

ALNAP Urban Webinar on Mapping 24 July 2014

REACH Informing
more effective
humanitarian action

Matthew Wencel - Regional GIS Manager,
Middle East and North Africa

1. Challenges of mapping in Syria
2. Host community mapping in Jordan
3. Informal infrastructure mapping in Zaatari refugee camp

What is REACH?

REACH is a joint initiative of two international NGOs, ACTED and its sister organisation IMPACT Initiatives, and the United Nations Operational Satellite Applications Programme (UNOSAT)

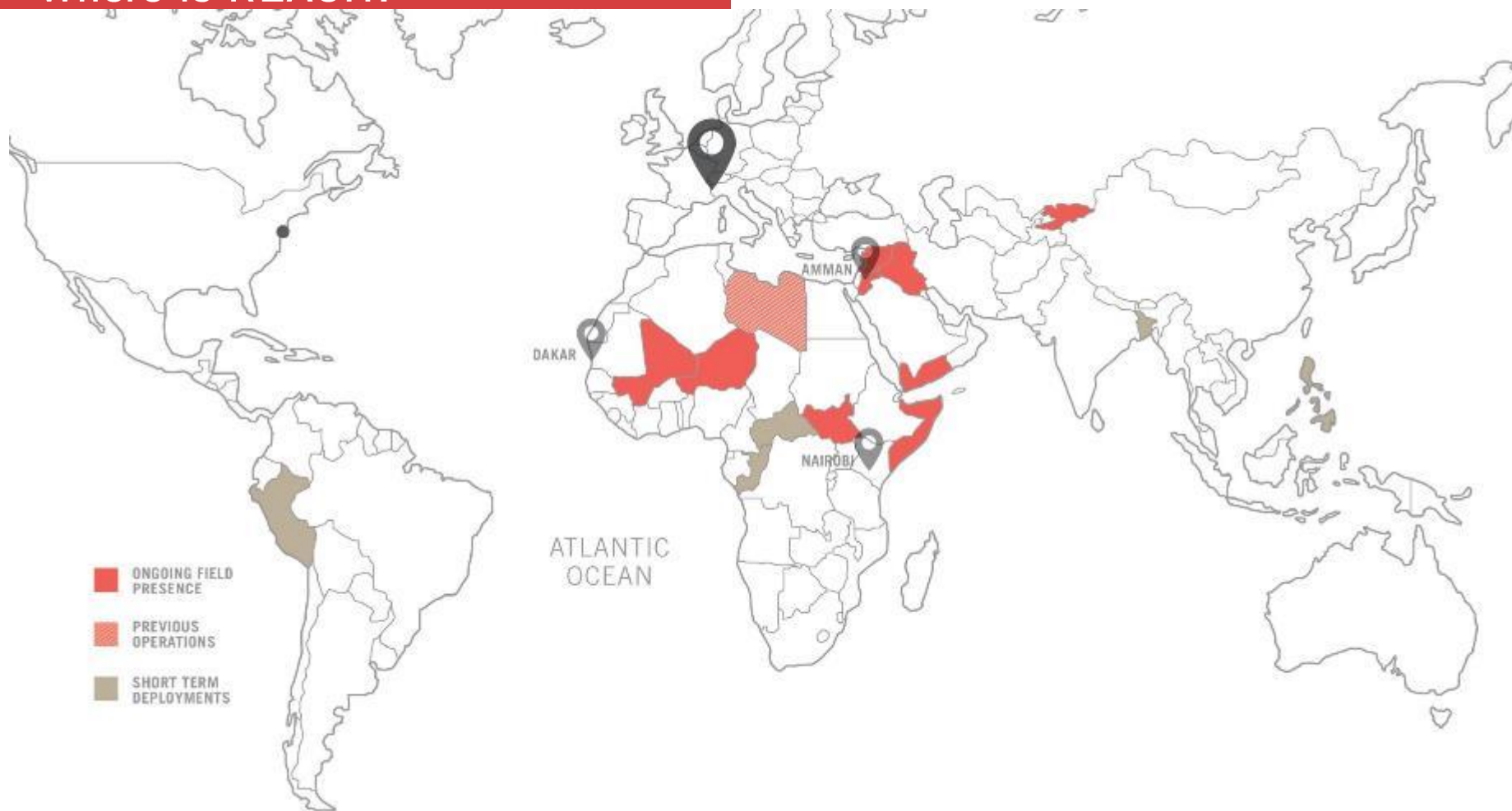
Global Coordination,
Partnerships, and HR



Country
Operations
& HR,
Grant
Management

Remote
Sensing
Expertise
and Analysis

Where is REACH?



Challenges of Mapping in Syria

In northern Syria, REACH has been working on remotely managed assessments and remote analysis since early 2013.

REACH's experience in Aleppo has included urban multi-sector and shelter damage assessments.

Limited access and an ever-changing situation due to on-going conflict present a constant challenge to gathering detailed and accurate information from reliable sources.

Mapping has been used extensively as a means to get the most out of the data that is collected in these difficult areas.

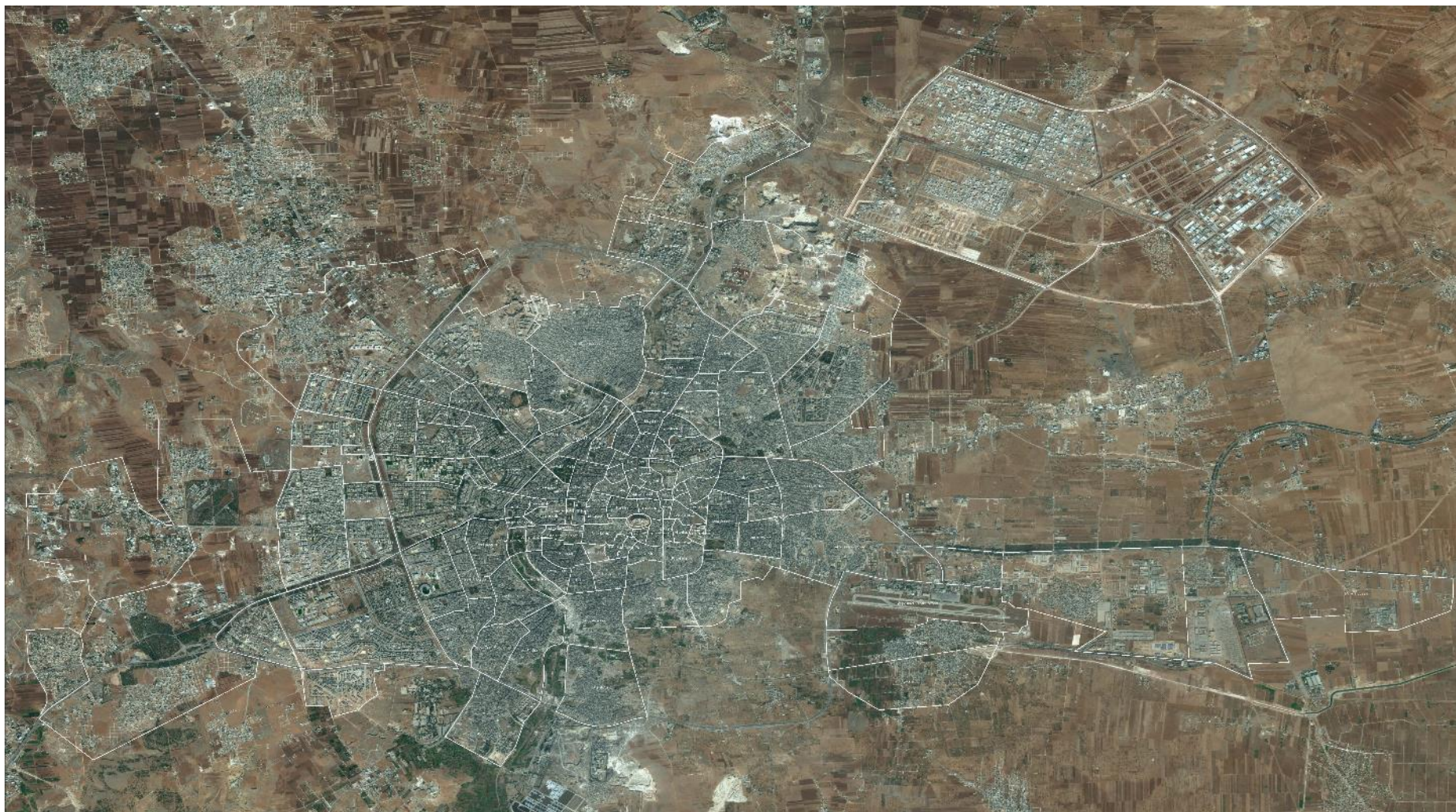
Challenges of Mapping in Syria

For Aleppo city, there are recognized neighborhood boundaries which allow for the attribution of data to small subdivisions of the city, ideal for demographic mapping.

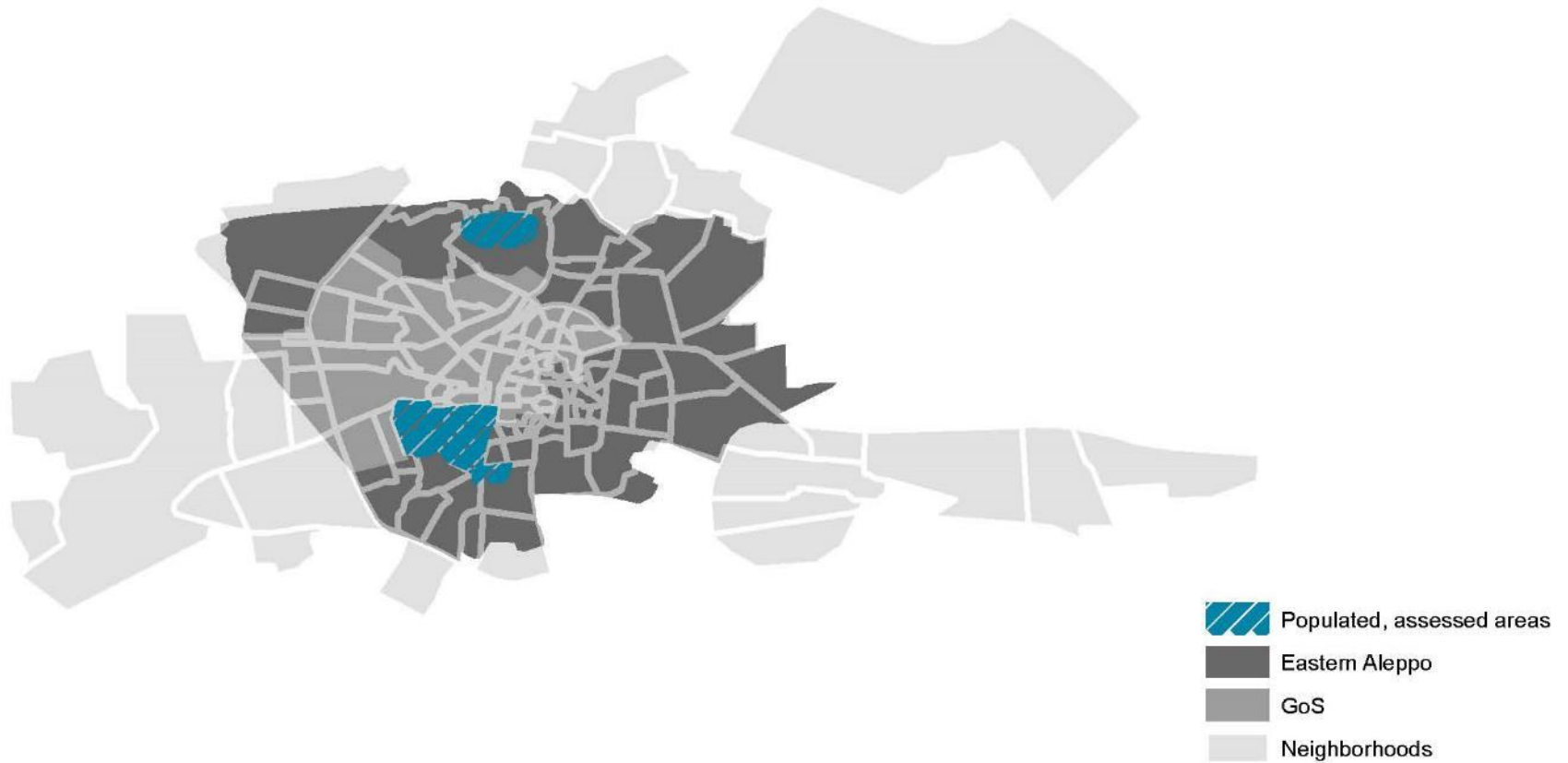
However, it is difficult to obtain data that can be precisely aggregated to the neighborhood level. Enumerators, managed remotely, are often reliant upon cursory observations in the field and a limited number of key informants. Therefore, participatory mapping exercises are used quite frequently, resulting in 'overlay' maps.

Due to the limitations on primary data collection, remote analysis and secondary data review are also relied upon heavily.

Challenges of Mapping in Syria

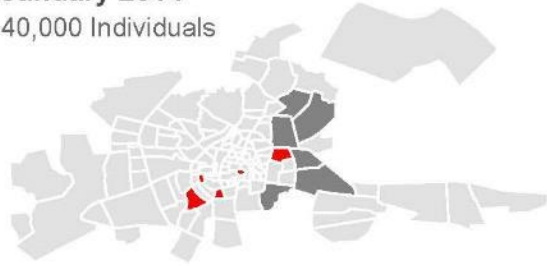


Challenges of Mapping in Syria



Challenges of Mapping in Syria

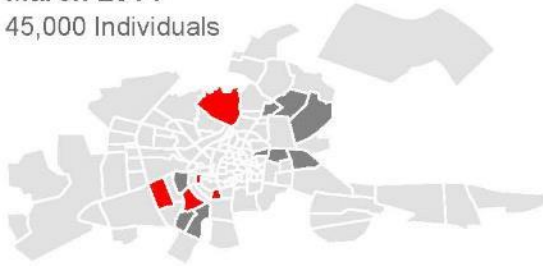
January 2014
40,000 Individuals



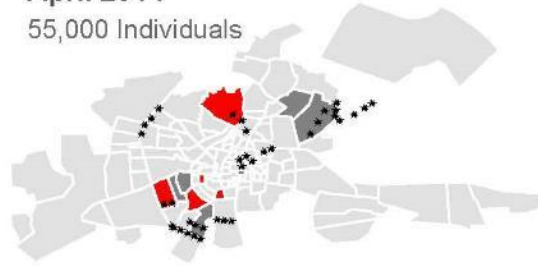
February 2014
60,000 Individuals



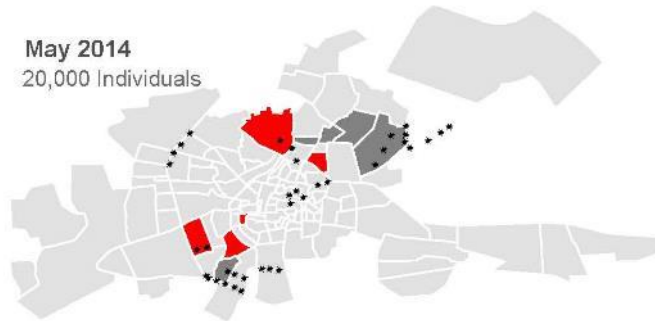
March 2014
45,000 Individuals



April 2014
55,000 Individuals



May 2014
20,000 Individuals



- Origin Neighborhoods
- Destination Neighborhoods
- Other Neighborhoods

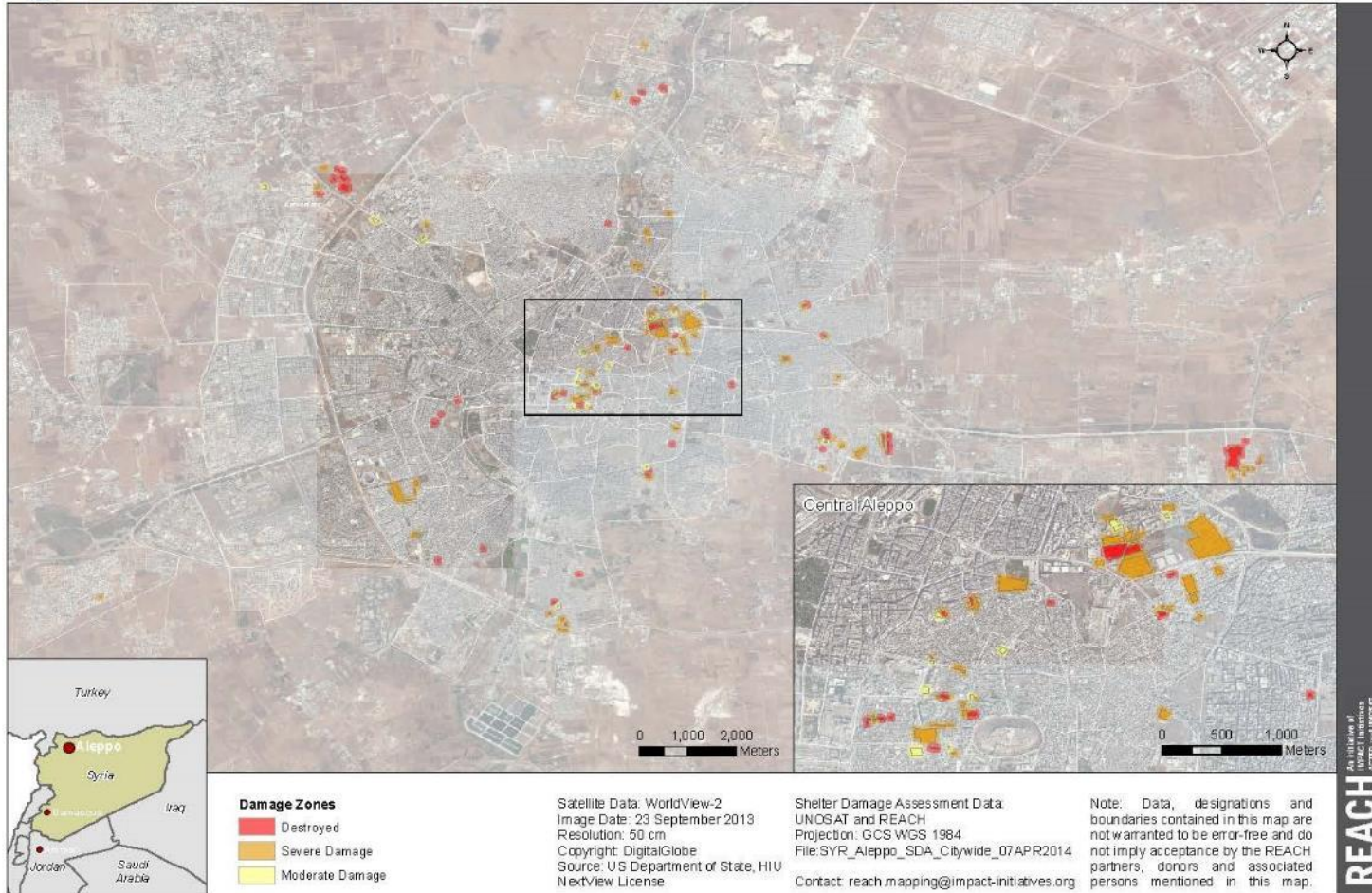
Challenges of Mapping in Syria



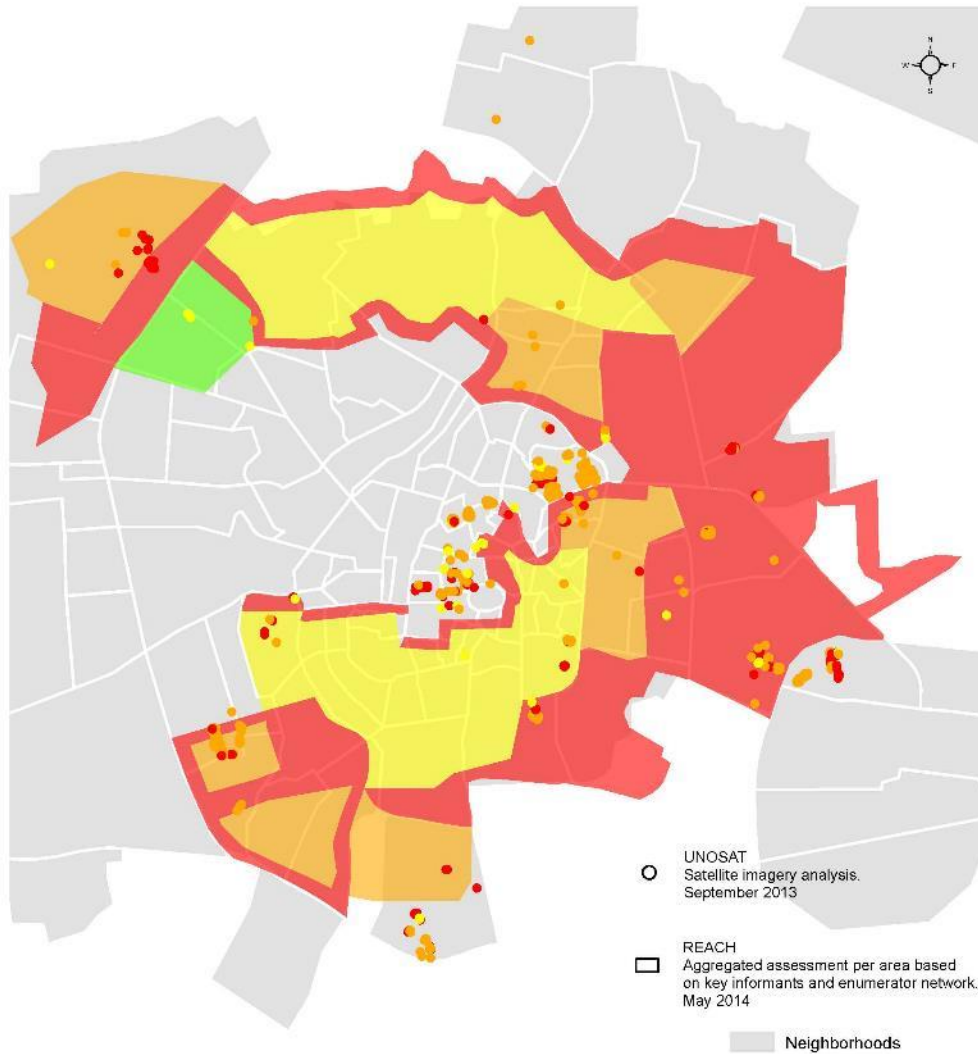
Aleppo Shelter Damage Assessment Citywide Map



For Authorized Distribution Only
For Humanitarian Purposes Only
DRAFT - Version 1.0
Production Date: 4 April 2014



Challenges of Mapping in Syria



Damage Categories



Category 1 (slight damage)
Light repairs required
(windows, doors)



Category 2 (moderate damage)
*In addition to light characteristics
Under 30% roof damaged
Severe fire damage
Repair possible



Category 3 (Heavy damage)
Over 30% roof damaged
Severe fire damage
Repair possible



Category 4 (Destroyed)
*In addition to previous categories
Unusable houses or building leveled
Repair not possible



Challenges of Mapping in Syria

Summary of key challenges

- **Insecure environment**, posing considerable threats to health and safety of staff
- **Irregular access** to areas of the city or population groups, making continued trend analysis difficult
- **Remote management** of staff, causing uncertainty due to breaks in communication
- Often **low** levels of **reliability** and/or **inadequate** focus of data collected

Challenges of Mapping in Syria

Advice for mapping in areas with high insecurity?

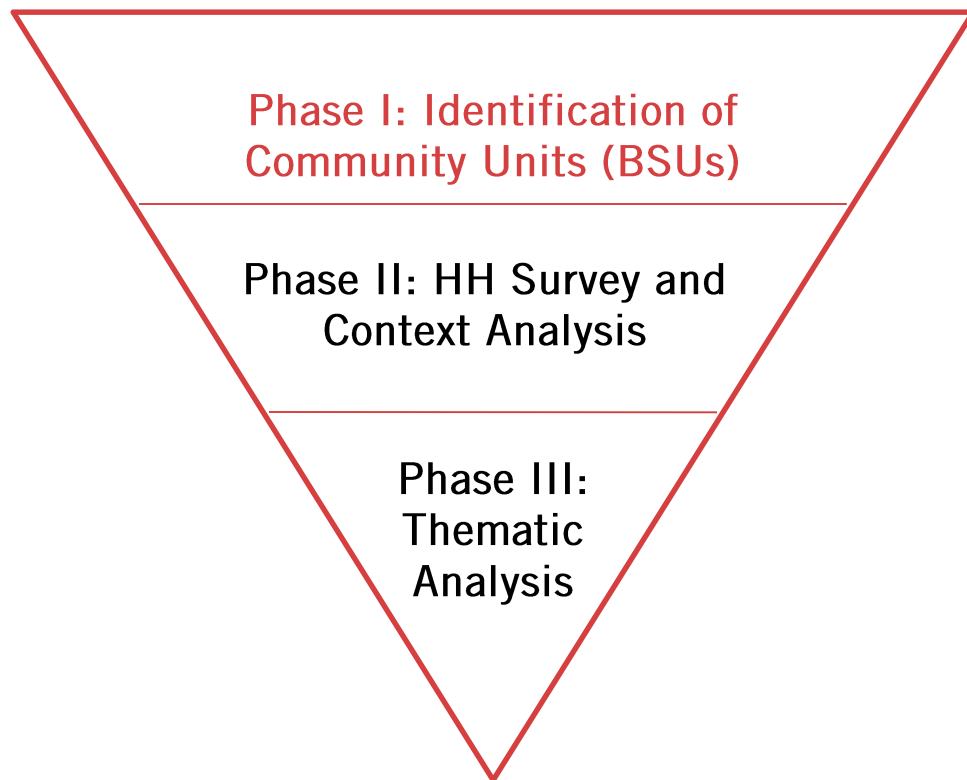
- **Build a team you trust** - It is critical to vet and train a network of enumerators and key informants that you can rely on
- **Don't take unnecessary risks** - Let staff on the ground make the call regarding their personal safety; Local staff know the situation best
- **Devise a flexible sampling methodology based on access** - Need to be realistic about what you can collect
- **Be honest about the reliability of the data collected** - Be transparent about any limitations; Consider reliability scoring
- **Triangulate** - Cross reference with remote analysis and secondary data review; Pursue mixed methods approaches

Host Community Mapping in Jordan

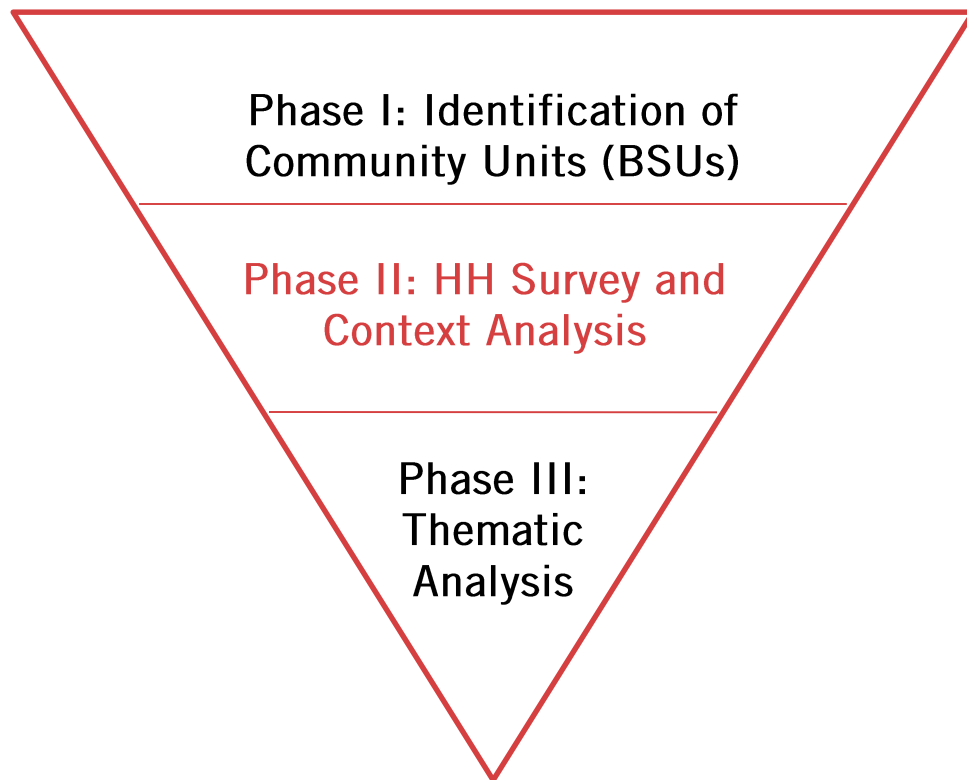
In Jordan, REACH conducted a large scale assessment of refugees living in host communities. At the time, there were a host of problems:

- Information management systems were struggling to keep pace with rapidly changing environment
- No overview of settlement patterns
- Lack of reliable data on populations and needs
- Uncoordinated aid delivery
- Rapidly changing needs as displacement became protracted

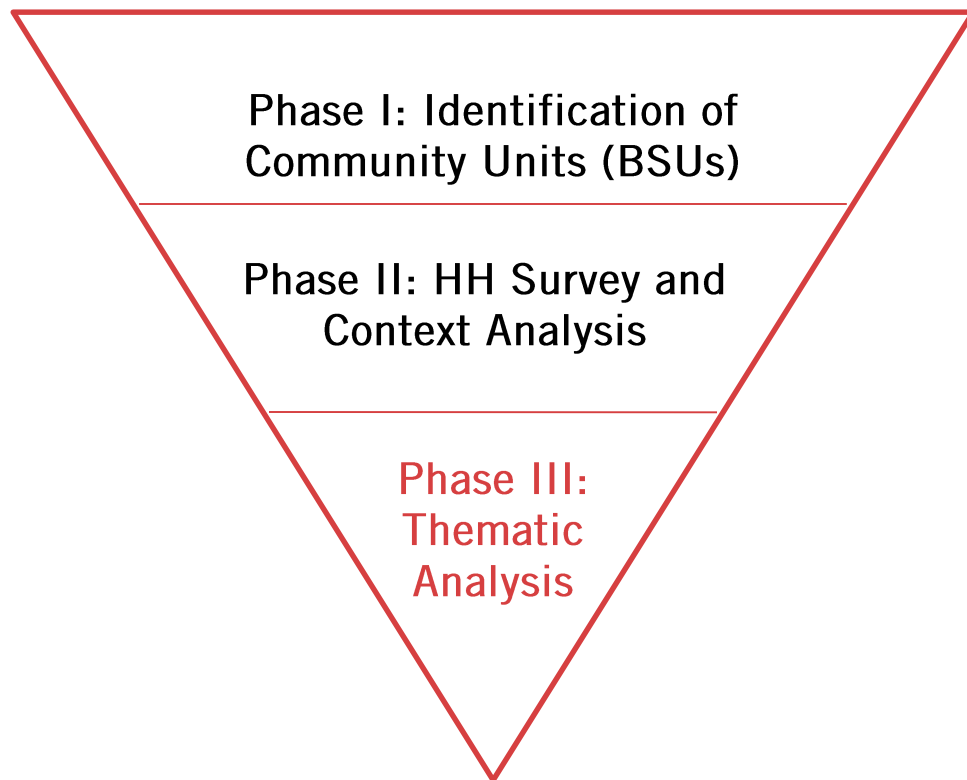
Host Community Mapping in Jordan



Phase I: Through participatory mapping exercises during focus group discussions, community perceived boundaries, referred to as basic service units (BSUs), were drawn and later digitized. Multi-sector Key Informant interviews were conducted within each BSU, creating a high level picture that can also inform later steps in the process.



Phase II: Multi-sector household level assessments were conducted, covering: demographic data, accommodation status, registration status, protection concerns, displacement profile, and needs / access to basic services.



Phase III: Targeted programme-specific assessment of areas in which refugee families are located. Use of BSUs to link with community leaders to facilitate access to all groups and specifically most vulnerable households. Collected data informs programme planning and implementation.

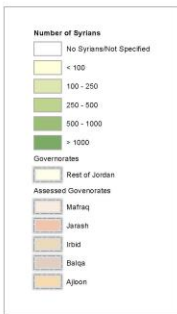
Host Community Mapping in Jordan



Jordan - Northern Governorates Number of Syrians in Jordan by Basic Service Unit (BSU)

For humanitarian relief purpose only
Draft/work in progress

Production date: 14/04/2013



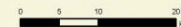
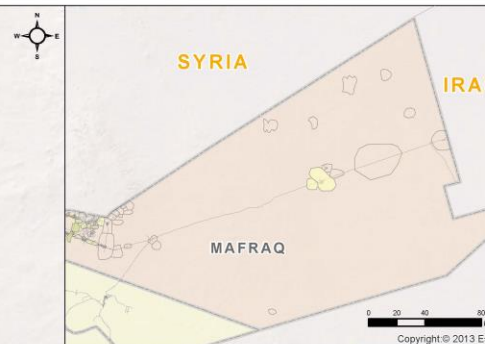
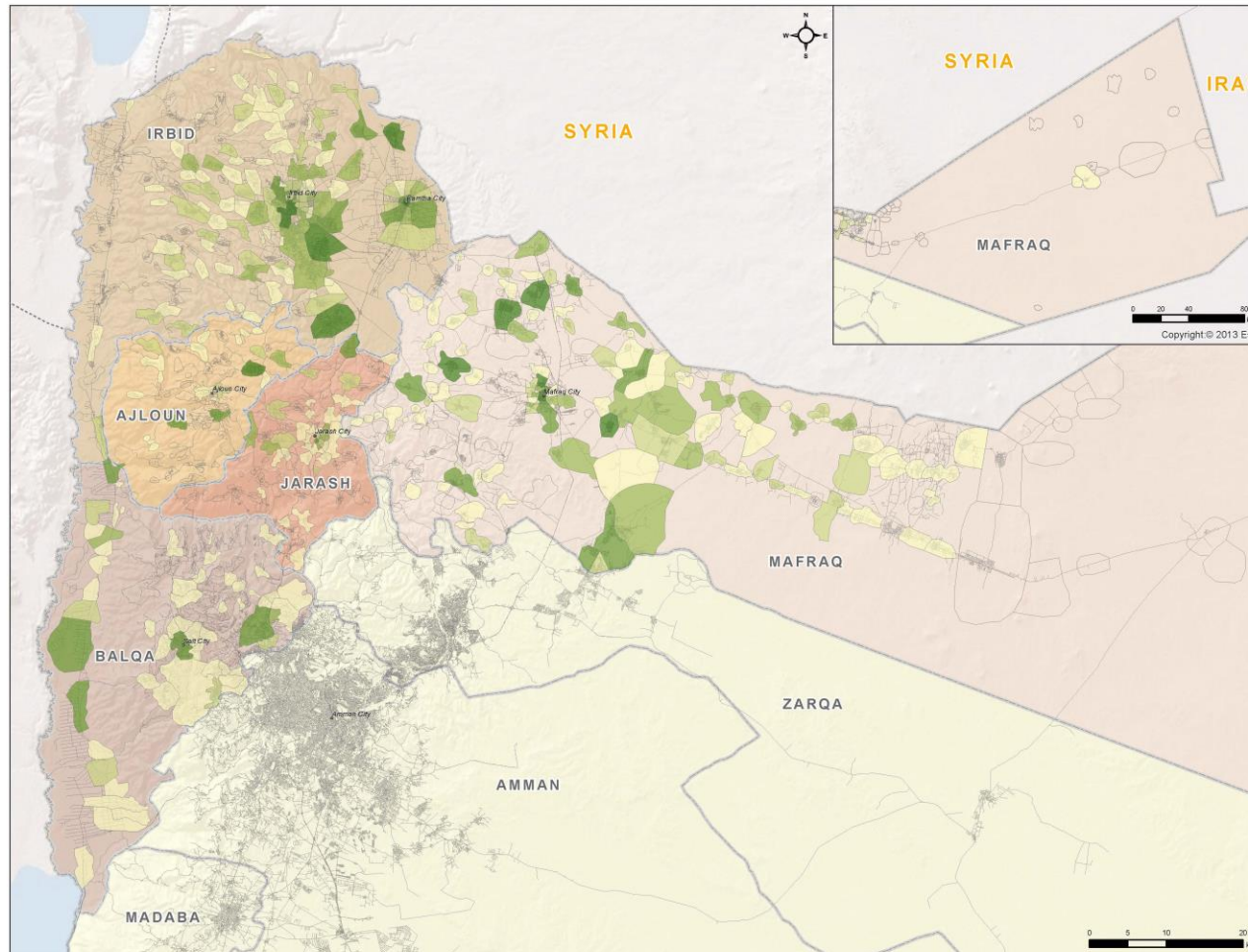
Data Sources:
Basic Service Units data:
REACH Key Informant-Household Assessment
Administrative divisions, roads and city names data:
DSM

Projection: WGS 1984 UTM Zone 37N

File:
JOR_NorthJordan_Population_A3_15A/R/2013

Contact: reach_mapping@impact-initiatives.org

Note: The boundaries and the names shown and the designations used on these maps do not imply official endorsement or acceptance by the United Nations.



Host Community Mapping in Jordan

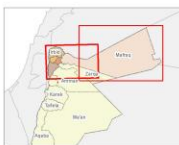


Jordan - Northern Governorates

Predominant Non-Financial Needs of Syrians in Jordan by Basic Service Unit (BSU) reported between November 2012 and March 2013

For humanitarian relief purpose only
Draft/work in progress

Production date: 02/09/2013

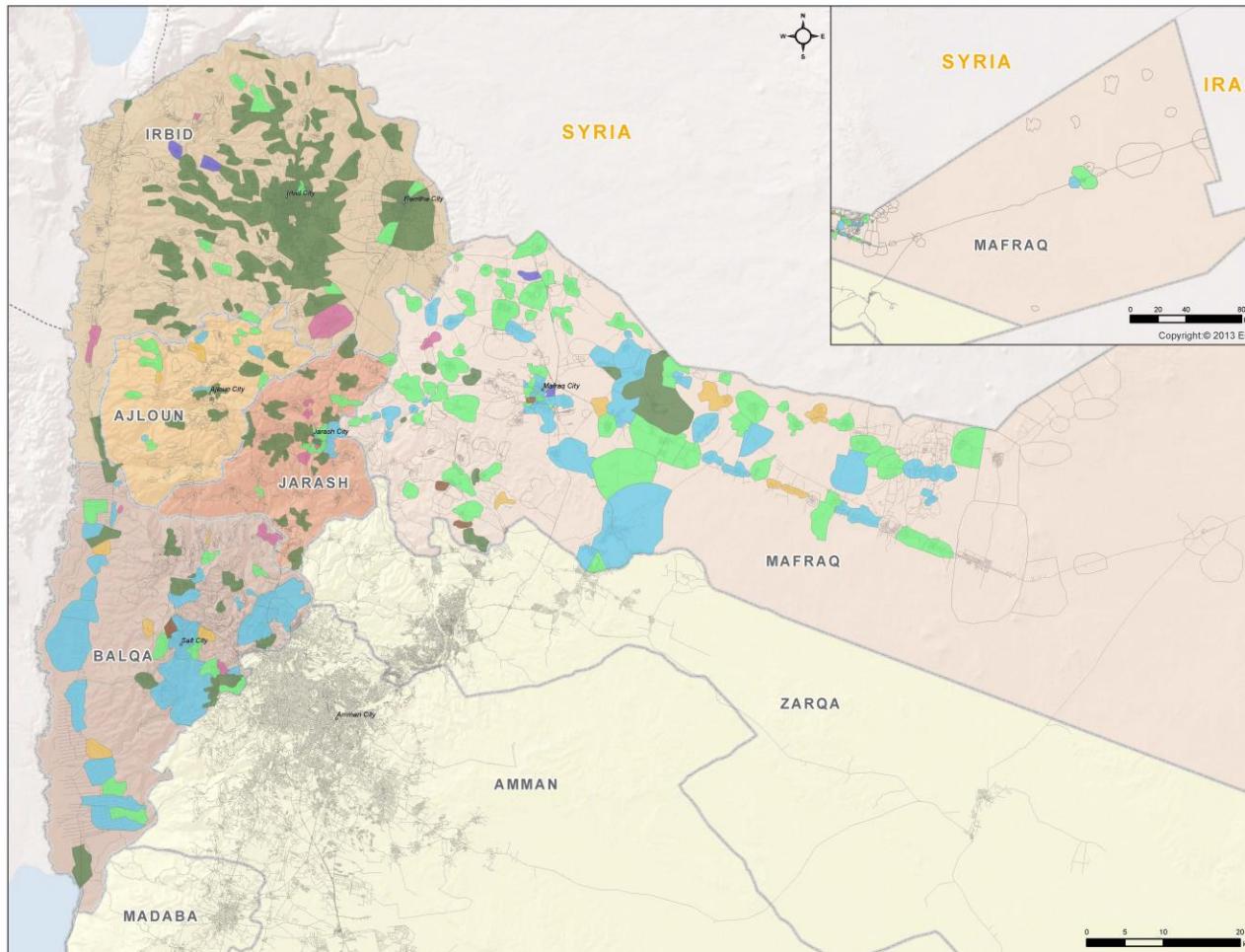


Date Sources:
Basic Service Units data:
REACH Key Informant/Household Assessment
Administrative divisions, roads and city names data:
ODM

Projection: WGS 1984 UTM Zone 37N
File: JOR_NorthJordan_NFNeed_A3_10APR2013
Contact: reach_mapping@impact-initiatives.org

*Please note the response rate may be dependent on the time of year in which the household interview was conducted.

The information presented cannot be guaranteed as an exhaustive picture of the situation as it is not based on a census of the refugee population. The predominant types displayed here should be interpreted with caution as their interpretation largely depends on an unknown population size at the Basic Service Unit level. The present map reflects a snapshot at a given time and as perceived by the refugee community. Thus, the data from this assessment can be used to discover characteristic patterns but is not legally valid for case based decisions.



Host Community Mapping in Jordan

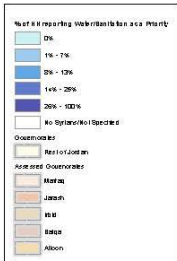


Jordan - Northern Governorates

Percentage of Syrian Households Reporting Water and Sanitation as a Priority Need by BSU

For humanitarian relief purpose only
Draft/work in progress

Production date: 31/07/2013



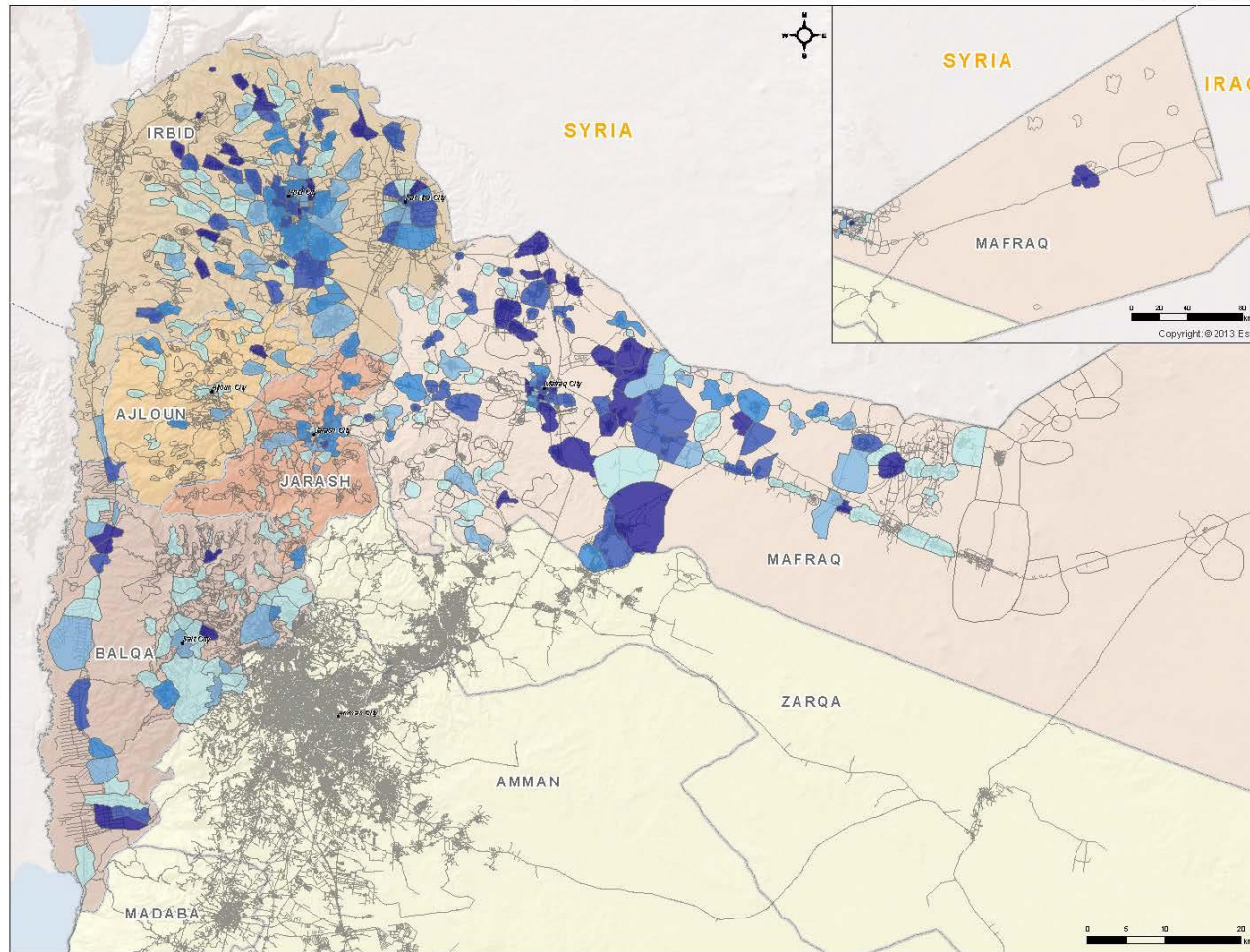
Data Source:
 Report created by REACH
 REACH Key Informant Photo and Assessment
 and other data, maps and other sources
 OSM

Projection: WGS 1984 UTM Zone 37N

File:
 JOR_Northern_Governates_13_10A_P12013
 Contact: reach@ipaccha.net

*Please note the response rate may be dependent on the BSU survey in which the household was surveyed.

The information presented on this map is for informational purposes only and should not be used for any other purpose. The information is not intended to be used for any other purpose. The information is not intended to be used for any other purpose. The information is not intended to be used for any other purpose.



Host Community Mapping in Jordan

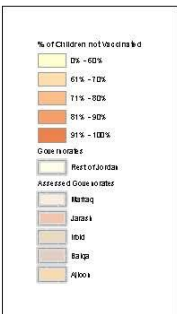


Jordan - Northern Governorates

Percentage of Syrian Households with No Child Vaccinated Against Measles by Basic Service Unit (BSU)

For humanitarian relief purpose only
Draft/Work in progress

Production date: 31/07/2013



Data Source:
Data Source: UNICEF
REACH Key Informant Assessment at
Northern Governorates, conducted by UNICEF
OGM

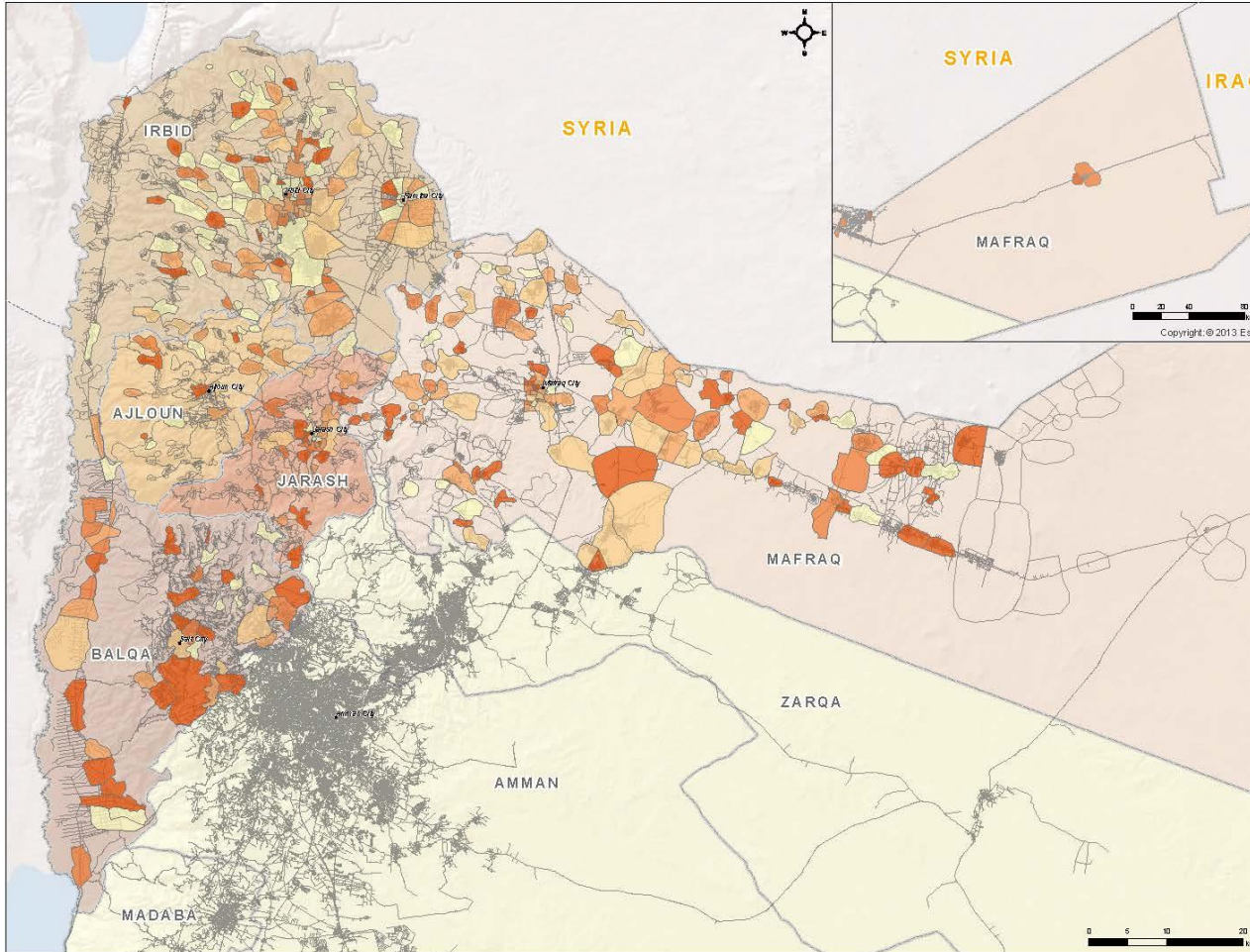
Projection: WGS 1984 UTM Zone 37N

File:
JOR_Northern_Governates_A3_13072013

Contact: mapapp@impactmatter.org

The information presented on this map should not be used to identify people or to identify areas at risk of conflict or other humanitarian problems. The information presented on this map is for informational purposes only and should not be used to identify areas at risk of conflict or other humanitarian problems. The information presented on this map is for informational purposes only and should not be used to identify areas at risk of conflict or other humanitarian problems.

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An Initiative of ACTED, IMPACT Initiatives and UNOSAT



Host Community Mapping in Jordan

Through this methodology, REACH was able to:

- Provide an overview of the refugee settlement pattern in host communities in northern Jordan
- Identify and locate vulnerable populations in relation to available services
- Provide reliable data on the needs of the population to other actors supporting the design and coordination of sector specific programming

Host Community Mapping in Jordan

The BSU methodology was particularly useful in the urban setting.

As urban neighborhood boundaries were largely absent in northern Jordan, the BSUs allowed for the urban population to be subdivided for analysis, revealing trends within urban areas.

Urban and rural data were also directly comparable allowing for further stratification in the analysis.

In terms of protection, the BSUs allowed for sensitive household level information to be aggregated to a more meaningful community level without jeopardizing the safety and security of refugee families.

Informal Infrastructure Mapping in Zaatari



November 2012



June 2013

Informal Infrastructure Mapping in Zaatari

Over time, residents in Zaatari camp started reorganizing themselves into household ‘compounds,’ relocating tents and caravans of extended family members around a central ‘courtyard.’

Continued dissatisfaction with the collective WASH centers provided by the aid community led to the proliferation of informal infrastructure, improvised toilets and showers and their related drainage systems (septic tanks, ditches and pits), at the household level.

All wastewater production and disposal at the household level is unauthorized and unregulated, and thus unmanaged, creating a significant sanitation problem in the camp.

At the request of UNICEF, REACH conducted a detailed household wastewater assessment.

Informal Infrastructure Mapping in Zaatari



Informal Infrastructure Mapping in Zaatari

Wastewater Assessment Methodology:

- Household boundaries were drawn on satellite image overlays through participatory mapping exercises with camp residents and later digitized
- Wastewater storage and drainage locations were collected on GPS devices in the field
- And a short household wastewater survey was conducted using OpenDataKit (ODK) on mobile devices



Informal Infrastructure Mapping in Zaatari

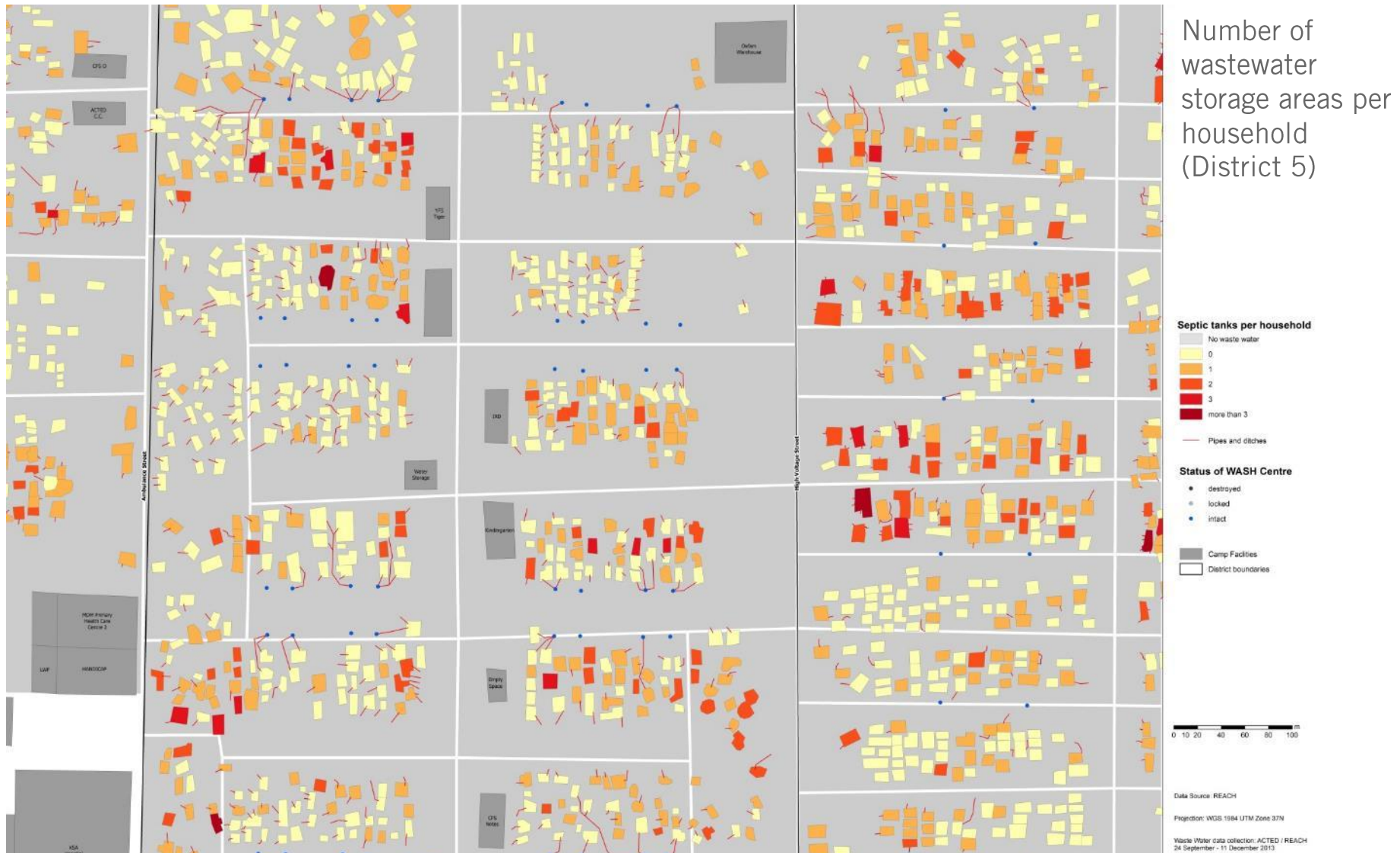
Number of wastewater storage areas per household



Informal Infrastructure Mapping in Zaatari



Informal Infrastructure Mapping in Zaatari



Informal Infrastructure Mapping in Zaatari

Through this methodology, REACH was able to gain a detailed understanding of two important informal phenomena in the camp:

- The formation of household compounds
- The establishment of informal infrastructure across the camp

Camp managers and WASH actors can now utilize these products and data as a baseline for programming and the eventual formalization of a camp-wide wastewater system.

Informal Infrastructure Mapping in Zaatari

One of the next steps for Zaatari is to establish a land management system for the camp.

The success of the wastewater effort has led to the evaluation of a similar methodology to formalize household 'parcels' into a cadaster and subsequent database with associated shelter IDs and registration information, ideally paving the way for some form of land tenure for residents in the future.

This type of methodology can be particularly useful in other types dense informal settlements. However, the availability of high resolution satellite imagery, access to the community and the cooperation of the settlement residents were critical to the success of this effort.

Contact Information



Me

matthew.wencel@reach-initiative.org

REACH Geneva Office

International Environment House n.2
Chemin de Balexert 7
1219 Châtelaine (Geneva)
Switzerland

+41 22 566 29 63

geneva@reach-initiative.org

REACH Online

www.reach-initiative.org

Twitter: [@REACH_info](https://twitter.com/REACH_info)