributed to the improvement of the methodology.

2 BACKGROUND

After the law 221/2001, four regional Water Establishment were created to integrate 21 previous Water Authorities. Together with this integration, the paper archives of these local Water Authorities were migrated into digital customer databases of the Water Establishments (WE).

Thus, the current customer databases contain records collected and verified by the Water Establishments (new subscriptions from 2005 to date), and many records from before the creation of the Water Establishments. For example, Figure 1 provides an idea of the situation of the customer records for the Municipality of Qab Elias and Wadi Dalem (Beqaa): in 2016, out of 3,509 active records in BWE Customers' database, more than 80% date from before 2005.

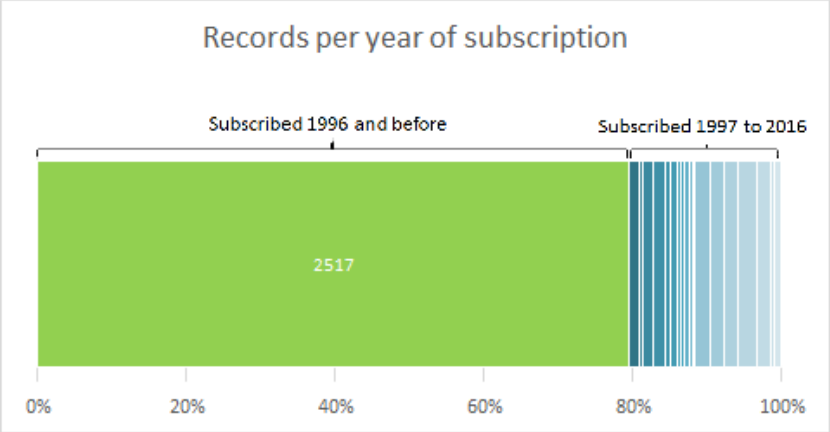


Figure 1 - Percentage of records in the database according to the year of subscription

During the migration from paper archives to digital databases, some data was lost, some information was duplicated and some mistaken. In addition, old records have not been updated for deceased persons or unused subscriptions, since in general the Water Establishments did not have the resources to check and/or update the customer data with field verification. However, this verification is of primary importance for:

- Cleaning the databases from no longer existing records;
- Locating the subscriptions;
- Updating old or wrong data of the existing subscriptions.

Figures 2 and 3 show a scheme of the "problem tree" that a customer catabase field survey can solve and the consequent possible procedures that Water Establishments could adapt in their management to enable better fee collection.

These improvements will not automatically happen once the Customer Database is updated. Water Establishments need to undertake further initiatives and set additional processes in order to turn these updates and improvements into practice and a habit. Albeit work intensive, this process is indispensable, since no management initiative can be implemented if the data it is based on, is not reliable.

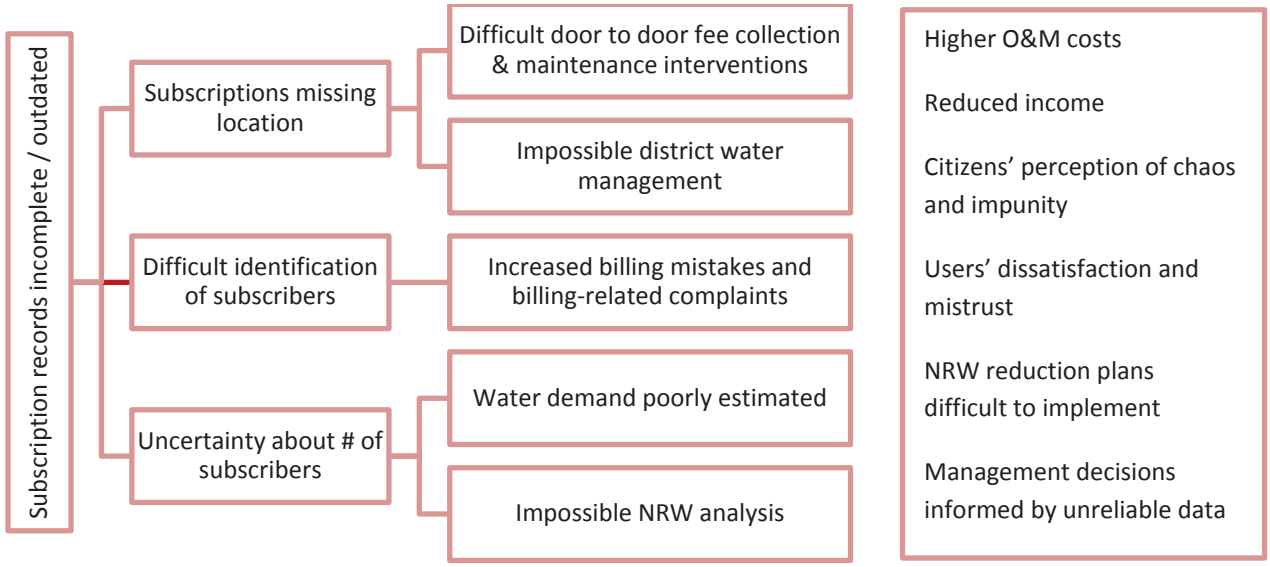


Figure 2 - Problem tree resulting from not updated information in a customer database

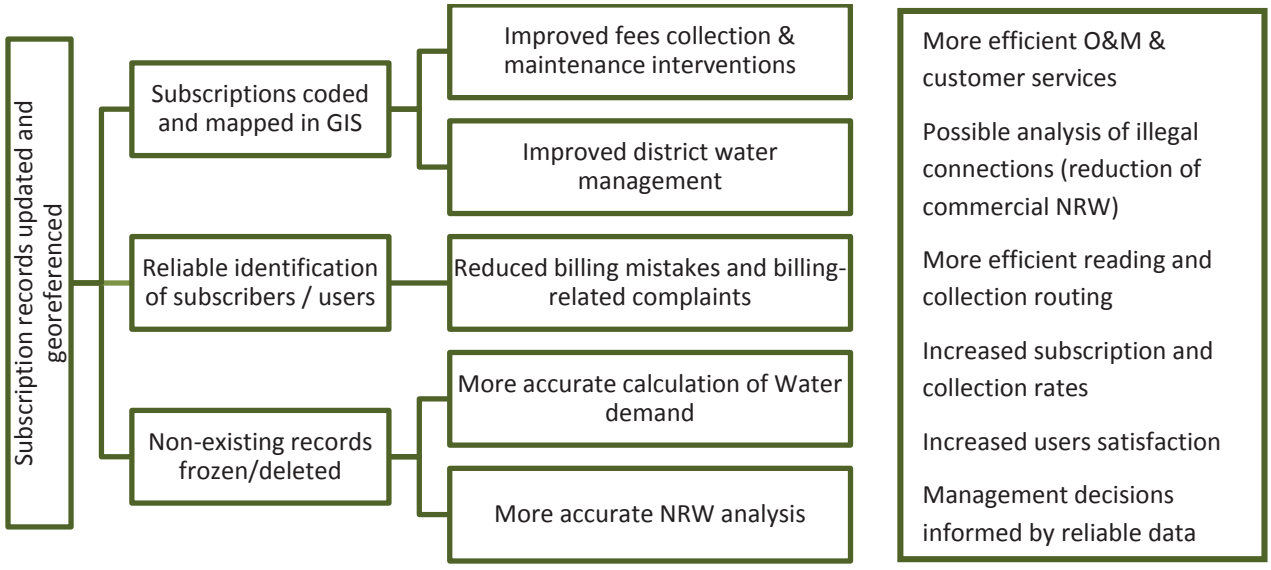


Figure 3 - Opportunity tree for Water Demand Management improvement

Currently, the customer databases of the Water Establishments are part of a more global ERP platform (Enterprise Resource Planning) software. This platform has interconnected functions corresponding to all the Water Establishment Departments (Customer Services, Billing and Finance, Assets, etc.) and could allow holistic management of the water services. The customer database of this system is composed of a variety of fields containing (or ready to contain) all the information about the customers such as, but not limited to:

- Record ID, subscription number, contract number, year of subscription, status of the subscription
- Administrative information such as Governorate, Qada', Municipality, locality, address, plot number, GPS coordinates of the customer location (X,Y,Z)
- The subscriber address code and its components according to the Cadastral Department (CD) or the Census Administration for statistics (CAS). The definition of this code and components are described in Chapter 3
- Subscriber names, register number, and the names of the father and mother
- Quantity of water received, surface of the residential unit, name of the resident in the unit, name of the beneficiary of the subscription (a subscription has the right to 1m3 of water per day if the apartment is up to 100m^3, and 2m^3 of water per day if the apartment is larger than 100 m^3)
- Caliber or water meter location, serial number, number of subscriptions on the same caliber, water meter readings, payment information…

Updating and completing the whole database is generally beyond an NGOs capacity and mandate. It is therefore important to agree with the targeted Water Establishment which data are the most important to be collected from an operational point of view and in a NRW reduction perspective.

3 SUBSCRIBER IDENTIFICATION AND GEOREFERENCING

3.1 Preparation phase

The following points describe the main steps to be implemented before the field activities:

3.1.1 Step 1: Define data and locations to be updated in collaboration with WEs

To start with, any institution working to update the customer database should receive approval from WE on the project scope and processes. This means agreeing with the WE on which data are to be collected from a non-revenue water reduction perspective.

- **NOTE**: the selection of the type of data to be collected should involve all the departments concerned by the customer database. It is advisable to organize a round table with the WE Customer, Operations and Maintenance departments for the explanation of the process and the definition of the priority fields to be added in the table.
- **NOTE**: information related to the Subscriber Address Code and the main Subscriber information are mandatory, since they allow to identify the exact location of the subscription. They include at least the full name, mother's name and national ID number, to ensure the exact identification of the subscription owner and avoid homonymy.

3.1.2 Step 2: Receive extract of ERP data

Ask the WE to provide the extract of the customer database that corresponds to the targeted area and all information available about customer identity.

NOTE: The WE will usually provide this information as an Excel extract of their customer database. It is necessary to specify to the WE, that the extract should contain all the fields that need updating as well as the existing information about subscribers that could help in their identification, even if out of date or incomplete

NOTE: Users are sometimes registered in WE databases under a different locality than the one of residence. For example part of the users of the locality of Zabboud are registered in the BWE list of Zabboud and part in the list of Harbata. In the BWE database there is no list for the Municipality of Bejjeje, and the users residing there are registered in the WE list of Ain.

Geographical locality	*ERP locality*
Zabboud	Zabboud + Harbata
Bejjeje	Ain
Ain	Ain

Thus, to ensure that the WE provides all the necessary subscribers lists for the area to be assessed, it is necessary to address the local WE officer/collector, who should know the distribution of customers in the field.

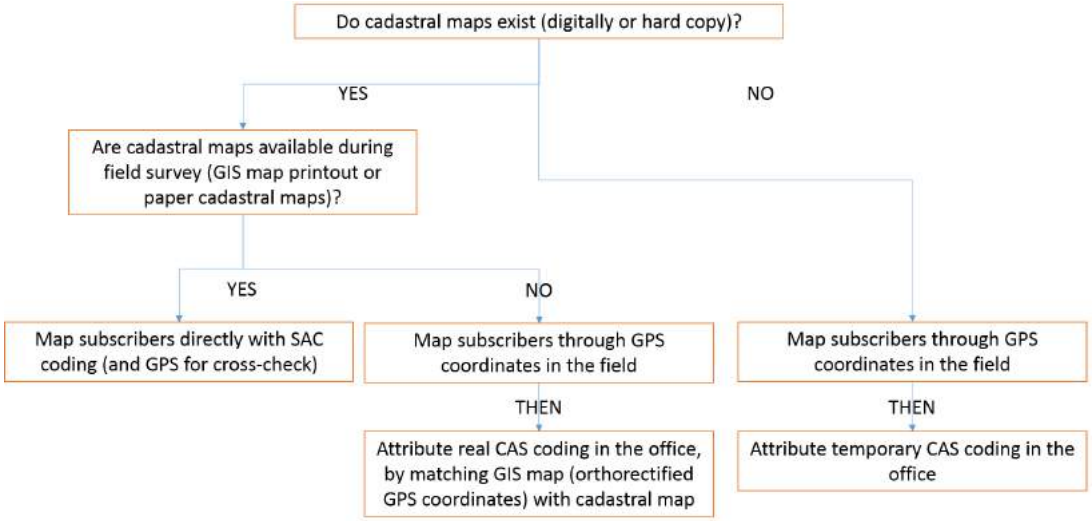
3.1.3 Step 3: Research and collect further information

Some WE have conducted similar field surveys in the past, in collaboration with CAS department and/or international Donors. Also additional information from NGOs and other institutions is at times available, as for example a list of electricity subscribers, or a municipal mapping of the residents etc.. It is important to collect all information available for the same targeted localities, it might provide useful indications for the location of the WE subscribers when comparing it with the WE subscriber list.

3.1.4 Step 4: Request cadastral maps and adopt Lebanese mapping coding

For projects supporting the Water Establishments, it is essential to adopt an address coding system, that complies with the official parcel coding of the Cadastral Department. This will save time and resources and unify the outputs for the Water Establishments. This should be done in several steps:

- Request digital cadastral maps, directly or through mediation from the WEs. Based on these, adopt the Lebanese mapping coding to define the Subscriber Address Code.
- The digital cadastral maps will be used on the field, for identification of the plot number and orientation of the surveyors as well as in the WE GIS system after migration of the survey results. For this last purpose, the digital maps should be converted to a GIS dynamic layer that can be further updated.
- In case cadastral maps exist for the area to be surveyed, but are not available in digital version before the beginning of the field survey, it is possible to locate the subscriptions through GPS coordinates. At a later stage (during the data analysis or after the hand over to the WE), these coordinates will be converted in the Lebanon stereographic system, and matched to the Subscriber Address Code by either the NGO or the WE GIS unit.
- In case cadastral maps are not available at all for the area to be surveyed, a temporary code should be assigned to each building of the area in a comprehensive mapping exercise. This temporary code will then be translated into the Subscriber Address Code whenever a cadastral map with parcel numbers will be available.



Subscriber Geographical Location

There are three main ways for identifying subscribers' geographical location:

1. **References to local landmarks**: are not a reliable method, as they depends on changing environmental features and on interpretation by the operator.
2. **GPS coordinates**: GPS coordinates are universal, but have low locational precision if hand taken and might need conversion (WGS84 to stereographic coordinates).
3. **Coded address** (postal address, cadastral coding, etc.): coded addresses based on unique code over Lebanon represent the most reliable way to provide geographical address and link it to the billing system database. Water utilities can use already existing coding systems, or create their own, but the chosen system should be as universal as possible. In Lebanon, the Cadastral Department (CD) geographic addresses allow the identification on national level of a specific parcel in a unique way through a series of characters concatenated in a geographic address code. The first character identifies the Governorate; the second one identifies the District within the Governorate, the following three (345) identify the Village (منطقة عقارية). The last four characters identify the Plot (Real Estate parcel, عقار). The definition of this code in the database should be a character (text), despite being composed of a string of digits (numbers).

– –	– – –	– – – –	– – –	– –	–
District	Village	Plot Number (Real Estate)	Building Number (Subplot)	Floor Number	Apartment Number
CD national Coding + WE GIS subplot				Optional secondary coding	

Further information (secondary coding) can be provided by numbering sub-plots (in case of several buildings on a same parcel), and adding sub-addresses for the identification of the floor (2 digits) and the apartment (1 digit).

3.2 Field Phase

3.2.1 Step 5: Identify local knowledge holder and chose data collection method

There are several types of methods that can be applied for data collection during the field phase. A crucial determinant of the method chosen is the availability of a local knowledge holder is available on the ground.

OPTION A: Targeted visits to subscribers by / with knowledge holders

This method requires identifying "knowledge holders", i.e. one or more knowledgeable person(s) that are able to confirm the identity and location of subscribers from the database extract, based on their previous experience. The knowledge holders could include, but are not limited to WE collectors (in function or retired), WE operators, WE technicians, Municipality members (mayor, mokhtar, police officers) and religious focal points (priests, sheiks). Identifying this knowledge holder and ensuring his willingness to collaborate is a precondition for this method. Once the collaboration of the knowledge holder is secured, the person(s) will visit only those units that have a water subscription, and update their status and records with the collaboration of the subscriber.

This method is preferred, since it is efficient in terms of time and resources as well as being reliable. However, mitigation measures should be adopted in case the identified knowledge holders are suspected of conflict of interest (collusion with illegal users, corruption etc.).

Option B: Comprehensive door-to-door visits by trained surveyors

Option B consists in the surveyors visiting all the units (residential and not) of the targeted area, mapping the location of each unit, and asking a responsible (owner, tenant, resident…) if there is a water subscription corresponding to the unit and, in case a subscription exists, collect the subscription data. This procedure will result in a comprehensive mapping of the targeted area, providing information for all the existing units including their water service status (subscribers or not). The problem of this comprehensive mapping is that it relies on the declarations of the interviewees, such as the subscription number and location. Although mitigation measures could be applied to increase the reliability of the survey (picture of past water service invoices, crosscheck with electricity subscriptions data, etc.), these do not completely guarantee the trustworthiness of the data. In some cases, a risk exists that the interviewee could:

- Not respect the authority of the surveyors, and refuse to answer or provide any data;

- Fearing fines for illegal connection, declare to be a subscriber and provide false receipts (from relatives, other units, etc.), therefore creating a false-positive and possible duplication;
- Fearing fines for late payments, declare not to have a subscription, and deny to be a subscriber (homonymy, ancestors with same names, etc.), therefore creating a false-negative;
- Genuinely not remember his subscription status and therefore provide little or unreliable information. This case happens more frequently in areas where there was no water service, where people have more than one apartment and more than one subscription, or where the WE has been particularly absent (no local operators or collectors).

In addition, the comprehensive survey is highly time-consuming, both for field inspections and office data verification. The only advantage of the comprehensive survey is a detailed picture of the targeted area which can include detection of illegal connections and, depending on the information requested to the interviewees, demographic reports (census, nationality, population distribution, etc.).

Option A) Targeted visits to subscribers by / with knowledge holders

- **Precondition**: WE Collector or other knowledgeable person that can identify and locate subscribers from the ERP database
- **Pros**: saves time and resources
- **Cons**: conflict of interest, incomplete information

If not available

Option B) Comprehensive door-to-door visits by trained surveyors

Mapping location of all units (residential or not), asking responsible about water subscription & data

Pros: comprehensive mapping, illegal connections report

Cons: Relies on declarations, risk of no answer, faulty answer

Finally, the two methods can be combined in different forms: the identified knowledge holders might lack information for some neighbourhoods, where door to door surveys might be needed; or a comprehensive mapping could be implemented and followed by cross-checks with knowledge holders. As matter of example, in 2016 GVC and Concern WW conducted three subscriber identifications with slightly different processes:

- In Zabboud (North Beqaa, 130 subscriptions, around 320 HH) a comprehensive door-to-door survey collected a great amount of information (around 70% of surveys found). However, at the end of the data collection, GVC requested the collaboration of the Mayor and the Water Establishment retired operator in order to verify the mapping, to clarify duplicated entries or subscriptions that had not been found.

- In Qab Elias (Central Beqaa, 3,500 subscriptions, around 5,000 HH), only few subscriptions were reliably identified by a first round of blanket door-to-door surveys. The collected data enabled a profiling of the population of the town, but could not be uniquely matched with the existing WE database. Therefore, a second round of field verification was organized with the support of a retired WE collector. The amount of information to be collected was reduced to the minimum (verification of the status and location of the subscription), and the enumerators used paper forms rather than ODK.
- In Halba (Akkar, 780 subscribers, around 5,400 HH) CONCERN WW applied a revised methodology: quick preliminary survey with a WE operator, indicating all the buildings where at least one subscription was active, followed by a targeted door-to-door survey to find and update the existing subscriptions.
- In Bint Jbeil (Bint Jbeil, 1,965 subscriptions, around 10,000 inhabitants) the ability to use GPS in the field is limited and no Cadastral map of the municipality is available, meaning that plot numbers cannot be identified. Additionally, many Bint Jbeil residents are seasonal, visiting Bint Jbeil only in the summer. In 2017, CISP team therefore mapped the building through Google Earth, created a temporary coding, and conducted a comprehensive mapping together with representatives of the Bint Jbeil community, followed by an identification of existing subscribers with the SLWE collectors in the field.

The selection of one of these methodologies depends on the resources available and on the characteristics of the localities to survey (urban/rural, rate of subscription, WE presence…).

For all of the above methodologies, it is highly recommended that a person from the WE is involved in all the steps of the process, to validate the results that will be handed over to the WE. This is of primary importance since, in order to delete the unused/non-existing subscriptions from the database, a political decision will need to be taken by the WE management, and the latter will be informed by the direct support of involved staff.

3.2.2 Step 6: Prepare data collection tools

Regardless of the chosen survey method, two types of data collection tools have to be prepared: a tool for the geographical location of the subscription and a tool to record the updates for each subscription.

Prepare terrain maps for location recording

As explained in Step 4, print-outs of cadastral maps are the preferred tool for attributing each subscription its Address Code.

- Collect best quality satellite images (resolution 50 cm), to be overlapped with the cadastral base maps if available

- Most of the GIS softwares offer the possibility to add a BING/GoogleEarth layer, whose quality is often sufficient to allow orientation in the field. However it should be kept in mind that, these images, not being orthorectified, can sometimes show up to 20 m shift compared to the stereographic cadastral maps. Another possibility is to purchase orthorectified satellite images from mapping companies, that can also provide the digitizing of all seen features of the satellite images, classifying them according to different themes and creating an additional GIS layer.
- For a general idea of the type of maps that could be useful for surveyors in the field, refer to Figure 4, showing a sample map realized by CAS in the village of Taalabaya (Beqaa). In fact, CAS produced this kind of map (cadastral overlapped to aerial picture) for previous surveys, upon request and against payment. A collaboration with them depends mainly on the resources available for the activity.

Figure 4 - CAS map of an island in Taalabaya, with indication of the plots borders and numbers

Prepare ODK/paper database for records update

To record the updates of the subscriptions, either paper or tablets can be used. The advantage of tablets is to reduce the time and mistakes of the manual inputting of records. However, if the identified knowledge holder is not comfortable with the device, the NGO can either support him with a second enumerator, or prepare paper database to be filled in handwriting.

The ODK questionnaire shall be linked to the customer database extract, to allow direct verification of the existence of a subscription number in the targeted locality (query “Pull data” from XLS sheet), and to show its related records. If the surveys are connected to the main server through internet, it is also possible for the ODK to verify if the same subscription number is present in the already collected surveys, so as to reduce the number of duplicated records.

ODK Form on Tablets

The survey is done through an ODK format. This is an electronic survey which enables to record information into a tablet, save it and send it through internet connection directly in an electronic database. This saves time and reduces transcription typing mistakes.

- ✓ Take as many notes as possible. If you need to take pictures for easier future location, give them a name or a number and add it in the “Comments” field.
- ✓ If you need to quickly write some information on paper, this is acceptable, but before the end of the day copy everything into the forms with the “Edit” option or directly in the database asking for IT support
- ✓ Before sending count the number of surveys saved. If they are more than you remember maybe you have saved some empty ones. Do not delete anything but inform the Information Manager of the possible problem
- ✓ Make sure to send the finalized forms when you have a stable internet connection
- ✓ Make sure to send the finalized forms only one tablet at the time (never all together) and with the green light of IT

3.2.3 Step 7: Train enumerators and inform the population

If a knowledge holder is not available, select enumerators, considering that deep knowledge of the area is a more useful asset than experience in surveying. Surveyors with topographical survey knowledge are needed only for field supervision and to check that the geographic area is covered by marking this on the map on daily basis in coordination with the GIS operator. If possible, ask local authorities to provide CVs that comply with your criteria (knowledge of the area, respectability, etc.). This will guarantee the support of the Municipality to the surveyors in case of problems with the citizens.

Regardless of the chosen survey method, the enumerators (surveyors or knowledge holders) must be trained on:

- Knowledge of the NGO, of the project and of the scope of the survey;
- Map reading and orienteering or GPS usage;
- Communication skills for dealing with residents.

To ensure obtaining the necessary authorizations and support local authorities and citizens need to be informed and involved:

- Prepare communication fliers and media announcements to reduce mistrust from population and clarify the mandate of the enumerators;
- Run a field survey test and adapt the procedure based on field experience. If possible, involve the local authorities as first interviewees to increase their commitment.

3.2.4 Step 8: Map subscribers

Whether the survey methodology is comprehensive or targeted, there are a few rules to follow for the surveyors to locate the subscriptions.

- If one parcel hosts more than one building, attribute consecutive numbers to the relevant buildings as a subplot, as explained in chapter 3.
    - In case of a targeted survey (Option A above), “relevant buildings” are those hosting at least one water subscription.
    - In case of a comprehensive mapping of all units (Option B above), a consecutive number should be attributed to every building.
- In the field, the surveyor should draw the approximate location of the building (subplot) in the parcel in relation to area of the parcel and / or in relation to other existing buildings. The field surveyor can mark the subplot writing down its sequential number (attributed directly in the field). The same subplot number will be attributed in the ODK survey and will be transferred on the GIS base map layer in the office. If the surveyors are using satellite images as support maps overlapped with the cadastral maps, the buildings shown in the map correspond roughly to the different roofs.
    - For every building, verify if there is a secondary entrance from another street, to avoid mapping the same building twice.
    - When a new building is identified, that does not exist on the map yet, the surveyor will mark the building with an X, paying attention to its location in relation to other existing buildings or features.
- In case different buildings/stairs rest under a same roof, consider each stairs as a separate building to which a consecutive number should be attributed.
- For attributing the secondary coding for the identification of the floor and the apartment, the surveyors should follow two basic rules;
    - for the floor, they should verify the lower floor giving access to a street, and consider it as the ground floor (numbered as 00);
    - for the apartment, they should count clockwise from the left of the access point of the stairs/entrance door.

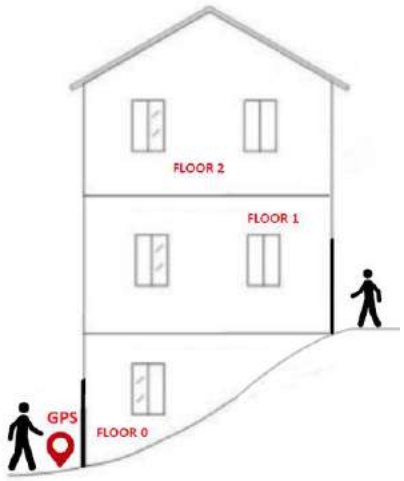


Figure 5 - How to number floors and where to take GPS coordinates

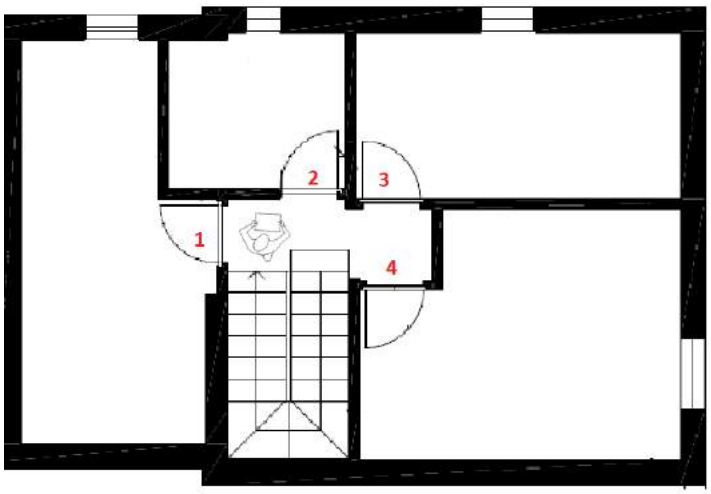


Figure 6 - Procedure to number apartments on the same floor.

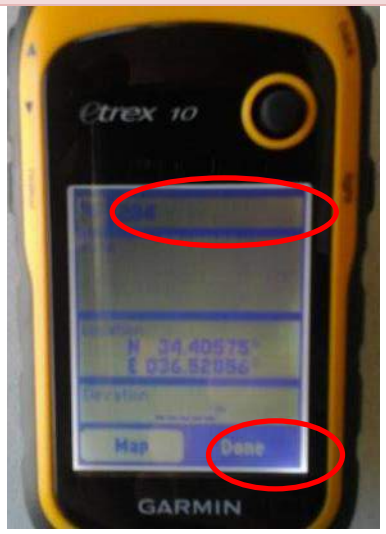
In case Cadastral Maps are not available, geographical coordinates can be recorded using a GPS device, set to record the coordinates directly according to the Lebanese Stereographic system.

- The GPS precision depends on the satellite reception. The accuracy indicated by the GPS must always be less than 5 m. Ensure that the GPS batteries are always full, since a reduced charge heavily affects the readings.
- Take the coordinates for each unit next to its main door, to easily locate the building even in densely populated urban areas.
- If in one building there are more than one subscription, take only one GPS coordinate and use it for all the surveys done in the building. Possible cases you might face:

		
Single house with 1 subscription	Single building with many units and one or more subscriptions	Multiple building with one or more subscriptions
1 GPS position	1 GPS position Mark how many units take water from each subscription	1 GPS positionper each stairs Mark how many units take water from each subscription

- The surveyors can read the coordinates and insert them manually in the survey or they can save a location directly on the GPS device and download it later. To reduce human mistakes, save the location attributing it a unique numeric code that will be recorded in the survey form for later matching. In other words, each surveyor should pick a big number and start counting his/her GPS number from that, for example

Nadine – Surveyor #1 First GPS number = 1001 Second GPS number = 1002 …	Ahmad - surveyor #2 First GPS number = 2001 Second GPS number = 2002 …	Issam - surveyor #8 First GPS number = 8001 Second GPS number = 8002 …

		
a. Enter the "Satellite" Menu	b. Check the satellite coverage. A minimum of 4 satellites should be observed	c. Check the GPS precision and when <5m… Save the coordinates
		
d. Enter the "Mark Waypoint" from the Menu	e. Go up to the name and click on it to rename the point with the progressive GPS number.	f. On the keyboard, type the chosen GPS number and then click "done"

3.3 Additional Steps for Comprehensive Mapping

The following chapter outlines additional recommendations to be followed in case of option B, the comprehensive door-to-door mapping conducted by surveyors trained in mapping and data collection.

3.3.1 Step 6b: Divide the area into small zones

- Divide the areas in small zones (average of 15 to 40 units), and attribute each one to a surveyor. These areas should correspond to the CD or CAS Jazeera
- One surveyor can be responsible of more than one area but each area should remain with a same surveyor during the whole survey, to track the units requiring follow-up (e.g. localized but not interviewed, missing/incorrect data, etc.). Usually a surveyor can assess a maximum of 20 subscriptions per day, with this number depending highly on the characteristics of the area (urban/rural, density of subscription).
- It is recommended not to exceed the number of 6-8 surveyors for one locality. If a greater number of workers is needed, they should be divided into smaller units reporting to different Team Leaders and receiving adequate support by a IT/GIS unit
- Before going in the field, each surveyor has to plan his visits on the map, to be aware of the location of all the buildings where the subscriptions could be located. Don't forget: the subscription could belong to a shop, a derelict house or a mosque
- Agree on standard spelling of Arabic names – especially for geographical localities and addresses. If possible get the official naming writing from the concerned departments.

3.3.2 Step 7b: Train surveyors on how to approach people

Especially in case the surveyors are not accompanied by any institutional person (by the WE or by the Municipality), it is recommended that they memorize a standard formula to approach citizens and request their authorization for personal data collection.

HOW TO APPROACH PEOPLE

MarHaba, sorry to disturb you. My name is…… I am from the NGO ……. We are implementing a project in your locality to improve water system and the service of the Water establishment. We need to locate people having a water subscription, and we know that there is one/two/more subscriptions in your building/house/apartment, is it yours?

IF YES: I need to update a few data, would you mind giving me 10 minutes of your time?

IF NO: Are you sure? Maybe it is an old one… Do you know if you had any relative/previous owner/… with this subscriber's name? Could it be one of your neighbours? Could it be a relative of yours somewhere else?...

3.3.3 Step 8b: Find the subscriptions

Every time that a water meter or a gauge is installed, a subscription is active. However, there could be subscribers directly connected to the network without valves and thus more difficult to spot.

If there are more than one gauge/water meter in a building, verify which apartments are served by each gauge/water meter by opening and closing the valves in sequence (after having informed the residents of the building). This is particularly important in urban areas. To facilitate the identification of subscribers and/or other connections, the survey should be conducted during the time of the day when the water service is present.

Additional Tips: What if…

- … I find no one in the house?
    - Record the location in your notebook and come back the following day
- … people do not want to answer the survey?
    - Explain that the survey is necessary to improve the service that the WE will provide to its users. In case nothing works, request the support of the Local Authorities
- … the interviewee doesn't have a receipt and doesn't remember his subscription number?
    - Have always with you the WE subscribers' list, on paper and in Excel on the tablet. Order the subscriptions in alphabetical order and/or look for possible name of the subscriber with the "Search" tool.
- … I'm sure the interviewee has a subscription but he/she doesn't admit it?
    - Reassure the person that the survey will support the existing customers. In case no agreement is found, record the location and go back with a WE officer! Note that associating a subscription to a person/unit is a high responsibility because it might result in administrative measures. In case it is not possible to ensure the full reliability of the association, just record the location and request the support of the WE to decide if to attributing to it a subscription or not.
- … people ask me a lot of questions and waste my time?
    - Time spent with citizens is never wasted. Surveyors represent the WE and must provide a positive image to its users. In case questions or complaints are deeply affecting the efficacy of the survey, report it to the Team Leader. It might be useful to organise a wide information campaign in parallel to the survey to facilitate the process.

Additional recommendations: Good practices

- To increase the reliability of the collected data, the surveyors should always request a proof of the declared information from the interviewee: an old water fees receipt, a subscription contract, an ID, the electricity bill, etc.
- Use teams of 2 surveyors to save time and reduce errors: possibility to check maps or paper documents while dealing with the interviewee, to have guidance etc.

- Create a WhatsApp group for the surveyors, to be updated about challenges or problems that can arise.
- Compile feedback from the surveyors, a list of questions commonly asked by the interviewees, and agree with the surveyors on common answers to provide, so that all citizens receive a coherent vision of the project. In general,
    - Never promise anything
    - If you don't know the answer, say that you will check in the office
    - For questions related to the WE, refer people to their customer office
    - For questions related to the project, provide the NGO Hotline number (if existent)
- Have daily debriefing meetings between surveyors and Team Leader, to plan, discuss problems and solutions, and share best practices on the social approach.
- Have weekly regular coordination meetings between surveyors, IT and PM, to share main problems concerning data, propose solutions and innovate the process according to local challenges.
- Prepare a plan for each surveyor to be shared with the supervisor. Each surveyor must have a paper map and on the back he/she will mark
    - The places visited each day
    - Information about the houses to visit again

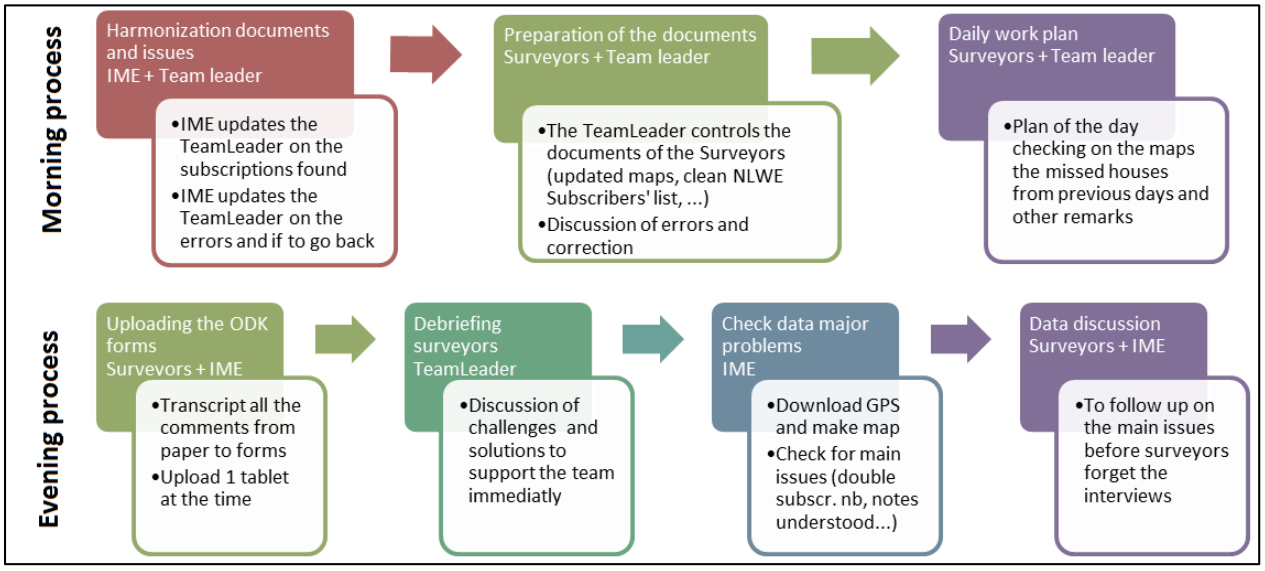
3.4 Data Analysis

Once the new information about the subscribers has been collected, the following steps are important for mapping and verification:

3.4.1 Step 9: Input and compile data

Once all the survey files have been downloaded (Excel Database from ODK online server, GPS coordinates from GPS devices, pictures if any from surveyors' phones), rename and store them in the appropriate directory. Match all the coordinates and pictures with the correspondent surveys and complete the data transferring any additional comment of the surveyors in the DB file.

The following process can be followed for data compilation and check.



3.4.2 Step 10: Check location

Attribute subplot coding (building number, floor number etc.) to each unit/subscription if not already done on the field.

If the surveys are located through GPS coordinates, map them, looking for possible mistakes (for example: coordinates far away from the targeted area, latitude/longitude muddled up etc.).

If several surveys overlap (with coordinates or with same SAC), this could be a mistake in the location recording or indicate correctly that several subscriptions are in same building. Crosscheck with the knowledge holder / enumerators case by case.

Compare recorded / declared plot numbers with official cadastral map. Plot numbers might change after sale or division of a parcel and different official papers might bare different plot numbers. Address the discrepancies to the Municipality and/or the Cadastral Department.

3.4.3 Step 11: Check records

Check for repetitions in records (Subscribers' names, phone numbers, user ID…): even though it might be possible that a single person owns several subscriptions, it is always best to verify overlap to avoid duplications and mistaken attributions.

Cross-check the coherence of different categories interviewee / owner / household, beneficiary / subscriber / resident etc. and unify their categorization if needed.

No one residing in the house *No one currently available in the house* *I found none*	=> No one found, go back
The subscriber is no longer with us *Subscriber dead 10 years ago* *The subscription died*	=> Original subscriber died

Track the located subscriptions on the ERP list and check for repetitions:

- The subscription is unique for 1 place – if the same subscription number is mentioned in 2 (or more) surveys, there is a confusion
- Call the interviewees back to unveil possible mistakes with them. The final solution can be solved only by the collector.

3.4.4 Step 12: Identify missing subscriptions

Once mapping of all available information on the field with the knowledge holder or the surveyors has been completed look for missing subscriptions together with WE employees or Local Authorities and identify them in the field. Missing subscriptions happen, because an interviewee could be unaware of an old subscription for his house that is still active, or more than one subscription could be active for the same unit with the interviewee being aware just of the more recent one), especially when it has been sold several times and every new owner opened a new subscription without cancelling the previous ones. Moreover, sometimes in the data entry some subscriptions were doubled or mistaken, so that they do not correspond to any physical unit in the reality.

3.5 Handover to Water Establishments

Once the basic data verification has been conducted, three steps remain for having the field survey translated in the WE systems and operations. This process is currently under discussion by the WE Customer Database Task Force, which aims to develop more detailed and officially approved procedures concerning validation, categorization and integration processes for the updated subscription information in the WE Customer Database.

3.5.1 Step 13: Handover to Water Establishments

In order to transfer the collected information to the billing system, the CCS data, mapping and reports must be handed over to the WE.

3.5.2 Step 14: Process approval and integration into ERP

After approval from WE of the process and data, the migration process should start, and the data needs to be transferred into the ERP. In case of approval, WE staff that will be working on the Customer Database would benefit from a training for further replicability of the method in other localities.

ANNEX 1 - THE QUESTIONNAIRE

The questionnaire is composed of three sections: a first section for the geographical references, a second with the data of the interviewee and a third with the information about the subscription. The most important information about the subscription are surveyed, however it is possible that a Water Establishment requests a specific additional data to be collect. It will be up to the NGO to add/remove questions in agreement with the Water Establishment.

Obviously, the NGO can add further questions to collect additional information for statistical purposes, like subscribers' nationality, household composition etcetera. However, as they do not fall within the scope of this survey, they will not be detailed herein.

Also, the questionnaire refers only to the case where only the units with active subscription are assessed. In case the surveyors will conduct a full mapping survey, two different types of questionnaire have to be implemented – one for the building and one for each unit of the building (see Annex 2).

	Question		Mandatory/Optional	Comment
General Data	0.1	Name of the surveyor □ AAA □ BBB □ CCC	Mandatory for reliability of survey	Multiple choices to avoid typing errors. If possibility of other people conducting the survey, add “Other”
	0.2	Date of the survey	Optional, depending on surveying system	
	0.3	Survey’s reference on mapping	Optional, depending on surveying system	To uniquely link the survey with the reference on the map
Geographic Information	1.1	WE Locality □ AAA □ BBB □ CCC	Mandatory for match of the subscription	Verify before starting the survey the WE definition of “Locality”, checking those already existing in the DB.
	1.2	Geographical Locality (Village) □ AAA □ BBB □ CCC	Mandatory for construction Coded Geographical Address	Verify before starting the survey the CAS division in Villages in the targeted area (not necessarily corresponding to a Municipality)
	1.3	Specify Municipality □ AAA □ BBB □ CCC	Optional	Possible to retrieve also with back-office work by GIS team
	1.4	Specify Plot number	Mandatory	Corresponding to cadastral map. If ODK, insert 4 digits integer
	1.5	Specify building number (sub-plot)	Mandatory	
	1.6	Specify floor	Optional	Secondary coding. If ODK, insert 2 digits integer
	1.7	Specify apartment number	Optional	Secondary coding. If ODK, insert 1 digit integer

	Question		Mandatory/Optional	Comment
	1.8	GPS / GPS	Mandatory	
	1.9	Address	Optional	Traditional address: Name of the street, neighborhood, direction…
Interviewee details	2.1	Type of unit? □ Residential unit □ Nonresidential unit	Optional	Residential unit is a building where people lives/can live. Structures where people live but different from houses (hospitals, convents …) can be specified as "other"
	2.2	If residential unit, please specify □ Main residence □ Summer residence □ Occasional residence □ Not inhabited	Optional	Statistical Purposes: to estimate the water consumption patterns (quantity and time)
	2.3	If residential, how many units take water from the subscription?	Optional	Useful to verify if subscription amount matches the consumption, to detect "free riders" or illegal users. Also complements the information of 2.2 about consumption.
	2.4	If residential, insert the surface of the unit in square meters	Optional but not recommended	According to existing WE's procedures, residential units above a certain surface have more expensive tariffs (represented by the number of cubic meters of the subscription, i.e. for apartments bigger than 200 s.m., the subscription is for 2 m3 of water/day). If alone, NGO surveyors should avoid this question. If a public officer is conducting the survey, he's entitled to verify the information with an inspection of the house or checking real estate documents.
	2.5	If nonresidential, please specify: □ Commercial □ Agriculture facility □ Religious facility □ Factory □ School □ Public office □ Hospital/Clinic	Optional	Categories chosen according to the most frequent cases. They can be modified according to the peculiarities of the target area. Commercial includes shops, petrol stations, etc., religious facilities includes mosques, churches, cemeteries, convents, etc., public offices includes municipality, consortia etc.
	2.6	Name of the interviewee	Mandatory for reliability	Always use Arabic characters for typing names. Insert full name (personal + father + family names)
	2.7	Role of the interviewee □ Owner or owner's wife □ Resident / Tenant □ Relative of the owner □ Relative of the Resident /Tenant □ Worker □ Friend / Neighbor	Optional but recommended for reliability	Not mandatory but important to know if the information about the subscription has been provided by the subscriber himself or not. Closed possibilities to reduce typing errors and time needed to fill. Also, to improve standardization, be sure to attribute common meanings to the same category (for example, if the interviewee is a female adult living alone, she is not the *daughter* of a dead household, she actually **is** the household – even if woman).

	Question	Mandatory/Optional	Comment
	□ Local Authority □ Other : _____		
	2.8 Insert the plot number according to the interviewee 2.9 Source of information for the plot number □ Interviewee's memory □ Rental agreement/contract □ Real Estate document □ House purchase contract □ Municipality / Mukhtar document □ Electricity contract / invoice □ Water contract / invoice □ Other : _____	Optional but recommended for reliability	The plot number is verified on the map. However, it is important to verify also the plot number mentioned on the unit's official documents (property deed, electricity contract, rental agreement, etc.), to highlight if any discrepancy that might be at the origin of wrong plot numbers in the Customer's Database.
	2.10 Insert the full name of the legal owner of the unit	Optional but recommended for reliability	Information not recorded in ERP database but useful for verifying the collected data. In case of nonresidential units with no clear owner (schools, churches…), the legal representative should be indicated. Even if the interviewee and the legal owner are the same person, repeat the full name.
	2.11 Contact phone number?	Mandatory for reliability of data	Both numbers and text allowed, so possible to type several numbers (0812345 owner – 07123456 tenant)

	Question	Mandatory/Optional	Comment
Subscription data	3.1 Insert the subscription number	Mandatory	Ask the interviewee to show a water fees receipt and if available, copy the subscription number into the survey. The ERP database contains different subscribers' codes. The unique one is the 6-digits code called رقم المشترك اليدوي or الرقم الآلي. This code is unique for the subscription in the whole Lebanon. On the subscribers' documents (contract, invoices…) there might be two other codes: a "short-code" and the "contract number". The "contract Number" corresponds uniquely to a Subscription Number and is recorded in the ERP database. The short code is a 1 to 5 digits number, which identifies a subscription within a certain locality. Thus, to match a "short code" with a "subscription code", you need to verify other parameters (subscriber name, plot number, locality…) to verify the reliability of the matching. Rely on the Subscription Number whenever possible. Only if not available, match on the paper/Excel subscription list the "Contract number" or the "Short code" with the Subscription Number. If no receipt is available, ask in whose name the subscription is, and identify the correct subscription number checking on a paper/Excel list. Pay attention to homonymies and wrong spellings.
	3.2 Is the subscriber's name complete and properly spelled? 3.3 If not, correct it: _____ 3.4 Is the name of the subscriber's father correct? 3.5 If no, insert the correct name of the subscriber's father: _____ 3.6 Is the name of the subscriber's mother correct? 3.7 If no, insert the correct name of the subscriber's mother: _____	Mandatory	Once the subscription number is filled, the ODK can be programmed to give back the details present in the WE ERP database and the surveyor checks them with the interviewee. The first 3 questions are about the original subscriber. It does not matter at this stage if the subscriber is dead or if another person uses the water…, only correct the data of the original subscriber. Correct the original subscriber's name if misspelled. Do not replace it with the new beneficiary of the subscription. If completely different name, verify if the subscription match is reliable. Correct or add the names of the subscriber's parents, to reduce the risk of homonymies.

Question	Mandatory/Optional	Comment
3.8 Is the subscriber's register number correct? 3.9 If no, insert the correct subscriber's register number: _____ 3.10 Insert the subscriber's area of registration: _____	Optional if requested by the WE.	Register number is a max 3 digits number identifying the belonging to a family in a specific area. This data is available on the ID card, therefore whenever possible check on the subscriber's ID card (and take a picture if necessary). For some localities, the Municipality is not the place or registration, thus it is important to know where the register number has been issued
3.11 Is the subscriber the actual beneficiary of the subscription? 3.12 If no, insert the actual beneficiary's name: _____ 3.13 Insert the name of the beneficiary's father 3.14 Insert the name of the beneficiary's mother: _____	Mandatory	These questions are about the beneficiary of the subscription. The beneficiary is the head of the household using the subscription and in whose name the subscription should be. It is NOT a temporary resident or a tenant. It refers to those cases when the subscriber died and the subscription is "inherited" with the house by his daughter/son/relative, or when the house was sold and the new owner continued using the same subscription without changing the data
3.15 Insert the beneficiary's register number: _____ 3.16 Insert the beneficiary's area of registration: _____	Optional if requested by the WE.	
3.17 Insert the full name of the resident 3.18 Insert the name of the resident's mother 3.19 Insert the phone number of the resident 3.20 Is the resident long or short term? □ long □ short 3.21 If the resident is different from the beneficiary, who is paying (or supposed to pay) the water fees? □ resident □ beneficiary	Optional if requested by the WE.	The resident is the head of the household living in the residential unit. It can be a tenant or a relative. The "resident" might coincide with one or more of the previous categories (owner, household, beneficiary…). However, insert the resident's full name (Name, Father's Name, Family Name). A short-term resident, is someone living in a unit for less than 3 years. A long-term resident is someone living in a unit for more than 3 years. The duration of stay is useful for future targeting in communication campaigns. It is useful to know the agreement between the resident and the beneficiary (if they are not the same person) for the payment of the fees, to understand who is in charge of managing the subscription.

	Question	Mandatory/Optional	Comment
Comments/Observation	3.22 How is the unit served? □ Water Meter □ Gauge / Caliber □ Nothing / direct connection	Optional if requested by the WE.	Do not rely on declaration but ask the interviewee to show the connection. If more than one device in the building, open/close the valves to verify which device supplies the interviewed unit.
	3.23 Insert the device Serial Number: _____	Optional if requested by the WE.	Insert the Water Meter's or Caliber's serial number. If available, insert also the number on the bar code.
	3.24 Comments of the surveyor	Optional, only for internal reference	Write as many comments as needed, to make follow up easier. Example of comments: • *interviewee not aware, data missing or not reliable;* • *Subscriber lives abroad..., missing info from neighbors* • *2 subscriptions active for the same house for old and current owners* • *House sold several times, owners don't know there is a subscription on the house (found with NLWE officer)* *The subscription is used over 2 floors, but considered as 1 unit because used by the same HH*

If the interviewee does not know the subscriber's information, search with the interviewee for the most probable name on the list. Double-check also with the other info on the list. If the surveyor is not sure to have identified the right subscription, fill the survey but add a remark in the section "comments".

ANNEX 2 – QUESTIONNAIRE FOR MAPPING EXERCISE

In case the surveyors will conduct a full mapping survey, two different types of questionnaire have to be implemented – one for the building and one for each unit of the building. Here below the translation of forms used by the CAS and the WEs when implementing this type of survey.

BWE Logo	Republic of Lebanon Ministry of Energy and Water Bekaa Water Establishment	Jazeera number: ␣␣␣␣␣␣␣ Survey number: ␣␣␣␣␣␣␣␣␣	Republic of Lebanon Presidency of the Council of Ministers Central Department of Statistics	CAS Logo

PAGE 1 - Region		
Governorate: ␣	Real Estate Area ␣␣␣␣␣	Number of building in the real estate: ␣
District: ␣␣	Plot number ␣␣␣␣	

Building Number	Municipality	City & Town & Area	Locality	Street	Neighbourhood
␣					

	Name	Number	Date of receipt	Date of delivery
Team Leader		␣	␣␣ ␣␣ ␣␣␣␣	␣␣ ␣␣ ␣␣␣␣
Surveyor		␣	␣␣ ␣␣ ␣␣␣␣	␣␣ ␣␣ ␣␣␣␣
Inspector		␣	␣␣ ␣␣ ␣␣␣␣	␣␣ ␣␣ ␣␣␣␣
Data entry responsible		␣	␣␣ ␣␣ ␣␣␣␣	␣␣ ␣␣ ␣␣␣␣
Checkers and code giver		␣	␣␣ ␣␣ ␣␣␣␣	␣␣ ␣␣ ␣␣␣␣
Remarks:				

Date of the survey: ␣␣ ␣␣ ␣␣␣␣

PAGE 2 - Information about the building in the property

☐	Building number
☐	Is the building connected to public water network? 1.Yes 2.No 3.Don't know
☐	Number of gauges
☐	Number of water meter
☐	Number of illegal connections
☐	Is the subscription number attached on the domestic connections?
☐	Is there a water subscription for shared facilities of the building? 1.Yes 2.No 3.Don't know
☐	Is there an electricity subscription for shared facilities on the building?
☐	Is there any private well? 1.Yes 2.No 3.Don't know
☐	Is the well certified? 1.Yes 2.No 3.Don't know
☐	Source of water? 1.Public service 2.Private well + public network 3. Private well 4.Truks 5.Don't know
☐	If the source was the water trucking, do you rely on it more than once per month during summer? 1.Yes 2.No 3.Don't know
☐	Is there a shared tank? 1.Yes 2.No
☐	Is there a booster pump in the shared tank? 1.Yes 2.No 3.Don't know
☐	Are there private tanks? 1.Yes 2.No
☐	Sanitation? 1. Sewage network 2. Pit 3. No pit 4. Don't know
☐	Do you rely on trucks for desludging pits? 1 Yes 2 No 3 Don't know

Water meters numbers / subscription number (building number…..)									

PAGE 3 - Survey for residential and non-residential units (1)

Plot number	Building name	Number of floors
Building number	Name of building owner	Number of entrance

Floor number	Unit number	Full name of owner	Full name of the current resident	Occupation type 1. Residential 2. Non-residential	If non-residential mention the type of activity	Unit space (square meters)

PAGE 4 - Survey for residential and non-residential units (2)

Plot Number:	Building Name	Number of floors
Building number:	Name of the building's owner	Number of entrances

Floor number	Unit number	Is the unit connected to the public network? 1. Yes 2. No 3. Don't know	If yes,					Is there a subscription number at the unit entrance? 1. Yes 2. No 3. Don't know	Subscription Details:
			Does the unit have a subscription in BWE? 1. Yes 2. No 3. Don't know	Full subscriber's name	Mother's name	Subscription number	BWE / ID		1. Owned / perfect 2. Permanent 3. Temporary 4. Construction site

PAGE 5 - Survey for residential and non-residential units (3)

Plot Number:	Building Name	Number of floors
Building number:	Name of the building's owner	Number of entrances

Floor number	Unit number	Subscription meters (m^3)	Do you have water tank? 1. Yes 2. No 3. Don't know	Do you have a booster pump for the unit? 1. Yes 2. No 3. Don't know	Do you have an electricity subscription? 1. Yes 2. No 3. Don't know	If yes,		Result of the visit? 1. Rejection 2. Unoccupied 3. Destroyed 4. Others, specify
						Full subscriber's name	Subscription number	

PAGE 6 - Recommendations / suggestions of the inspector

	Building number					
	Technical inspection			Maintenance team		
	1. Yes	2. No	Number	1. Yes	2. No	Number
Facilitate the access to the distribution point	1	2		1	2	
Add one valve before the connection	1	2		1	2	
Repair the gauge	1	2		1	2	
Calibrate the gauge	1	2		1	2	
Replace the gauge	1	2		1	2	
Repair the meter	1	2		1	2	
Calibrate the meter	1	2		1	2	
Replace the meter	1	2		1	2	
Repair the protection box	1	2		1	2	
Replace the protection box	1	2		1	2	
Add subscription number on the connection	1	2		1	2	
Remove illegal connection	1	2		1	2	
Add valve	1	2		1	2	
Repair water leaks in the pipe	1	2		1	2	
Remove booster pump	1	2		1	2	
Add subscription number on the doors	1	2		1	2	
Specify others	1	2		1	2	
Date	␣␣ ␣␣ ␣␣␣␣			␣␣ ␣␣ ␣␣␣␣		

Pipe Type:	Position:
1. HDPE 2. Galvanized steel 3. Steel 4. PVC	1. Public spaces 2. Private property

Instructions:

A module of six pages has to be filled for every building. The following list provide explanation only for those items/cells that are not self-evident.

Page 1
Staff: the staff involved in the survey are:

- Field inspection team: pairs of one surveyor from CAS + one inspector (technician usually from maintenance department) from the WE
- Team Leader: usually responsible for verifying the reliability of the data collection and the correctness of the filled forms for around 5 teams.
- Data entry officer: responsible for data entry in CAS office
- Checkers and code giver: responsible in CAS office for translating the verbal comments in codes, verifying the mapping code etc.

Date of receipt: the date the team leader receives the filled form from the team
Date of delivery: the date the team leader submits the filled form to CAS

Buildings' numeration: if there is more than one building in the same plot number, the buildings are numbered starting from the first surveyed on. There is no unique rule for building numbering, especially because in very dense urban areas it is not possible to identify a pattern (i.e. which building in on the right/left or above/below of which)

Page 2
Apartments' numeration: apartments on the same floor are numbered starting from the right of the access point (or staircase) to the left.

Is the subscription number attached on the service box?
The question refers to small plates that should be attached on each domestic connection. They are still present in very old networks, but do not exist anymore
Is there a water subscription for shared facilities of the building?
The question refers to shared subscriptions used for the management of the whole building (i.e. for the concierge, for the garden, the parking etc.)
Source of water?
The question refers to the water supply of the whole building. Therefore, if different units use different sources of water, all the used sources should be listed. If more than one, it is possible to insert more than one digit in the cell.
If the source was the water trucking, do you rely on it more than once per month during summer?
The question refers to the whole building. The answer should not be calculated scientifically as an average of the answers of the residents in the building, but more as a general observation. During the surveying, the teams usually do not have problems to answer because in case there are units relying only on water trucking, they always order more than one truck per month (therefore the answer is always *yes*).

The empty table on page 2 should be filled with the list of the water subscription numbers found in the building. They are detailed also in the following pages but they are re-recorded also on the first page because they constitute the main information collected by the survey.

Page 3
In case the unit is non-residential, a previous training explained the coding system to be used for each type of non-residential unit. This document is not available, and the surveying teams however used to write verbally the type of the unit. The code was assigned at later stage in the CAS office by the "code giver"

Surface of the unit
The answer does not rely on the declaration of the interviewee but on an observation of the inspector. However, this has to be just an indicative number, the surveyors never measure the space, since for the survey purposes it is only needed to detect those units above 200 square meters.

Is the unit connected to the public network?
The answer should come from the observations of the inspector (Water Establishment technician), rather than from the declarations of the residents. To be considered that the inspectors should be from the area, and know which units are connected or not (because they are the ones connecting them on the field). The purpose of this question is the cross-checking with the following question (if the units has a water subscription or not) in order to identify illegal connections.

Subscription Details:
1. Owned / perfect: the category is rarely used. It refers to the units entitled to free use of water (churches, mosques, governmental offices…), or to those where the citizens own part of the network infrastructure (if paid directly by the Citizens Water committees, as it happened before 2001).
2. Permanent: it is the most common, the usual water subscription
3. Temporary: it is a subscription limited in time, for example, when a tenant opens a subscription in his name only for the duration of his rental contract
4. Construction site: it is a subscription limited in time providing huge amounts of water, for construction sites of new buildings.

Page 4
Subscription data
The surveyors try to rely on the water fees receipts, rather than only on the declarations of the interviewee. This is partially the weakness of the survey: that no control mechanisms have been elaborated for avoiding duplications, mistakes etc. To be noted however, that since the surveyors are considered public officers, a false declaration by the interviewee is considered a crime.

Page 5
Result of the visit?
1. Rejection: when the resident refuses to receive the surveyors
2. Unoccupied: refers to uninhabited units. It does not concern residents temporarily out of home (working families, or travelling… the units are checked more than once to mitigate the problem). The unit is considered unoccupied when no one lives there for around one year (i.e. new apartment not sold/rented yet, family permanently living abroad…)
3. Destroyed: it refers to derelict units
4. Others, specify

Page 6
Technical page filled by the Water Establishment's inspector. They do not operate any action on the connections, but they recommend the actions to be taken

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