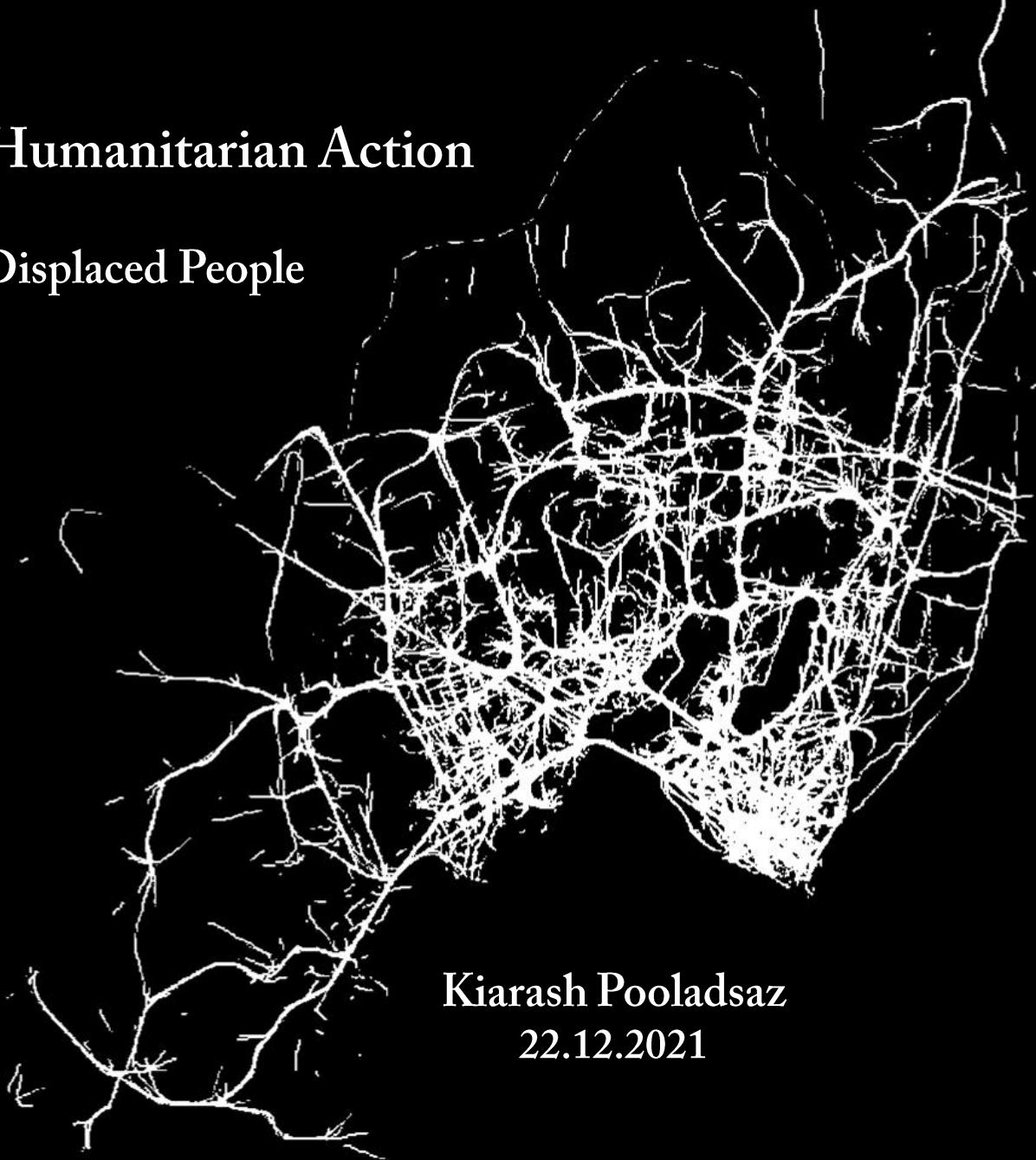


# SE:GeoHumanitarian Action

Tracking Displaced People



Kiarash Pooladsaz  
22.12.2021



## **Contents**

- Tracking Displaced People in Mozambique (Cabo Delgado); The responsible organization IOM
- Big Data and Movement Patterns; Reviewing number of literatures
- Conclusion
- References

## **Tracking Displaced People in Mozambique (Cabo Delgado)**

The responsible organization IOM



## Fossil Fuel Exploitation Projects

Terrorist Attacks by ISIS, Al-Shabaab and Al-Sunna wa Jama'a

Children Kidnapping and Abuse

Young Women and children Abduction

Racial Discrimination

False accusations against journalist, Activist, Community Leader, Researcher an etc.

## Social Inequalities

Deprivation

Displacement of Local Communities from their Land by the gas projects

Poverty

Sexual Exploitation and Abuse of Women in Exchange for Humanitarian Aid

Massive Infrastructure and Facilities Destruction

Indiscriminate Use of Force, Killings, Kidnappings, Arbitrary Detention by Government Security Forces During Operations Against the Insurgents

Food Shortage

Insecurity

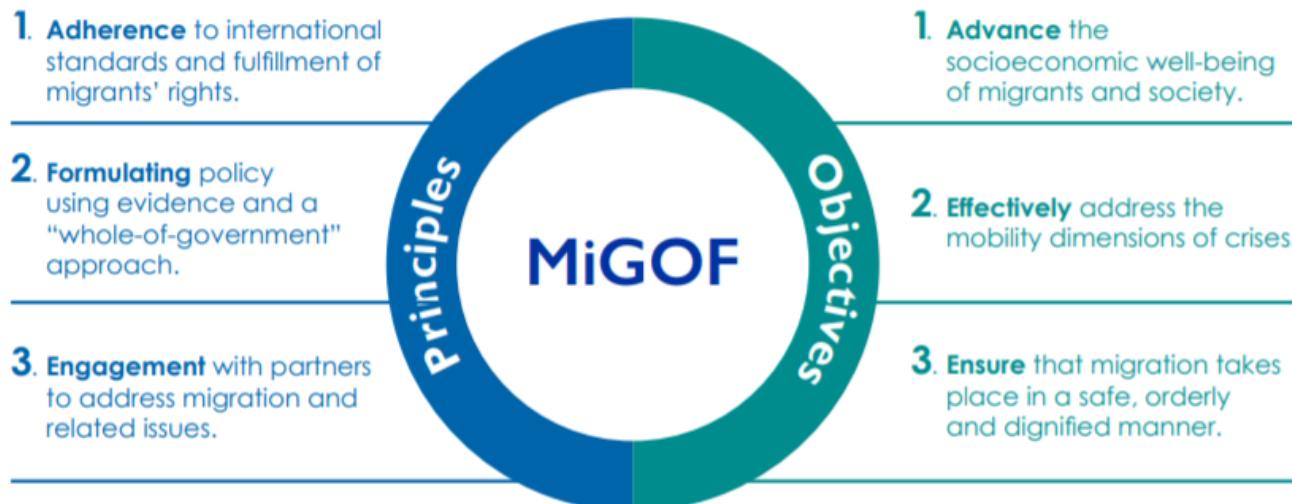
Violations; “Beheaded & Chopped”

## International Organization for Migration (IOM)

With 174 member states, a further 8 states holding observer status and offices in over 100 countries, IOM is dedicated to promoting humane and orderly migration for the benefit of all. It does so by providing services and advice to governments and migrants.

IOM works to help ensure the management of migration to promote international cooperation on migration issues, to assist in the search for practical solutions to migration problems and to provide humanitarian assistance to migrants in need, including refugees and internally displaced people.

1



Migration Governance Framework (IOM Snapshot, 2021)

Tracking and monitoring of displacement and needs were met for:



**24.9 million** internally displaced persons (IDPs)

**16.5 million** returnees



**4.6 million** returnees from abroad

**225,758** persons transported internationally

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Camp coordination/  
management → **2.5 million** beneficiaries  
in 28 countries

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2



Water, sanitation  
and hygiene → **6.7 million** in 27 countries

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Shelter and  
non-food → **4 million** in 41 countries

---



Emergency health → **3.6 million** in 31 countries

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Over **343** recovery, stabilization and solutions initiatives  
**in 76 locations**

## What is their main tool?

One of IOM's most important data initiatives is the Displacement Tracking Matrix (DTM), which monitors displacement and population mobility, provides critical information to responders during crises, and contributes to a better understanding of population flows and evolving needs of displaced populations through its geospatial global infrastructure.

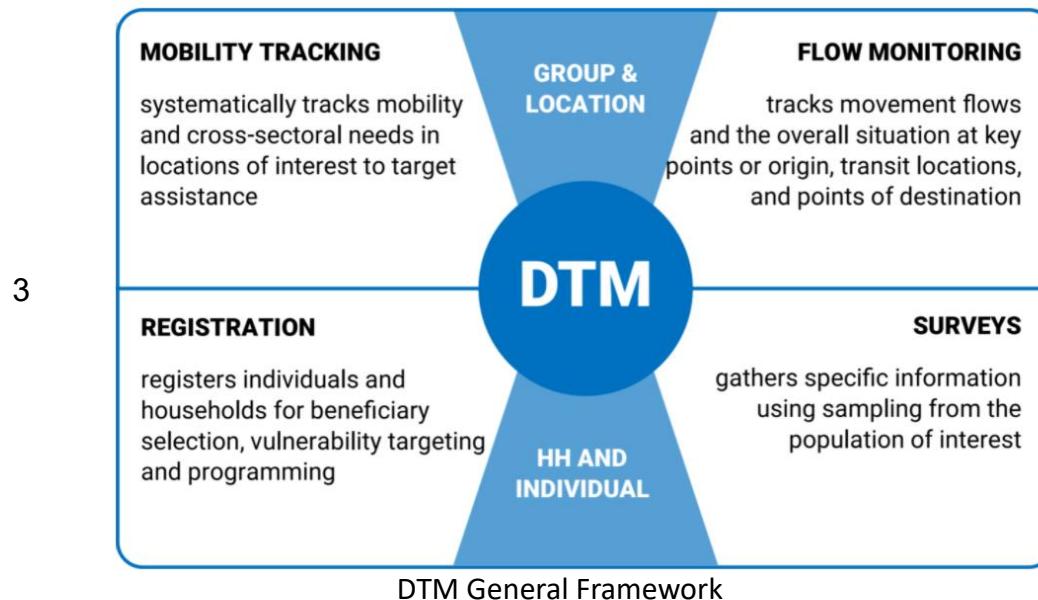
In 2019, IOM's DTM:

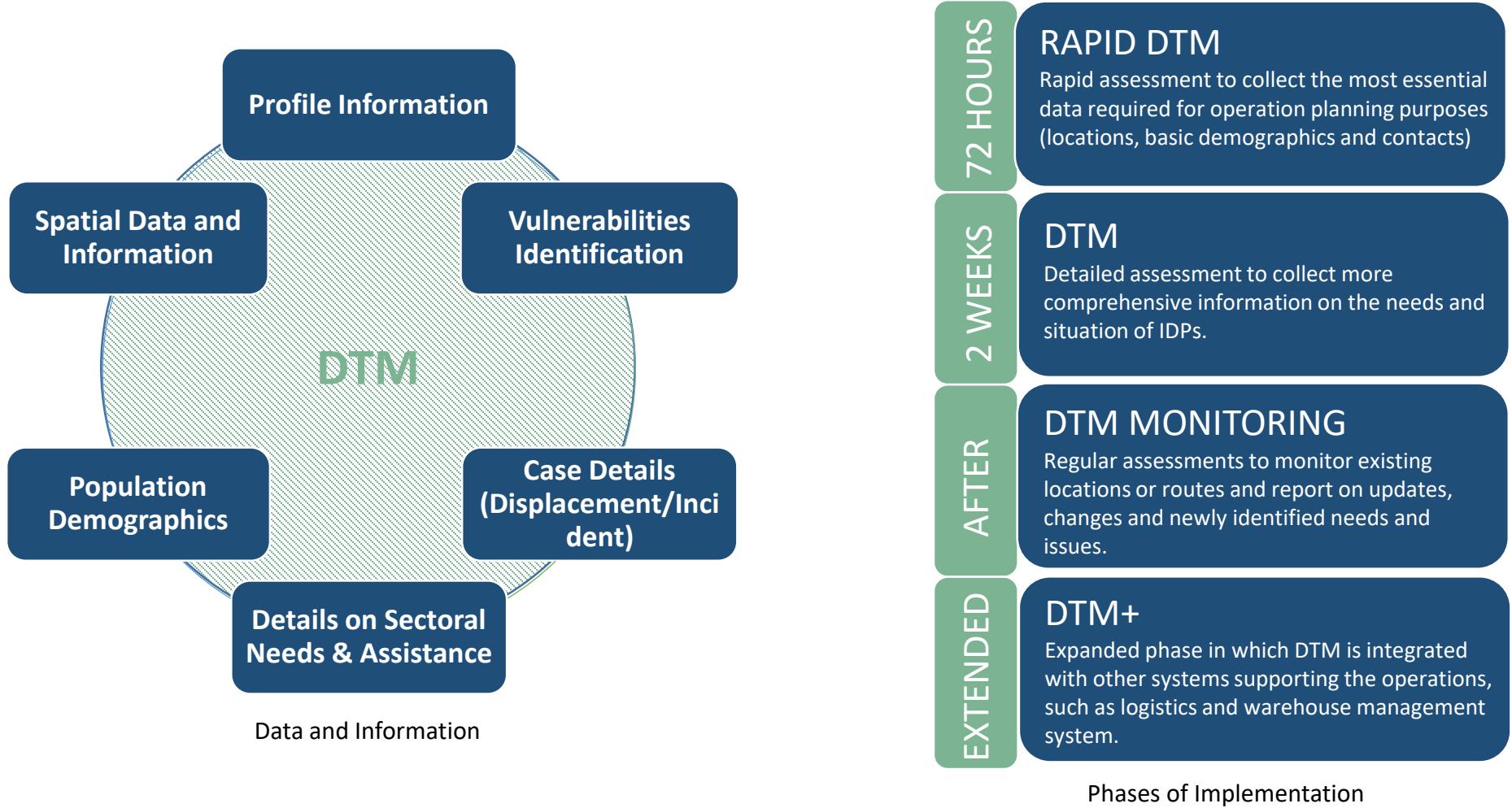
Covered 78 countries, tracked the movements of over 24.9 million Internally Displaced Persons (IDPs);

Published 1,620 reports and mapping products and received over 620,000 downloads;

Has added more than one hundred datasets to HDX (Humanitarian Data Exchange Platform), covering 30 countries;

Included more than 6,000 data collectors and 400 technical GIS experts serving in 78 countries.





DTM is generally conducted just after any kind of conflicts and incident happened where people are primarily displaced from their place of origin or forced to leave the place of origin and settled spontaneously at government land or marginal land or any other private land. It is the first hand information that is acquired within short period of time about IDPs populations, location, size and settlement.

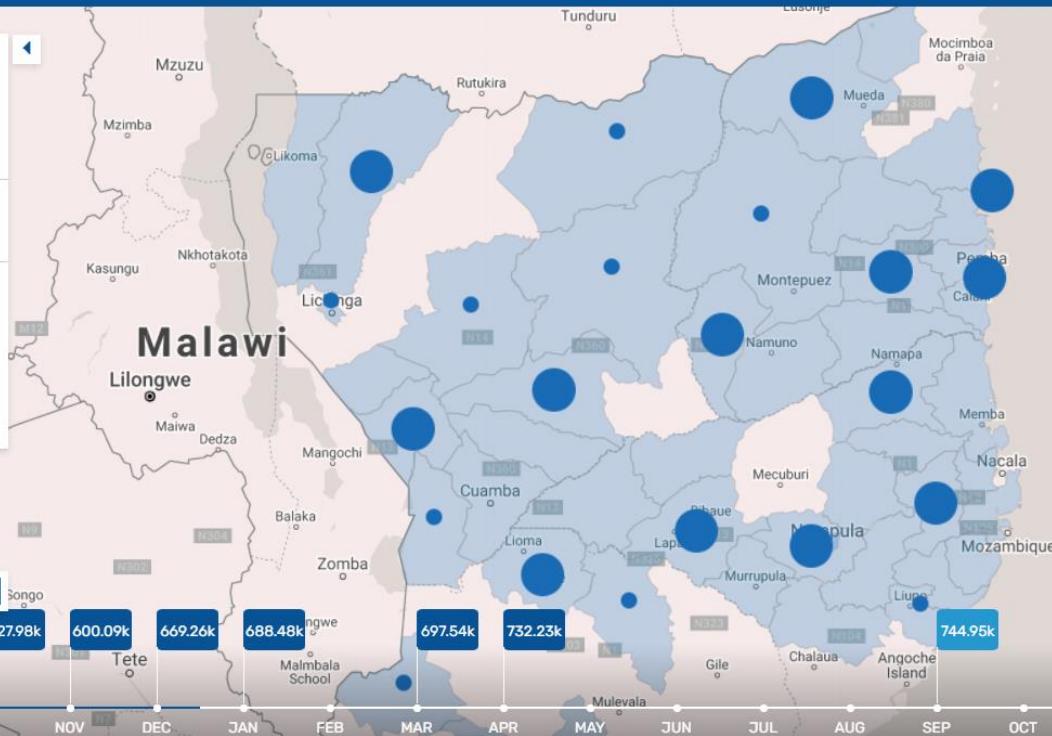
Displaced population tracked by DTM  
in Mozambique

**744 949**

As of Sep 2021

Region  
Southern African

LEGEND  
● Administrative division with available number of displaced persons  
● Site assessed by DTM



**Sep 2021**

#### OPERATIONS

- All
- Cabo Delgado Conflict
- Cyclone Kenneth
- Cyclone Idai
- Cyclone Eloise
- Mozambique Floods (2015)

#### LATEST REPORTS



Base map from Google and country shapes from ESRI are for illustrative purposes only. Names and boundaries do not imply official endorsement or acceptance by IOM.

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Activate Windows

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ABOUT

<https://displacement.iom.int/mozambique>



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Mozambique – Emergency Tracking Tool Report – 134...



Northern Mozambique Crisis – DTM Baseline Assessme...



Northern Mozambique Crisis – Multi-Sectoral Locat...



Northern Mozambique Crisis – Flash Report – Newly...



Mozambique – Emergency Tracking Tool Report, Nampu...



Mozambique – Emergency Tracking Tool Report – 132...



Activate Windows

Go to Settings to activate Windows.

The objective of the Emergency Tracking Tool (ETT) - Movement Alert is to collect information on large and sudden population movements, and to provide support to the Government and the humanitarian community by disseminating data on IDPs for informing effective humanitarian response to the affected population. Information is collected through key informant interviews or direct observation. The dashboard provides basic information on displacements recorded in Mueda district between 13th to 15th November. This ETT Movement Alert forms part of a larger exercise in mapping displacement trends on a weekly basis. Reported findings complement information obtained through other DTM data collection activities in the country. Additional information is available upon request.

### MOVEMENT ALERT

#### SUMMARY OF THE EVENT

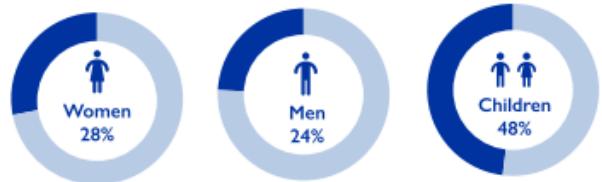
From 13-15 November, DTM teams in Vila de Mueda observed the arrival of 2,366 IDPs coming from Ngapa sede, Namatil, Naschitenje, Naida, Mocimba de Rovuma, and Nahamba localities. Arrivals have been mapped across host communities in Vila de Mueda as well as Eduardo Mondlane Relocation Centre. Of these recorded movements, children constitute the majority of the travellers (48%). An estimated 49 elderly, 18 people with disabilities and 21 pregnant women were additionally reported within these observed movements.

#### KEY INFORMATION

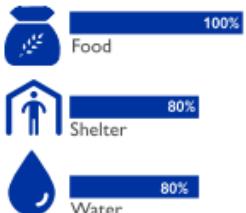
- ASSESSMENT LOCATION: Vila de Mueda
- DATE OF MOVEMENT: 13th - 15th November
- LOCATION TYPE: Relocation site, Host community

- REASON FOR MOVEMENT: 13 November attacks reported in Ngapa and Mocimba de rovuma
- MEANS OF TRAVEL: Bus, Foot
- AVAILABLE ASSISTANCE: None

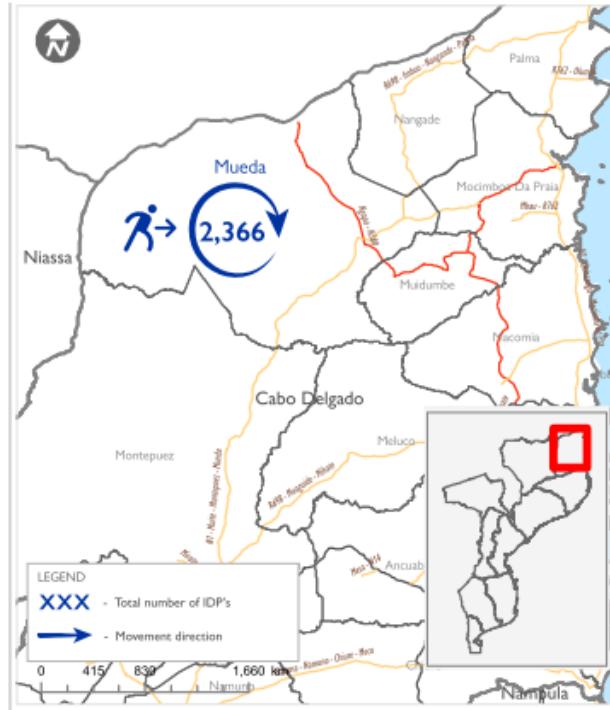
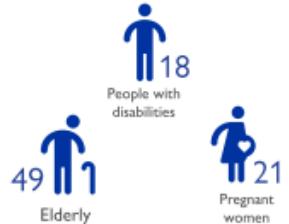
#### DEMOGRAPHICS



#### MAIN REPORTED NEEDS



#### VULNERABILITIES



The objective of the Emergency Tracking Tool (ETT) - Movement Alert is to collect information on large and sudden population movements, and to provide support to the Government and the humanitarian community by disseminating data on IDPs for informing effective humanitarian response to the affected population. Information is collected through key informant interviews or direct observation. The dashboard provides basic information on displacements recorded in Mueda district between 4th to 8th November. This ETT Movement Alert forms part of a larger exercise in mapping displacement trends on a weekly basis. Reported findings complement information obtained through other DTM data collection activities in the country. Additional information is available upon request.

### MOVEMENT ALERT (IDPS RETURNING TO DISTRICT OF ORIGIN)

#### SUMMARY OF THE EVENT

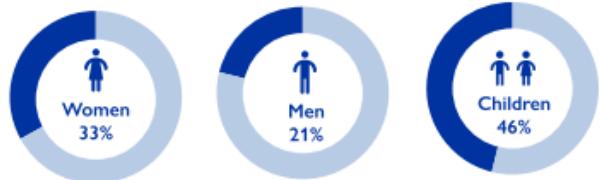
From 4-8 November, DTM teams observed the arrival of 2,159 IDPs, in transit, reporting their intention to return to their places of origin in Palma district. According to reports received from arrivals in Vila de Mueda, the majority of the intended returnees are coming from the Ntele Relocation site in Montepuez district. Of these recorded movements, children constitute the majority of the travellers (46%). An estimated 31 elderly travellers were additionally reported within these observed movements.

#### KEY INFORMATION

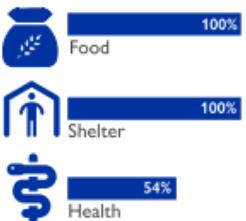
- ASSESSMENT LOCATION: Vila de Mueda
- DATE OF MOVEMENT: 4th - 8th November
- LOCATION TYPE: Host community

- REASON FOR MOVEMENT: Intended return
- MEANS OF TRAVEL: Bus
- AVAILABLE ASSISTANCE: None

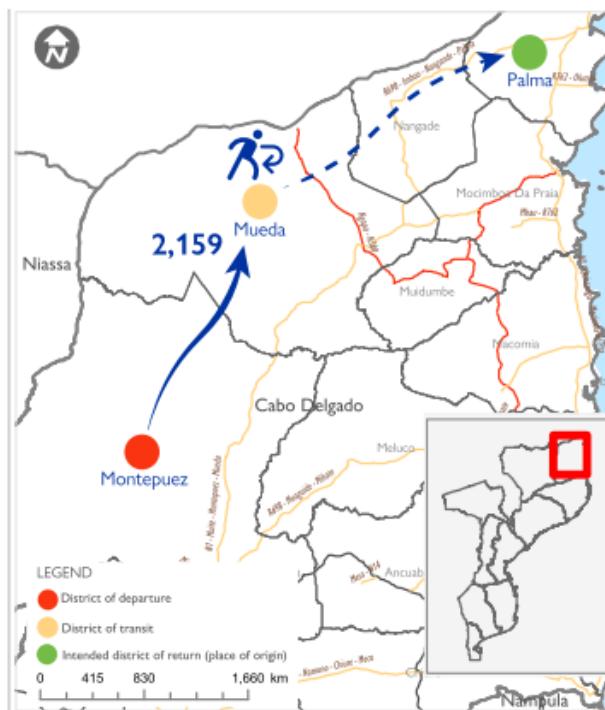
#### DEMOGRAPHICS



#### MAIN REPORTED NEEDS



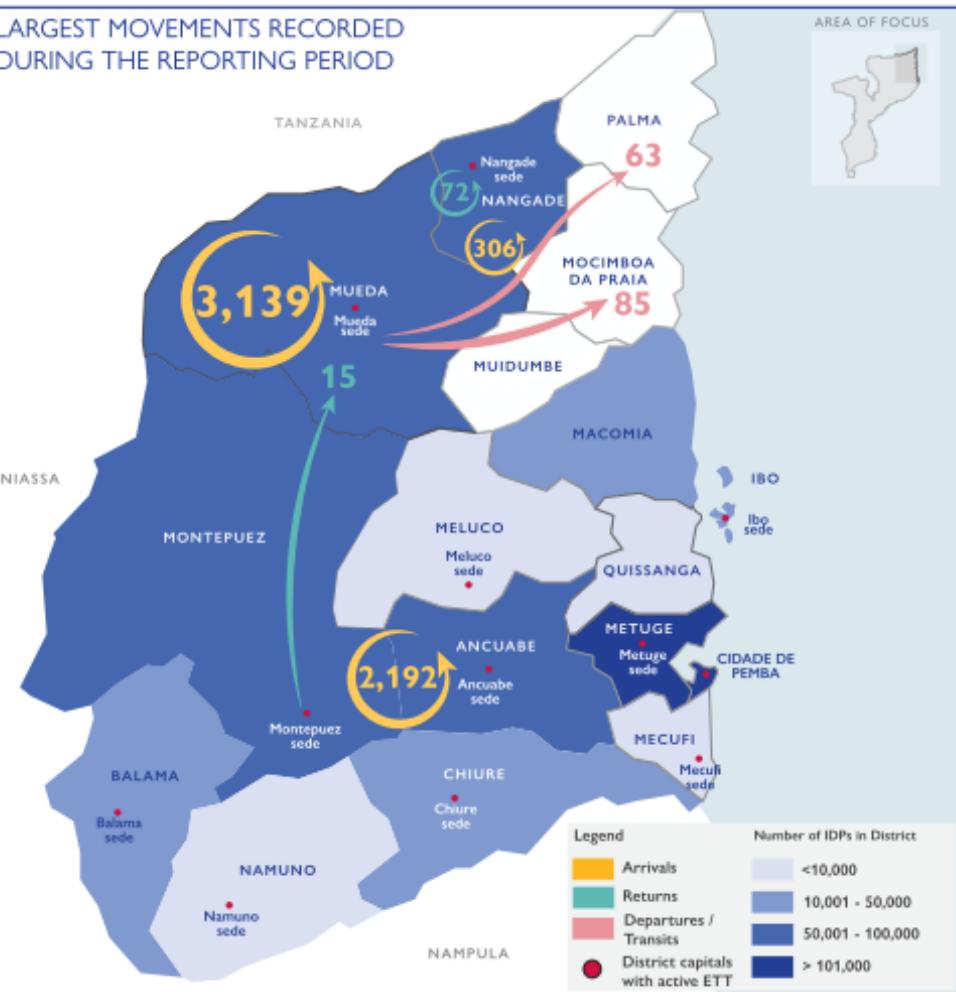
#### VULNERABILITIES



Departure	Transit	Intended destination
Mueda: 2,159	From Montepuez: 2,159	Palma: 2,159

During the reporting period (10 to 16 November 2021), a total of 58 movements were recorded - 40 arrivals (5,853 individuals), 14 departures (161 individuals), 2 transits (63 individuals), and 2 intended return movements (87 individuals). The largest arrivals were recorded in Mueda (3,139 individuals), Ancuabe (2,204 individuals) and Nangade (382 individuals). The largest departure was recorded in Mueda (85 individuals). The largest transit was recorded in Mueda (63 individuals). The intended return movements were observed in Montepuez (15 individuals), Balama (11 individuals), Mueda (148 individuals) and Nangade (72 individuals). Less than one quarter of the total population (15%) were displaced for the first time. An estimated 75 per cent of reported IDPs had been displaced more than once prior to this latest movement.

### LARGEST MOVEMENTS RECORDED DURING THE REPORTING PERIOD



### KEY FIGURES

6,164

PEOPLE ON THE MOVE DURING THE REPORTING PERIOD

87

OF THE TOTAL IDPs INTEND TO RETURN TO THEIR PLACE OF ORIGIN

55%

OF THE IDPs REPORTED ARE CHILDREN

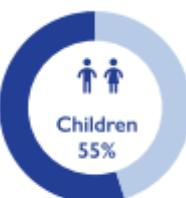
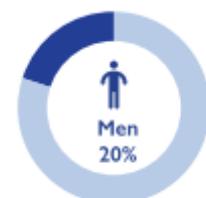
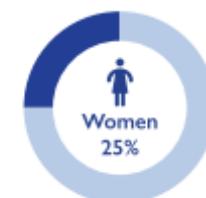
46%

OF THE REPORTED IDPs ARE LIVING WITH THE HOST COMMUNITY

88

ELDERLY WERE REPORTED, REPRESENTING THE LARGEST VULNERABLE GROUP

### DEMOGRAPHICS



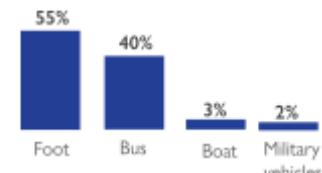
### MAIN REPORTED NEEDS



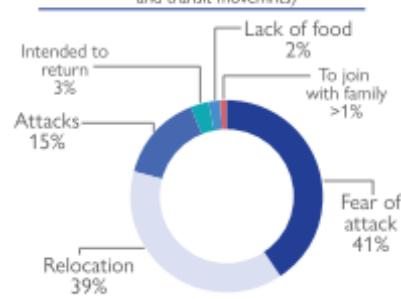
### MAIN DISTRICTS OF ORIGIN



### MEANS OF DISPLACEMENT



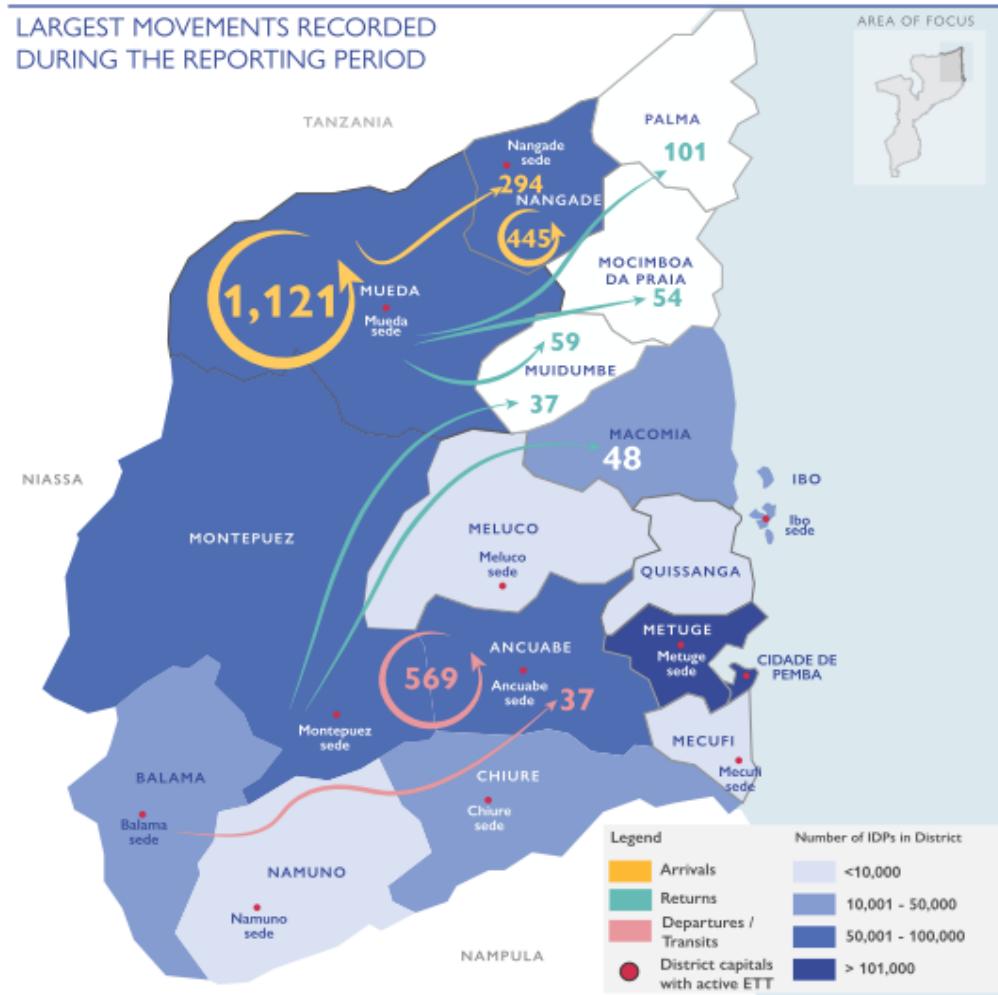
### TRIGGERS OF MOVEMENT (for all arrival, return, departures and transit movements)





During the reporting period (17 to 23 November 2021), a total of 55 movements were recorded - 30 arrivals (1,934 individuals), 17 departures (718 individuals), 6 intended return movements (299 individuals), and 2 transits (78 individuals). The largest arrivals were recorded in Mueda (1,121 individuals), Nangade (729 individuals) and Ancuabe (569 individuals). The largest departure was recorded in Ancuabe (569 individuals). The largest transit was recorded in Mueda (78 individuals). The intended return movements were observed in Mueda (214 individuals) and Montepuez (85 individuals). More than one third of the total population (35%) were displaced for the first time. An estimated 65 per cent of reported IDPs had been displaced more than once prior to this latest movement.

### LARGEST MOVEMENTS RECORDED DURING THE REPORTING PERIOD



### KEY FIGURES

3,029

PEOPLE ON THE MOVE DURING THE REPORTING PERIOD

299

OF THE TOTAL IDPs INTEND TO RETURN TO THEIR PLACE OF ORIGIN

50%

OF THE IDPs REPORTED ARE CHILDREN

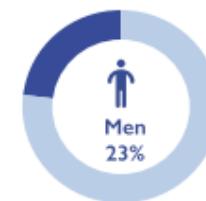
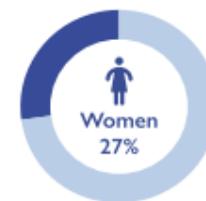
65%

OF THE REPORTED IDPs ARE LIVING WITH THE HOST COMMUNITY

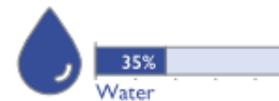
51

ELDERLY WERE REPORTED, REPRESENTING THE LARGEST VULNERABLE GROUP

### DEMOGRAPHICS



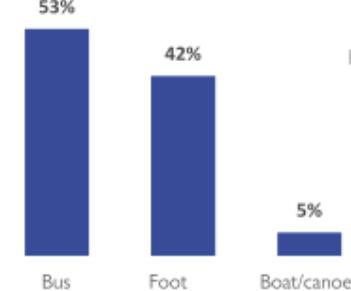
### MAIN REPORTED NEEDS



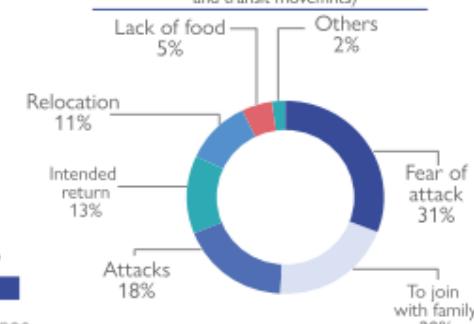
### MAIN DISTRICTS OF ORIGIN



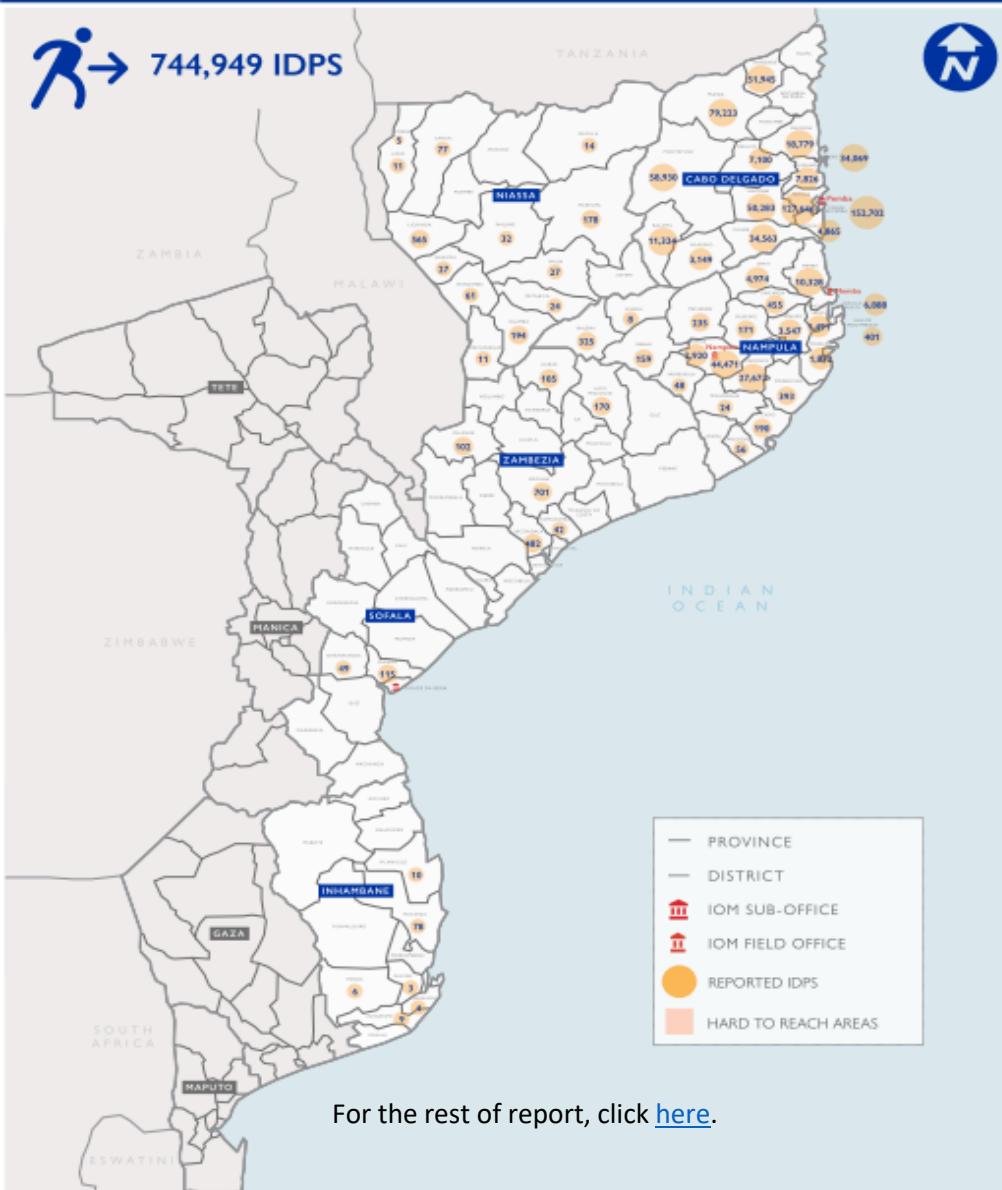
### MEANS OF DISPLACEMENT



### TRIGGERS OF MOVEMENT (for all arrival, return, departures and transit movements)



September 2020



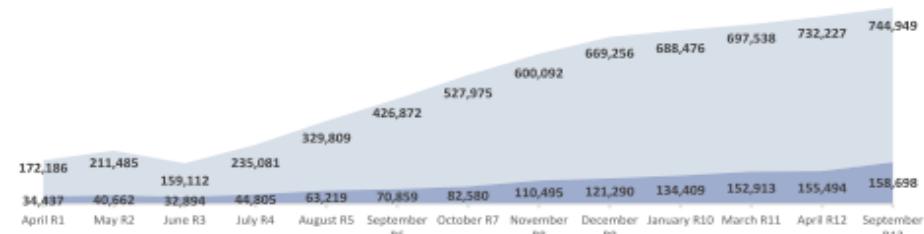
## Baseline Assessment Round 13

Increased security incidents in northern Mozambique since 2017 resulted in population displacement as well as subsequent humanitarian needs. To better understand the scope of displacement trends and needs of displaced populations, the International Organization for Migration (IOM) activated DTM in Cabo Delgado province in February 2019.

The DTM has focal points and enumerators in 118 localities of the Cabo Delgado province and collects data in close coordination with the Government. This 13th round of assessment also covered neighbouring provinces of Inhambane (6 localities), Nampula (77 localities), Niassa (12 localities), as well as the provinces of Zambezia (6 localities), and Sofala (2 localities).

Security and access restraints in Mocimboa da Praia, Muidumbe and Palma districts have limited data collection resulting in no updated estimates recorded by DTM field teams and focal points. For this round, 14 out of the 17 districts in Cabo Delgado were covered. In addition, IDP baseline estimates in Nampula province are currently under verification in collaboration with INGD and local authorities. Verification across 21 districts in Nampula will be updated and recorded within the next round of IOM DTM Baseline Assessment Reports.

- Individuals
- Households



## Evolution of results for the Northern Region

An estimated 642,404 IDPs were identified in Cabo Delgado, while an additional 99,448 IDPs were identified in Nampula, 1,221 IDPs in Niassa, 1,602 IDPs in Zambezia, 164 IDPs in Sofala and 110 IDPs in Inhambane. This brings the total number of IDPs due to the situation of insecurity to 744,949 IDPs. This represents an increase of 12,722 displaced individuals compared to the previous round (April 2021).

Between published Round 12 and Round 13, 6 monitored districts in Cabo Delgado province recorded decreases in the number of IDPs across locations in Ancuabe, Balama, Chiure, Mueda Pemba and Quissanga. The highest proportional decrease in IDP estimates between Round 12 and Round 13 were recorded in Chiure (decreasing by 44% or 26,971 individuals), Quissanga (decreasing by 18% or 1,737 individuals) and Balama (decreasing by 17% or 10,137 individuals).

Continued internal IDP movements between districts record increases in the arrival and continued presence of IDPs in Nampula province (increasing by 49% or 32,535 individuals across 21 districts), Montepuez (increasing by 28% or 12,111), Nangade (increasing by 18% or 7,939 individuals). An additional estimated increase of 34% (402) IDPs were recorded in Zambezia.



 REPORTS

## DATASETS

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## Datasets

COUNTRY	OPERATION	COMPONENT	FROM DATE	TO DATE	
Mozambique	All	All			

# Northern Mozambique Crisis – Baseline Assessment Dataset Round 14 (November 2021)

Central Mozambique – Multi-Sectorial Location Assessment – Round 21  
Nov 17 2021

 Mozambique – Baseline Assessment -  
Cabo Delgado – Round 13  
Sep 23 2021

# X Mozambique – Multi-sectorial Location Assessment Dataset – Cyclone Idai/Eloise– Round 20

Northern Mozambique Crisis – Multi-Sectorial Location Assessment Dataset – Cabo Delgado, Nampula And Niassa – Round 6  
Dec 08 2021

## Northern Mozambique Crisis – Multi-Sectorial Location Assessment KMZ File – Round 5

## Northern Mozambique Crisis – Multi-Sectorial Location Assessment Dataset – Cabo Delgado, Nampula and Niassa – Round 4

## Northern Mozambique Crisis – Multi-sectorial Location Assessment Dataset – Cabo Delgado and Nampula – Round 3 Jul 13 2021

# Northern Mozambique Crisis – Multi-Sectorial Location Assessment KMZ File – Round 6

Dec 08 2021

## Northern Mozambique Crisis – Multi-Sectorial Location Assessment Dataset – Cabo Delgado, Nampula And Niassa – Round 5

## Northern Mozambique Crisis – Multi-Sectorial Location Assessment KMZ File – Round 4

 Northern Mozambique Crisis –Multi-Sectorial Location Assessment KMZ File  
– Round 3  
Jul 13 2021

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**moz\_site\_dailytracking\_8\_nov** hdx-northern-mozambique-crisis-baseline-assessment-dataset-round-13-plubic-dataset

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	SSID	SITE_NAME	STATUS	SITE_TYPE	TOTAL_HF	TOTAL_IND	ADM1_NAME	ADM1_COD	ADM2_NAME	ADM2_COD	ADM3_NAME	ADM3_COD	ADM4_NAME	ADM4_COD	LAT_Y	LONG_X	
2	MOZ_R072	Machacuari	Open	Resettlement Site	20	104	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Bunga	MZ04100103	-20,105	33,301	
3	MOZ_R038	Muchambanha	Open	Resettlement Site	56	213	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Bunga	MZ04100103	-20,083	33,323	
4	MOZ_R065	Nhamississa	Open	Resettlement Site	46	182	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Mabaia	MZ04100101	-20,054	33,307	
5	MOZ_R043	Gudza	Open	Resettlement Site	144	867	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Bunga	MZ04100103	-20,039	33,335	
6	MOZ_R060	Javera	Open	Resettlement Site	30	134	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Javera	MZ04100107	-20,02	33,332	
7	MOZ_R022	Muchai	Open	Resettlement Site	56	243	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Mabaia	MZ04100101	-20,019	33,362	
8	MOZ_R028	Bandua sede	Open	Resettlement Site	660	3030	Sofala	MZ09	Buzi	MZ0901	Buzi	MZ090101	Bandua	MZ09010103	-20,003	34,434	
9	MOZ_R047	Magaro	Open	Resettlement Site	203	1340	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Muoco	MZ04100104	-20	33,348	
10	MOZ_R069	Magueba	Open	Resettlement Site	67	335	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Javera	MZ04100107	-20	33,389	
11	MOZ_R071	Chiruca	Open	Resettlement Site	30	133	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Muoco	MZ04100104	-19,999	33,316	
12	MOZ_R046	Manhama 2	Open	Resettlement Site	263	1202	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Bunga	MZ04100103	-19,994	33,428	
13	MOZ_R045	Manhama 1	Open	Resettlement Site	86	428	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Mabaia	MZ04100101	-19,99	33,421	
14	MOZ_R033	Estaqueinha sede	Open	Resettlement Site	299	1492	Sofala	MZ09	Buzi	MZ0901	Estaqueinha	MZ090102	Estaqueinha	MZ09010201	-19,982	34,157	
15	MOZ_R082	Begaja	Open	Resettlement Site	210	1633	Sofala	MZ09	Buzi	MZ0901	Estaqueinha	MZ090102	Estaqueinha	MZ09010201	-19,975	34,222	
16	MOZ_R075	Muoco Chiguendere (Ma	Open	Resettlement Site	72	601	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Muoco	MZ04100104	-19,968	33,28	
17	MOZ_R044	Ngurue	Open	Resettlement Site	137	583	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Mabaia	MZ04100101	-19,967	33,302	
18	MOZ_R004	Chibue	Open	Resettlement Site	152	1512	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Bunga	MZ04100103	-19,965	33,54	
19	MOZ_R073	Macocoe	Open	Resettlement Site	141	1058	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Mabaia	MZ04100101	-19,965	33,426	
20	MOZ_R083	25 de Setembro	Open	Resettlement Site	152	770	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Mabaia	MZ04100101	-19,964	33,4	
21	MOZ_R020	Inhajou 2019	Open	Resettlement Site	437	2186	Sofala	MZ09	Buzi	MZ0901	Estaqueinha	MZ090102	Estaqueinha	MZ09010201	-19,962	34,299	
22	MOZ_R070	Chingemidji	Open	Resettlement Site	480	2410	Sofala	MZ09	Buzi	MZ0901	Buzi	MZ090101	Bandua	MZ09010103	-19,959	34,339	
23	MOZ_R085	Chibue Mateo	Open	Resettlement Site	98	542	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Bunga	MZ04100103	-19,959	33,489	
24	MOZ_R010	Bandua 2019	Open	Resettlement Site	829	3455	Sofala	MZ09	Buzi	MZ0901	Buzi	MZ090101	Bandua	MZ09010103	-19,956	34,409	
25	MOZ_R037	Mucombe	Open	Resettlement Site	100	320	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Muoco	MZ04100104	-19,951	33,46	
26	MOZ_R035	Zichão	Open	Resettlement Site	129	526	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Darue	MZ04100102	-19,949	33,349	
27	MOZ_R081	Maximedje	Open	Resettlement Site	189	935	Sofala	MZ09	Buzi	MZ0901	Estaqueinha	MZ090102	Estaqueinha	MZ09010201	-19,947	34,07	
28	MOZ_R009	Bairro da unidade	Open	Resettlement Site	320	1832	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Darue	MZ04100102	-19,945	33,367	
29	MOZ_R086	metchisso	Open	Resettlement Site	217	764	Manica	MZ04	Sussundenga	MZ0410	Dombe	MZ041001	Matarara	MZ04100105	-19,941	33,491	

DTM Moz Daily 08\_11\_2019

90%

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D4 MZ01

moz\_site\_dailystacking\_8\_nov hdx-northern-mozambique-crisis-baseline-assessment-dataset-round-13-plubic-dataset

Snapshot date	Round Number	Province of assessment	Province of assessment Pcode	District of assessment	District of assessment Pcode	Posto of assessment	Posto of assessment Pcode	Locality of assessment	Total Men	Total of W
#date+occurred		#adm1+name	#adm1+code	#adm2+name	#adm2+code	#adm3+name	#adm3+code	#adm4+name		
9/30/2021	13	Cabo Delgado	MZ01	Mecufi	MZ0107	Murrebue	MZ010702	Mauelia	433	
9/30/2021	13	Cabo Delgado	MZ01	Mecufi	MZ0107	Murrebue	MZ010702	Muitua	181	
9/30/2021	13	Cabo Delgado	MZ01	Mecufi	MZ0107	Mecufi	MZ010701	Muaria	146	
9/30/2021	13	Cabo Delgado	MZ01	Mecufi	MZ0107	Mecufi	MZ010701	Sambene	137	
9/30/2021	13	Cabo Delgado	MZ01	Mecufi	MZ0107	Mecufi	MZ010701	Natoco	29	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0107	Cidade De Pemba	MZ010401	Ingonane	3375	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0107	Cidade De Pemba	MZ010401	Maringanha	1063	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0104	Cidade De Pemba	MZ010401	Eduardo Mondlane	2655	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0104	Cidade De Pemba	MZ010401	Chuiba	2265	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0104	Cidade De Pemba	MZ010401	Cariaoco	3498	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0104	Cidade De Pemba	MZ010401	Mahate	2500	
9/30/2021	13	Cabo Delgado	MZ01	Cidade De Pemba	MZ0104	Cidade De Pemba	MZ010401	Muxara	984	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0104	Mueda	MZ011203	Bairro Lilondo	158	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0104	Mueda	MZ011203	Bairro Maimio	932	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0112	Mueda	MZ011203	Bairro Maputo	820	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0112	Mueda	MZ011203	Bairro Chudi	343	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0112	Mueda	MZ011203	Bairro Eduardo	2252	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0112	Chapa	MZ011201	Lipelua	316	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0112	N'Gapa	MZ011204	Naschitenje	817	
9/30/2021	13	Cabo Delgado	MZ01	Mueda	MZ0112	Mueda	MZ011203	Nimo	550	

Data Dictionary BASELINE ASSESSMENT ROUND 13... (+)

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Year  
2021 ▾  
Month  
Apr ▾

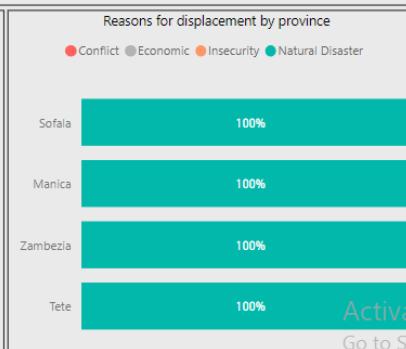
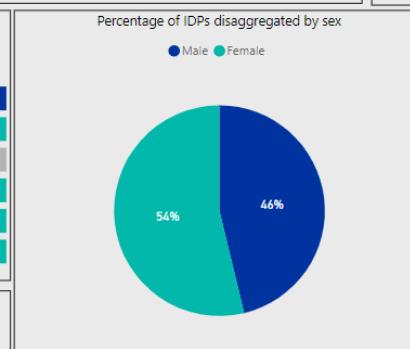
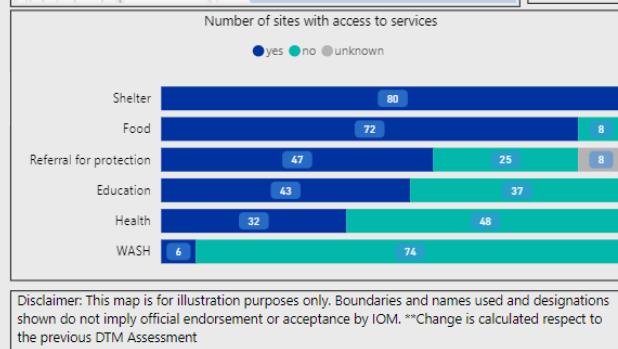
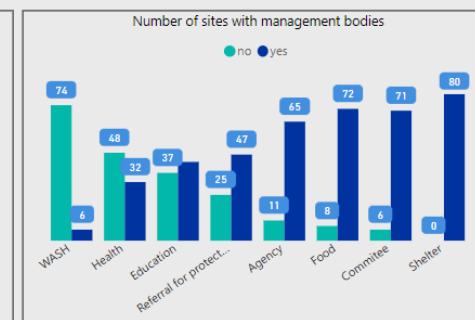
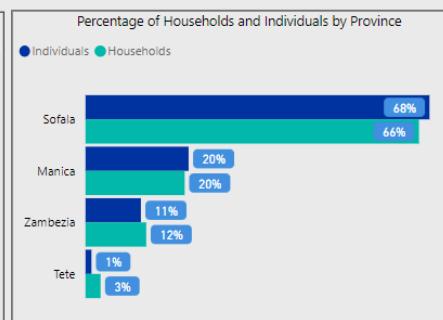
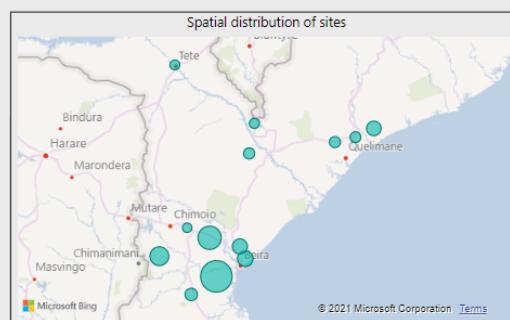
Total Number of assessed IDPs

80    116,385    24,230  
sites    individuals    households

Last\* total number of IDPs by

(Blank)    (Blank)  
individuals    households

IDMC estimation in 2019  
506,000  
IDPs by natural disaster



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REPORTS

DATASETS

DATA VISUALIZATION

SURVEYS

MOVEMENT ALERT

ABOUT

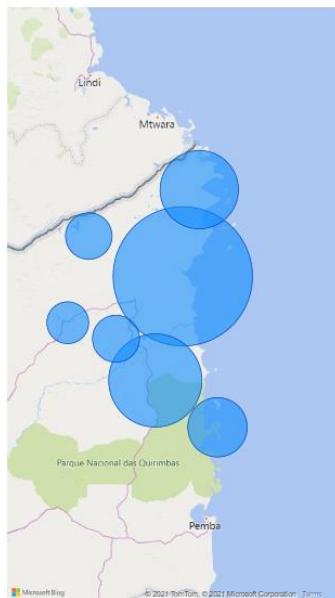


## CABO DELGADO - RESULTS OF HOUSEHOLD ASSESSMENT IN 7 DISTRICTS (December 2019 - January 2020)

Production date: 22/02/2020

### METHODOLOGY:

The data used in this dashboard was gathered through a household survey of 10,521 displaced families in 7 districts in Cabo Delgado province, between the months of December and January 2020. The DTM teams were deployed in the field and used standardized forms, approved by the authorities. Assessments in the southern region, in the districts of Balama, Pemba, Namuno, Chilreu, Ancube, Mecufi and Montepuez are still ongoing during the months of February and March.

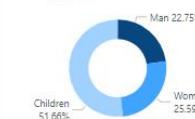


Ibo	Macomia	Mocimba da Praia	Mueda	Muidumbe	Nangade	Palma
Number of identified IDPs within HHs surveyed	Number of families surveyed in the district	Average of Families living in the same house	Social Cohesion: Are families feeling welcome within the host communities (average from 0 to 10)?			

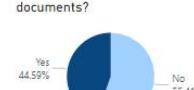
60K 10.45K 2.63



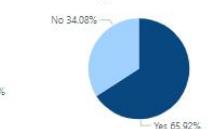
### Demographics



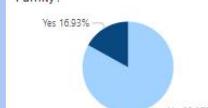
### Does head of HH have documents?



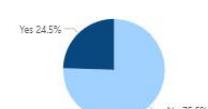
### Does IDP family intend to return?



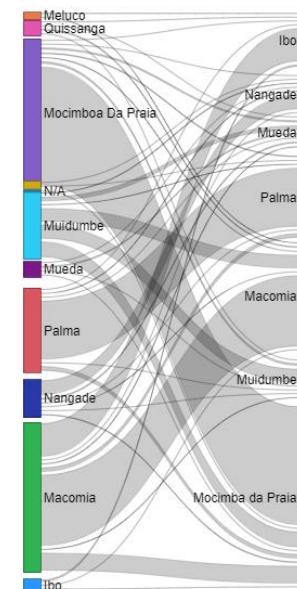
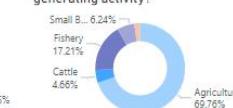
### Can the host family support the IDP Family?



### Did IDP family receive assistance?



### What is the main type of income generating activity?



Contact: DTM Mozambique@iom.int

[Displacement.iom.int/Mozambique](http://Displacement.iom.int/Mozambique)

Activate Windows  
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REPORTS

DATASETS

DATA VISUALIZATION

SURVEYS

MOVEMENT ALERT

ABOUT



LAST UPDATE: FRIDAY 04 JUNE 2021 15 PM

DISTRICT OF ARRIVAL



DATE OF MOVEMENTS

3/25/2021 6/4/2021



ARRIVAL POINTS

Movement det... ● Arriving from: ● Departing to: ● Transiting



SUPPORTED BY:



When quoting, paraphrasing, or in any other way using the information mentioned in this report, the source needs to be stated appropriately as follows: The International Organization for Migration April, 2021, Displacement Tracking Matrix.

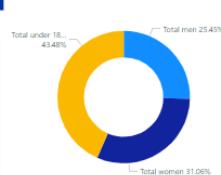
DTM MOVEMENT ALERT DASHBOARD  
DAILY UPDATES ON MOVEMENTS FROM PALMA



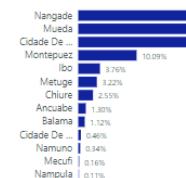
PALMA CRISIS



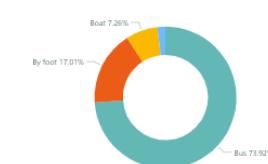
DEMOGRAPHICS



MAIN DISTRICTS OF DESTINATION

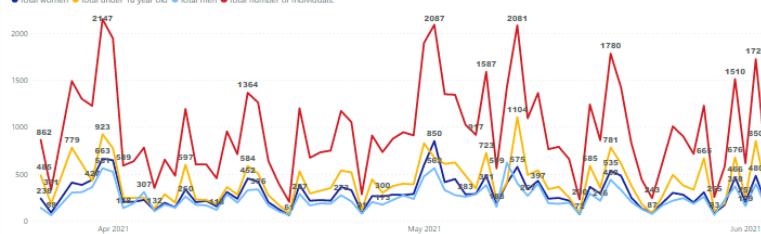


MEANS OF TRANSPORTATION



Demographics evolution (daily)

● Total women ● Total under 18 year old ● Total men ● Total number of Individuals



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## **Big Data and Movement Patterns**

Reviewing number of literatures

# Global data gaps

Good data on migration are essential for countries to effectively manage migration and ensure that migrants are not left behind. Yet significant data gaps exist on a variety of migration topics.

Data gaps can mean data that are



Not collected  
or accessible



Incomplete



Scattered  
across various  
sources

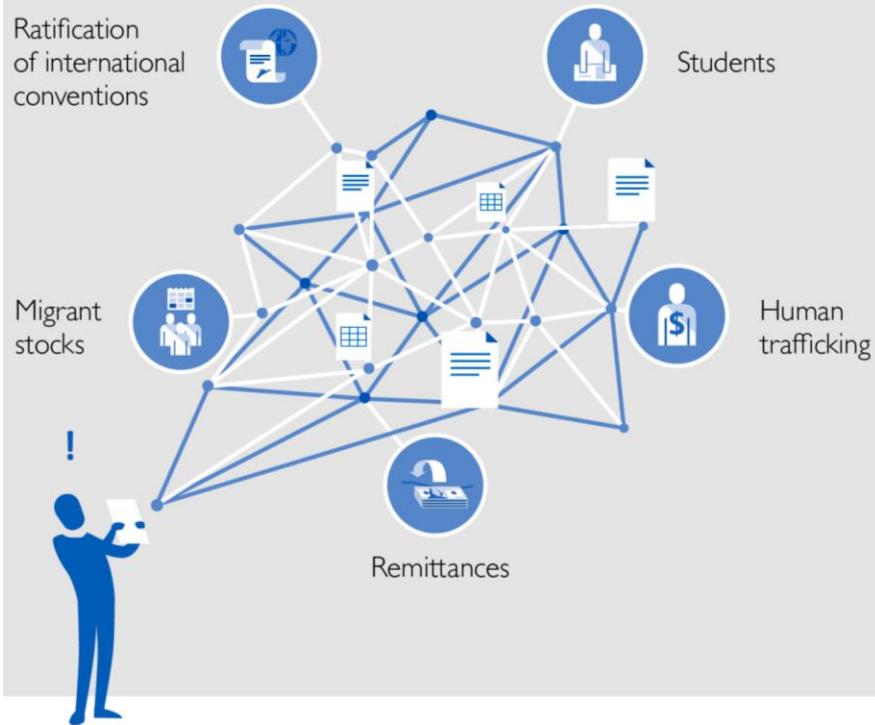


Not  
disaggregated

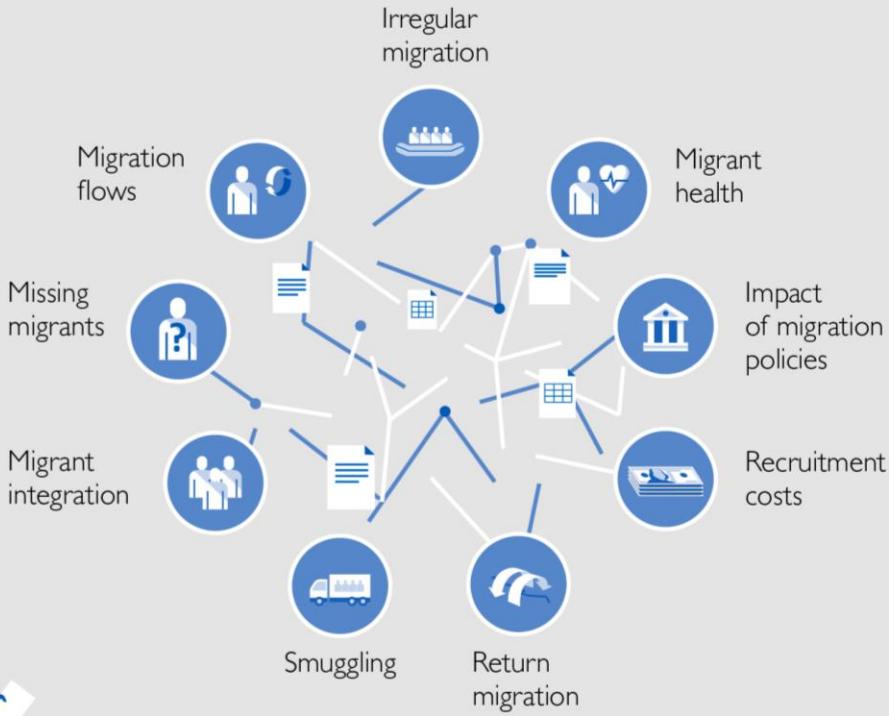


Not comparable  
among countries

More data are collected on these migration topics:



Fewer data are collected on these migration topics:



# KEY SOURCES OF MIGRATION DATA

## TYPE OF SOURCE

## EXAMPLES OF SOURCE

### Statistical

Collects data for the creation of official statistics



Censuses



Household surveys

### Administrative

Collect data primarily to support administrative processes rather than to produce official statistics



Visa, residence-, work-permit



Border data collection system

### Innovative

Emerging sources of migration data



Big data (e.g., social media)



IOM's Displacement Tracking Matrix

## Strengths/Limitations



Active across many countries and regions; flexible scope from monitoring basic data on travellers through flow monitoring points to in depth research



Sample size; analysis, privacy and ethical issues; technical and methodological difficulties; provides estimates; challenge to distinguish migrants from other travelers

## Information produced



Demographic and socio-economic characteristics



Internal migration, returnees



Migrant flows (origin, route, modalities, intended destinations)



Presence of migrants in a geographical area

# KEY SOURCES OF MIGRATION DATA

## TYPE OF SOURCE

## EXAMPLES OF SOURCE

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Collects data for the creation of official statistics



Censuses



Household surveys

### Administrative

Collect data primarily to support administrative processes rather than to produce official statistics



Visa, residence-, work-permit



Border data collection system

### Innovative

Emerging sources of migration data



Big data (e.g., social media)



IOM's Displacement Tracking Matrix

## Strengths/Limitations



Broad coverage (including hard to reach populations); real time data; richness of information



Sample bias; analysis, privacy and ethical issues; technical and methodological and analytical difficulties

## Information produced



Migrant flows with early warning of migration



Migrant stocks with early warning of migration

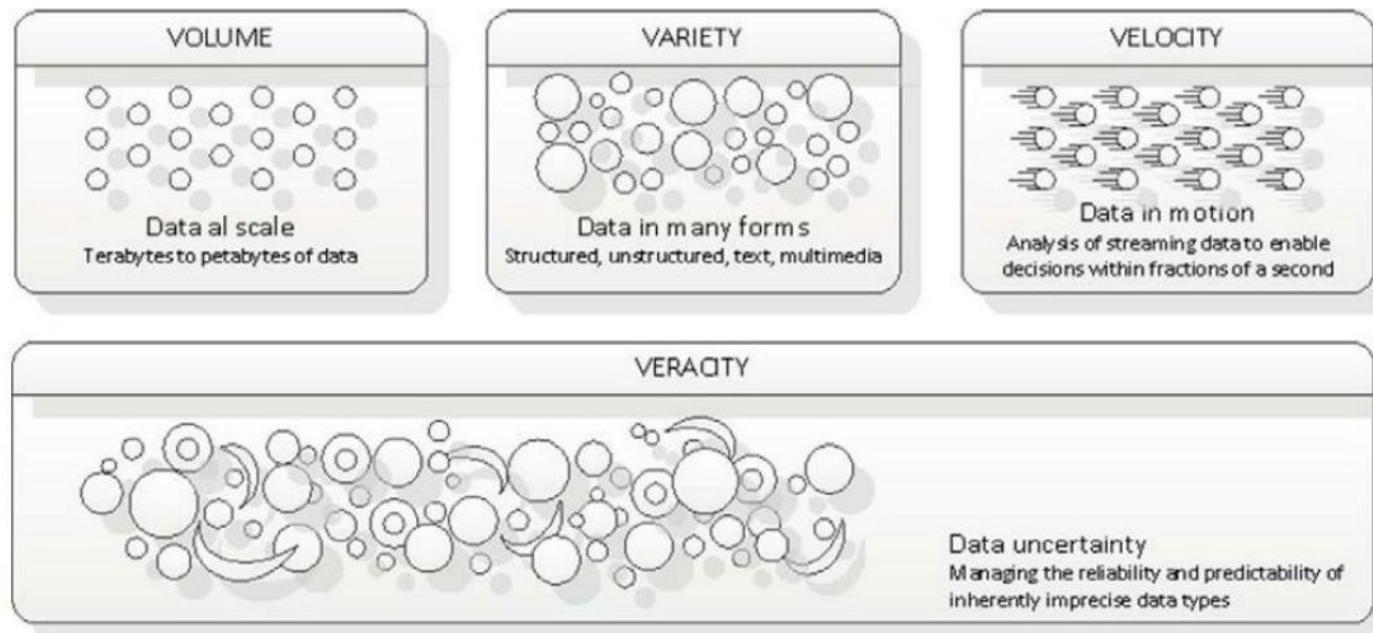


Drivers and impact of migration, migrant perceptions and public opinion



Internal migration and displacement

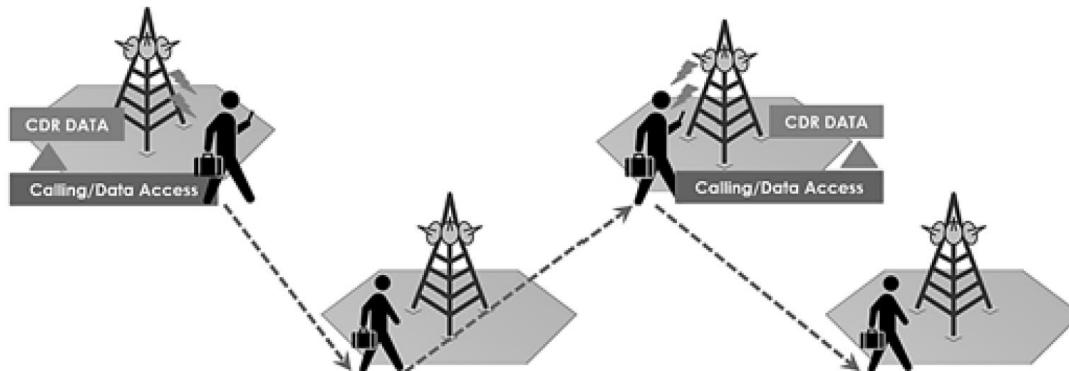
Big data can be described as an umbrella term referring to the large amounts of digital data that is continually generated by the global population, referring to the explosion in the quantity and diversity of high-frequency digital data, and the innovations, which allow for its storage and analysis. Digital data is being produced in real time at an unprecedented rate across the developing world, just as we all go about our daily lives (Micheni, 2014).



Real World Use of Big Data (Laney, 2001)

## Call Detailed Record (CDR)

“Call detail records (CDRs) are collected routinely by mobile phone providers for billing purposes. When a subscriber makes or receives a call or text, the operator creates a record that contains a unique ID, a timestamp for the time of the communication as well as the location of the closest mobile phone mast through which the communication is routed. In some cases, network data is also available. Network data provides the IDs of both the caller and the receiver, thus allowing for the linking of individuals into a communication network. The data are anonymized before they are shared with researchers in order to preserve the privacy of users.”



CDR ability to capture human mobility

Identifying Baselines and normal behaviors: Based on spatiotemporal patterns. Such as normal mobility patterns

Combining Social Flows and Hotspots to monitor changes in behavioral patterns over time, before, during and after event.

(By Pastor-Escuredo et.al., 2019)

Identifying Hotspots: Where and when significant changes in mobile phone activity occur. Such as early monitoring, detecting events which cause unusual behavior patterns

#### Profiling Social Behaviors:

- Behavioral Analysis (Behavior Description) to identify characteristic of user groups;
- Mobility Profiles, tracking user's movement connecting cell tower locations used for call events to receive geographical patterns and temporal trends in a systematic way;
- Evaluation of Profiling, integrating different type of data.

#### Benefits and Challenges of Using CDR data

Third-Party Partnerships and Ownerships of data, accessing the CDRs from mobile operators.

Low Density Data affecting accuracy and estimations. Mobile network coverage is usually scarce in rural areas, comparing to urban areas.

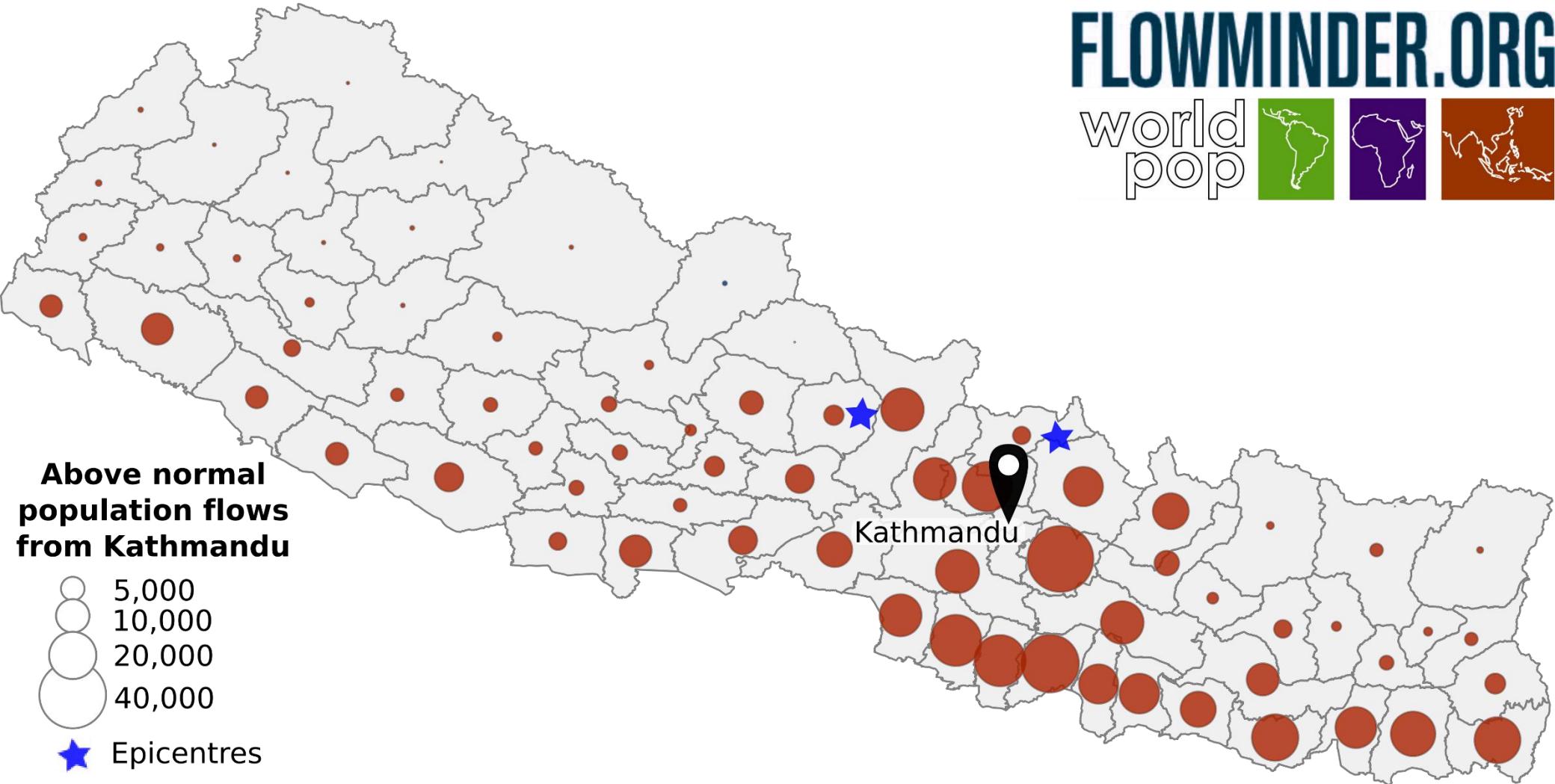
Integrating Multiple Telecom Systems, since the CDR of people would not be captured by a single carrier.

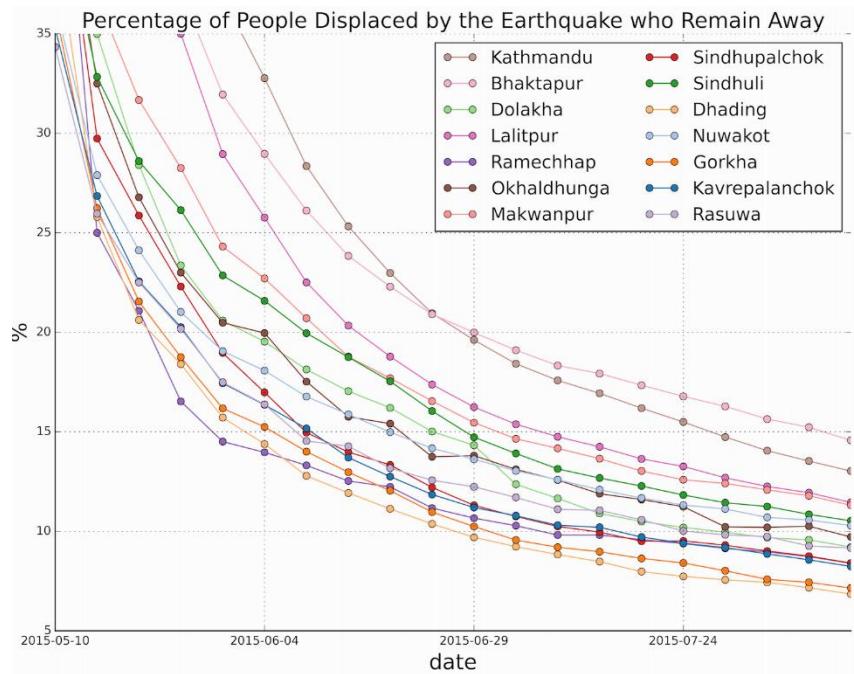
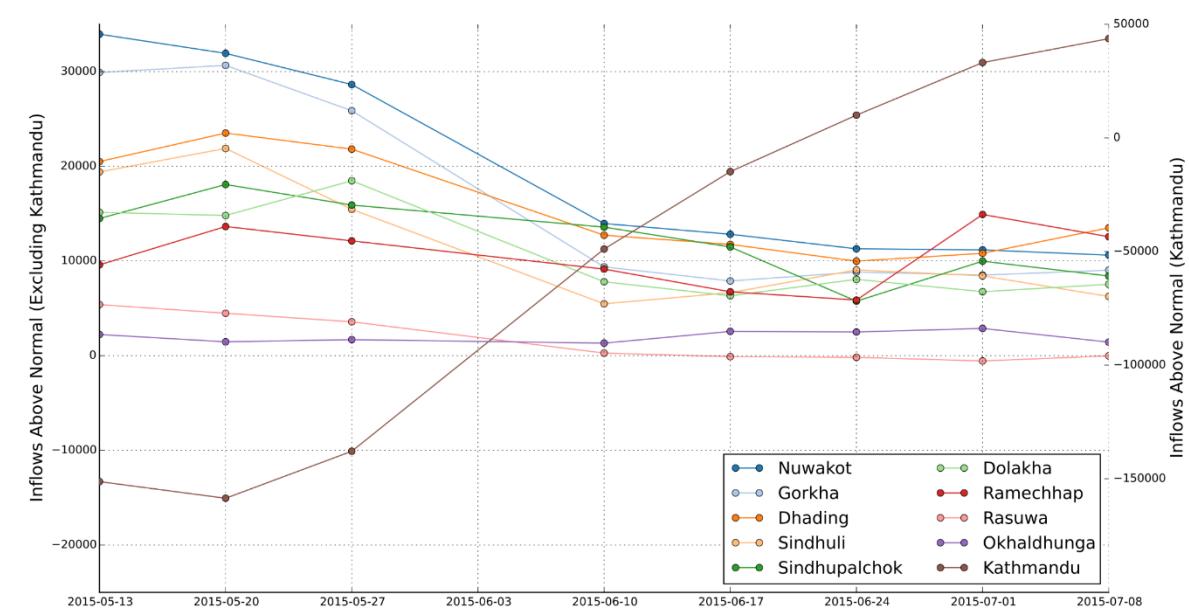
## **Rapid and Near Real-Time Assessments of Population Displacement Using Mobile Phone Data Following Disasters: The 2015 Nepal Earthquake (Wilson et.al., 2016) Flowminder Foundation.**

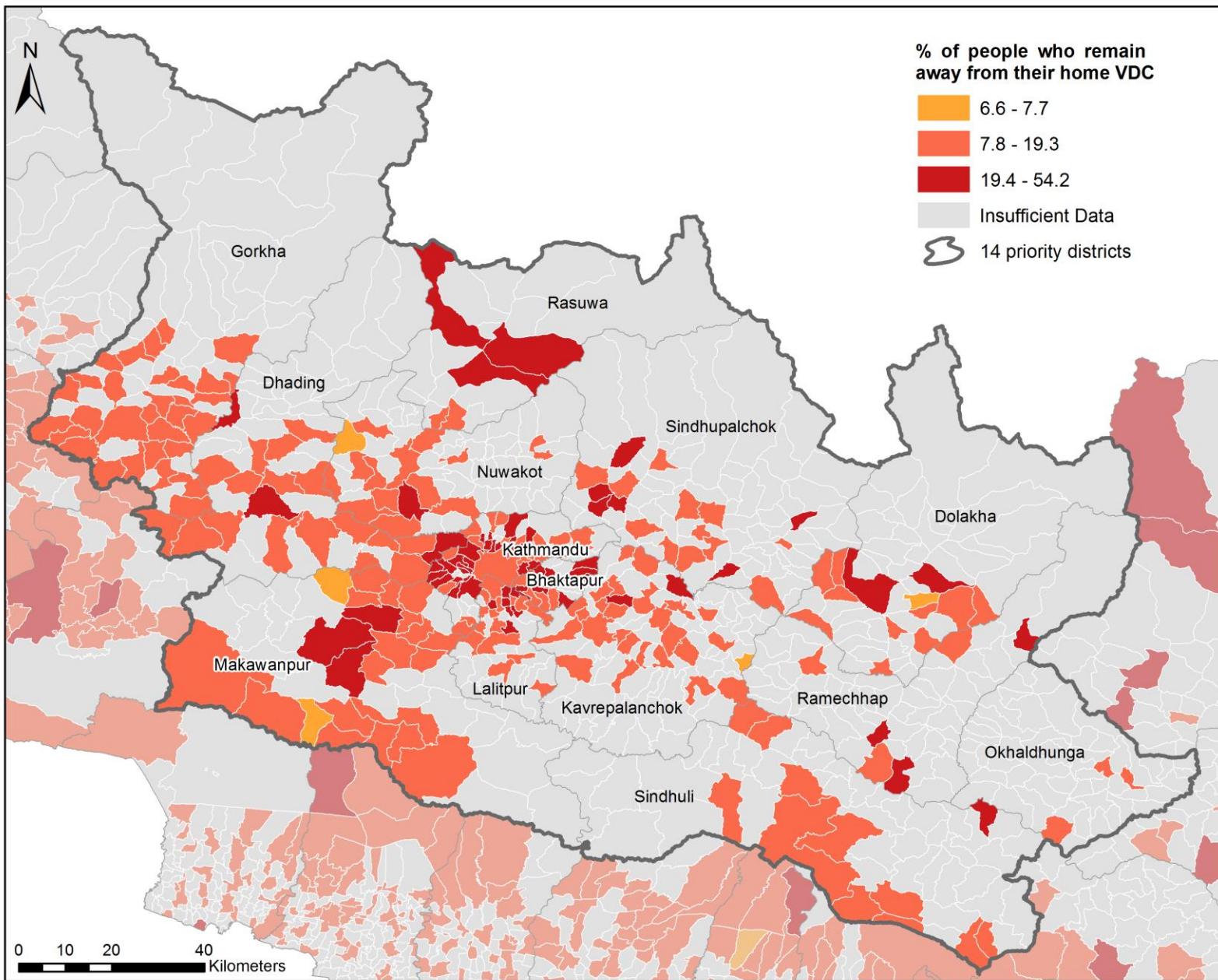
The Gorkha earthquake, struck in 25<sup>th</sup> and 26<sup>th</sup> of April 2015 and in 12<sup>th</sup> of May 2015 caused 8,673 deaths and 22,309 injuries, destroyed villages and towns in the most severely affected regions further contributed to population displacement, compounded by severe damages to transport infrastructure.

A computational architecture and analytical capacity were rapidly deployed within nine days of the Nepal earthquake of 25<sup>th</sup> of April 2015, to provide spatiotemporally detailed estimates of population displacements from call detail records based on movements of 12 million de-identified mobile phones users.

Analysis shows the evolution of population mobility patterns after the earthquake and the patterns of return to affected areas, at a high level of detail. Particularly notable is the movement of an estimated 390,000 people above normal from the Kathmandu valley after the earthquake, with most people moving to surrounding areas and the highly populated areas in the central southern area of Nepal.



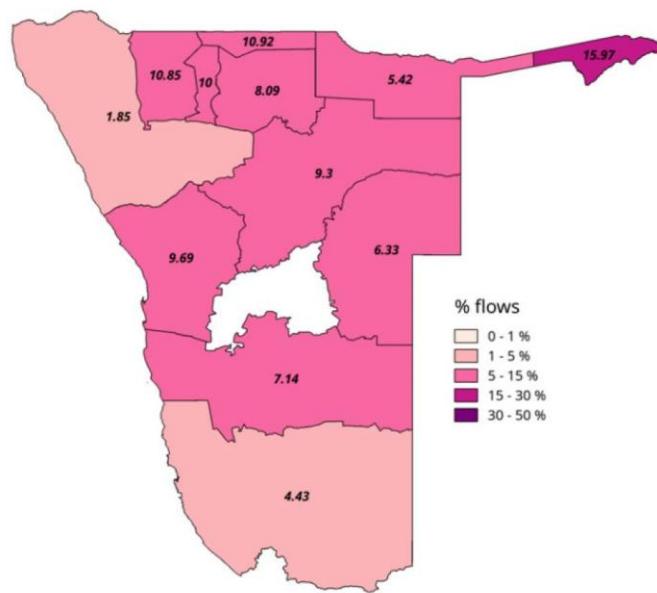




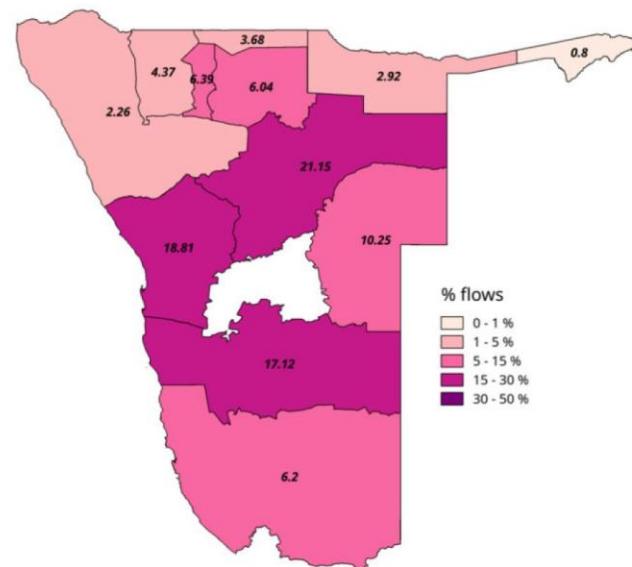
## **Understanding The Relationship Between Short and Long-Term Mobility (Milusheva et.al., 2017)**

This project maps national mobility patterns in Namibia (Khomas region) and Senegal (Dakar region) using data sources of call detail records (CDRs) and census data. By comparing the results gained by analyzing both sources, the team aimed to find relationships between short- and long-term migration movements, using CDRs for insights into short-term movements and census data for long-term migration. In addition to a finer temporal resolution, using CDR data allowed the team to draw conclusions on factors leading to migration, such as social contacts, geographic distance, and seasons.

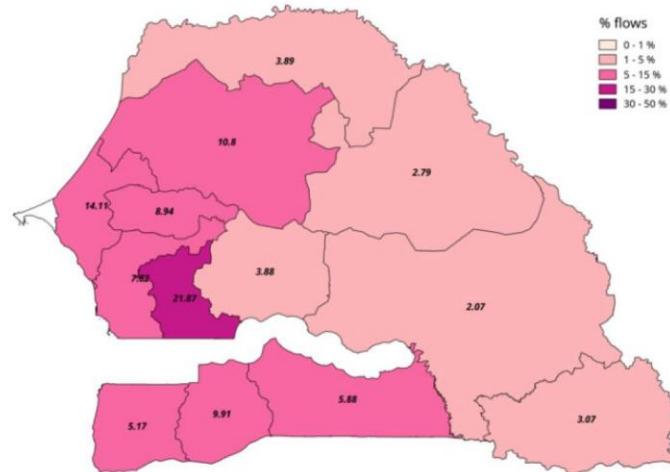
(a) Based on Census, Namibia



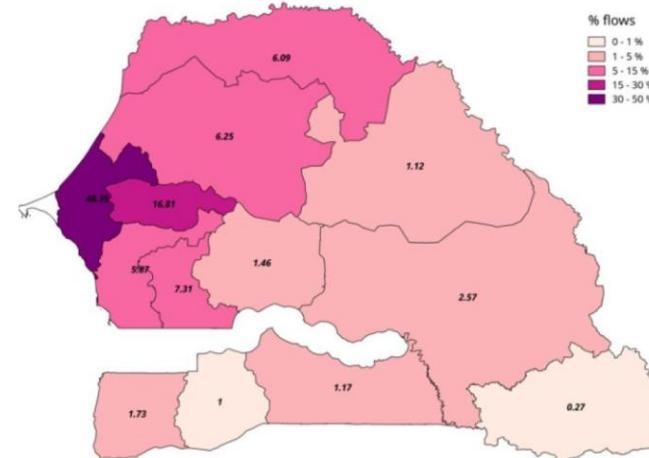
(b) Based on Cell Phone Data, Namibia



(c) Based on Census, Senegal

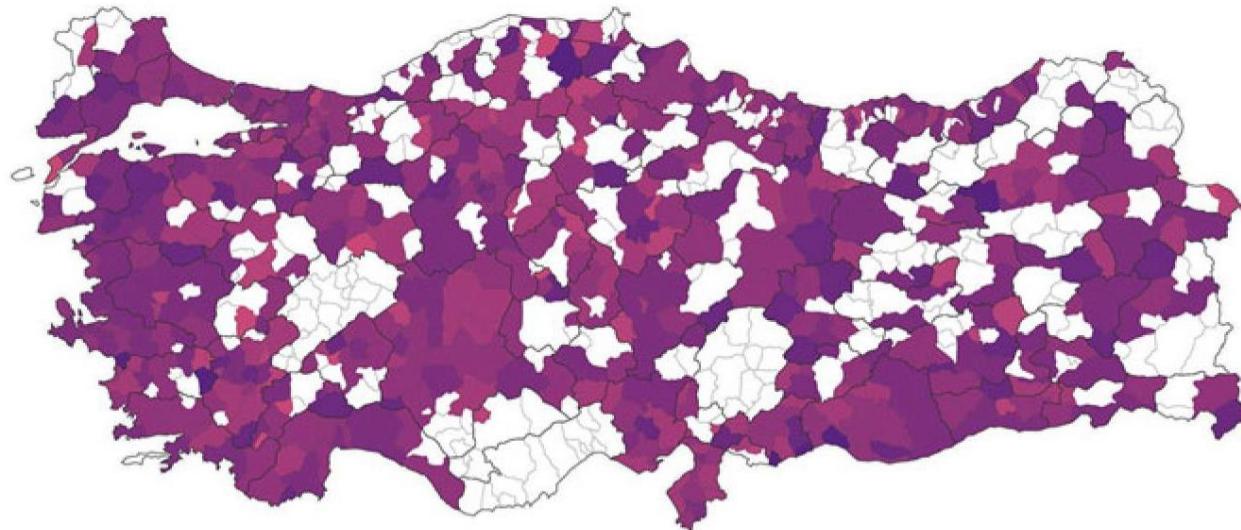


(d) Based on Cell Phone, Senegal

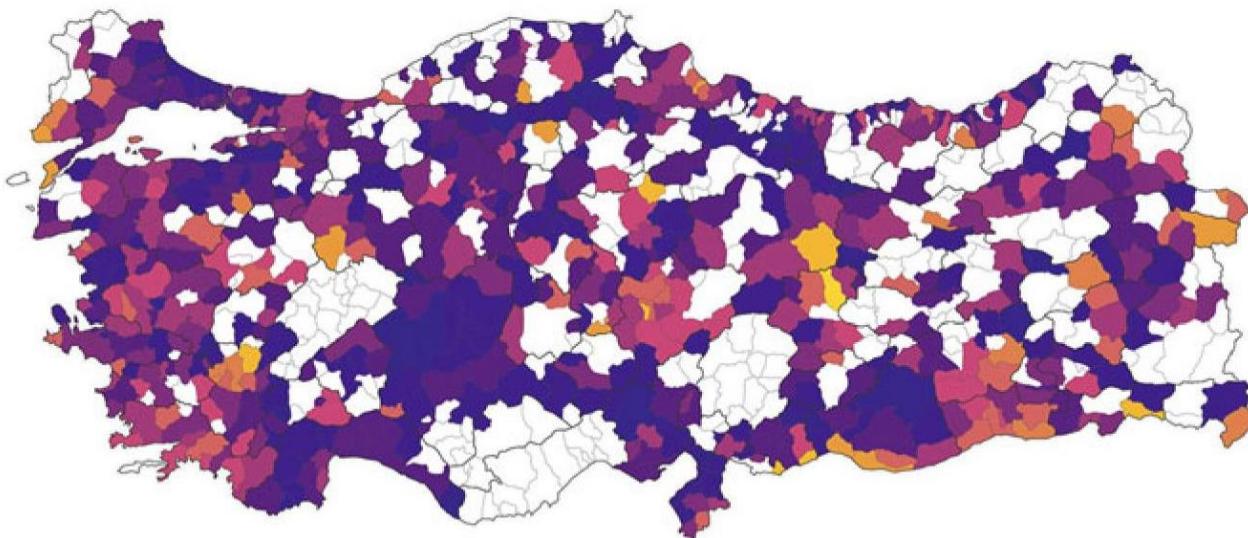


**Towards an Understanding of Refugee Segregation, Isolation, Homophily and Ultimately Integration in Turkey Using Call Detail Records  
(Boy et.al., 2019)**

In this article, they contributed a methodological framework for measuring integration of refugees to the local communities through the lens of spatial and social segregation using CDR data. The framework was based on definition of Segregation or dissimilarity (evenness), Isolation, Homophily, and Communication Patterns and Mobility Traces.

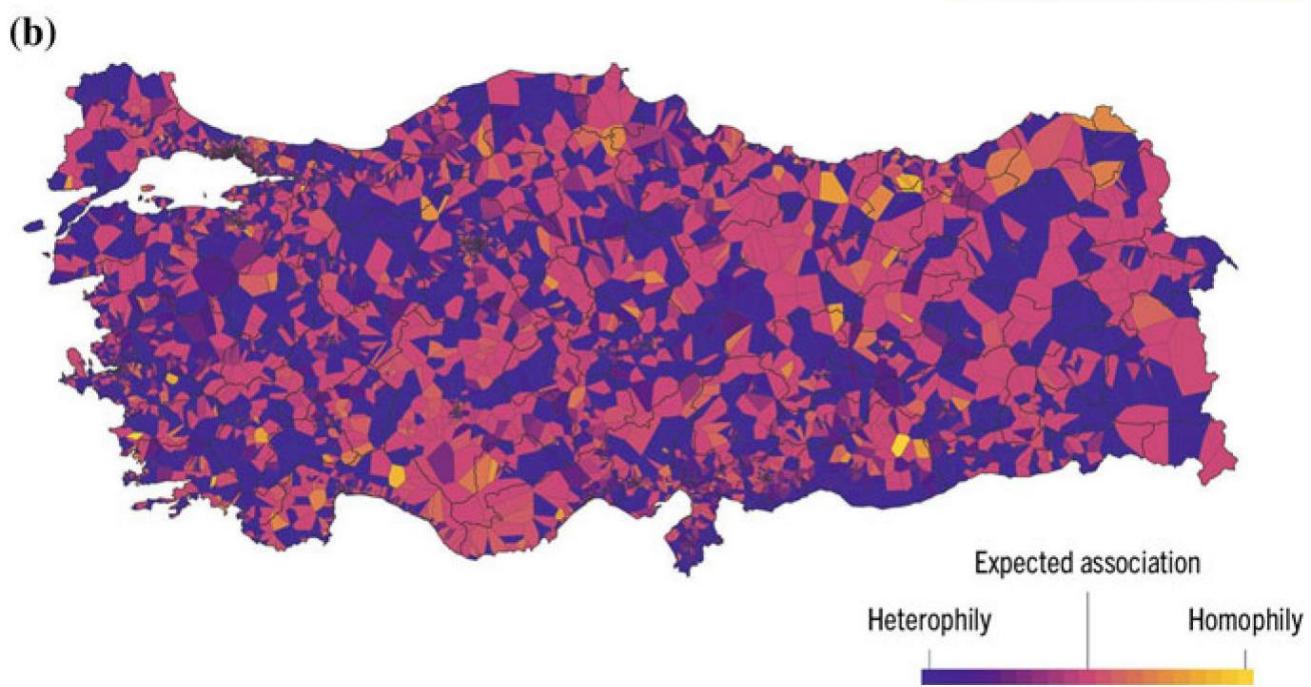
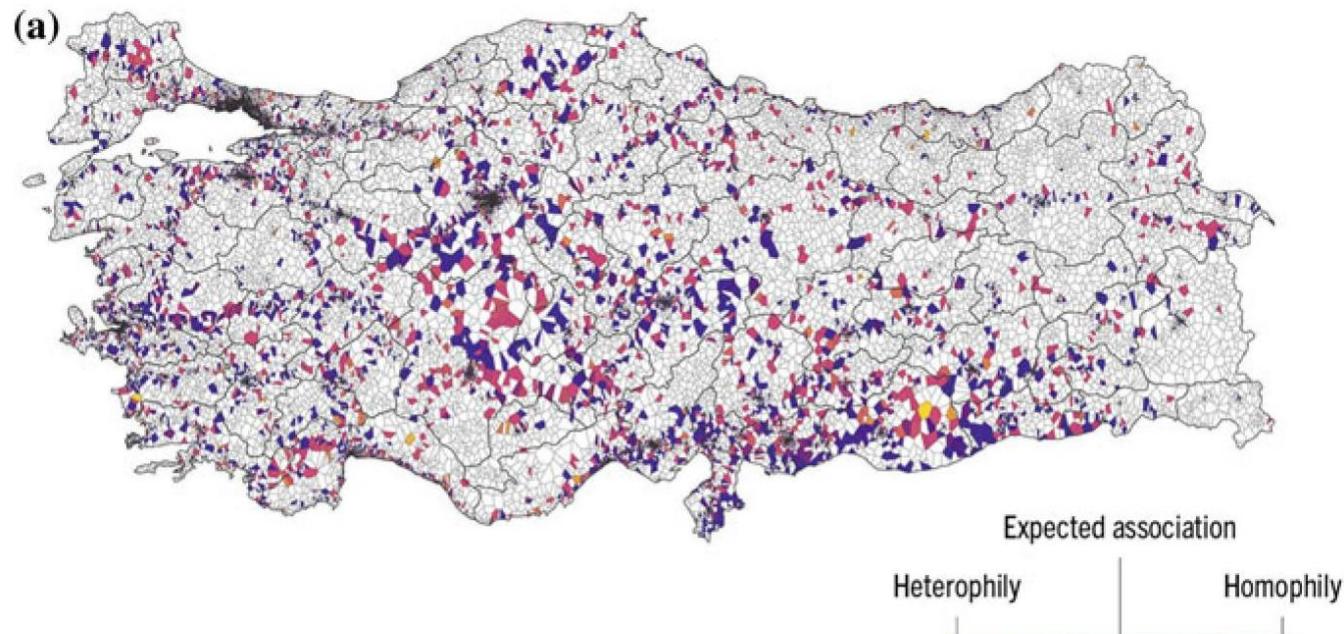


Segregation



Isolation





## **Urban Travel Time Estimation in Greater Maputo Using Mobile Phone Big Data (Batran et.al., 2018)**

This research investigated the potential of CDR, completed by GPS, to demonstrate the travel time between various origin-destination pairs in Greater Maputo. The outcome shows different small peaks that might suggest trips with potential stops or hybrid trips, which include long walking distance that influenced travel time. However, dominant peaks show noticeable discrepancies in travel time along the three time categories.



*This movie represents estimated people movements based on Mobile Phone Data around Greater Maputo*



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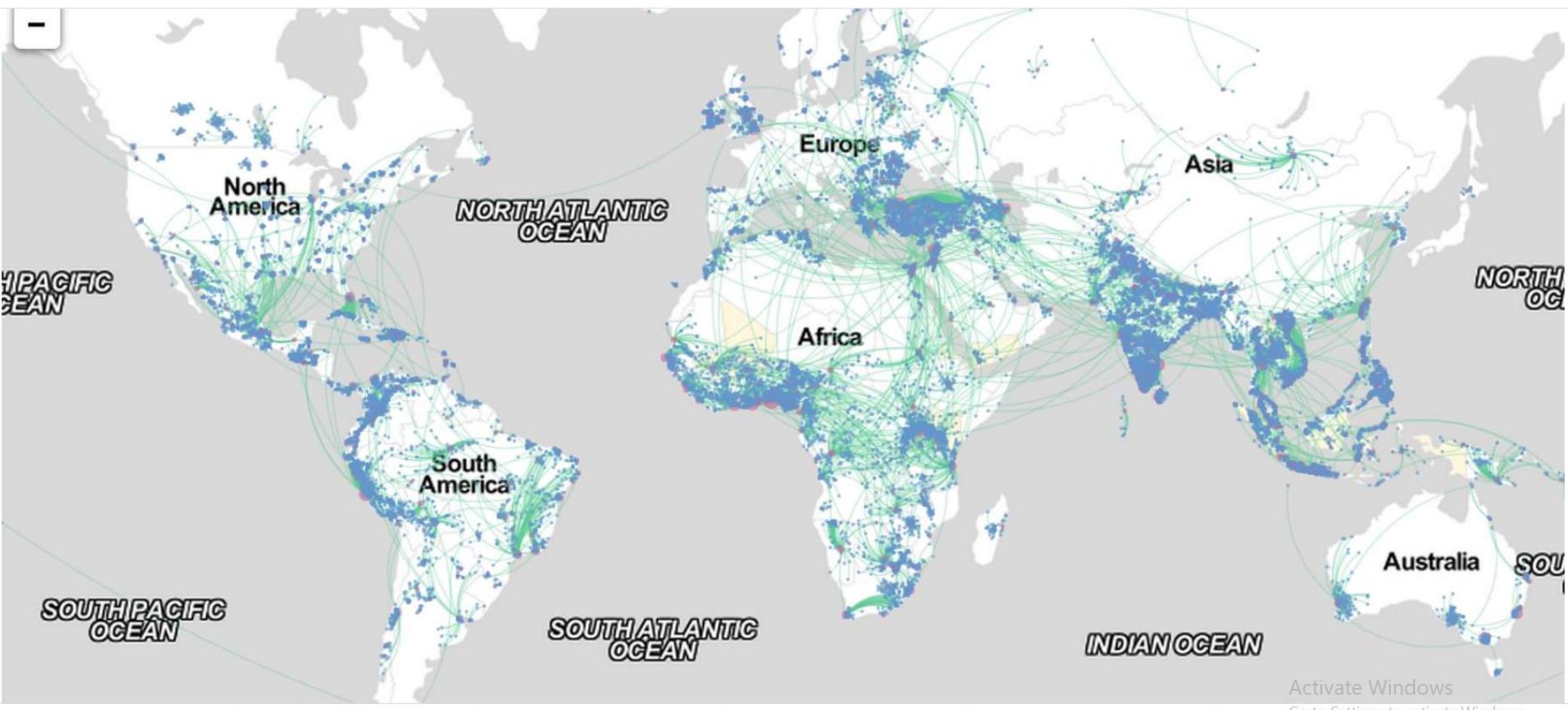
06:59:20

## Social Media Data

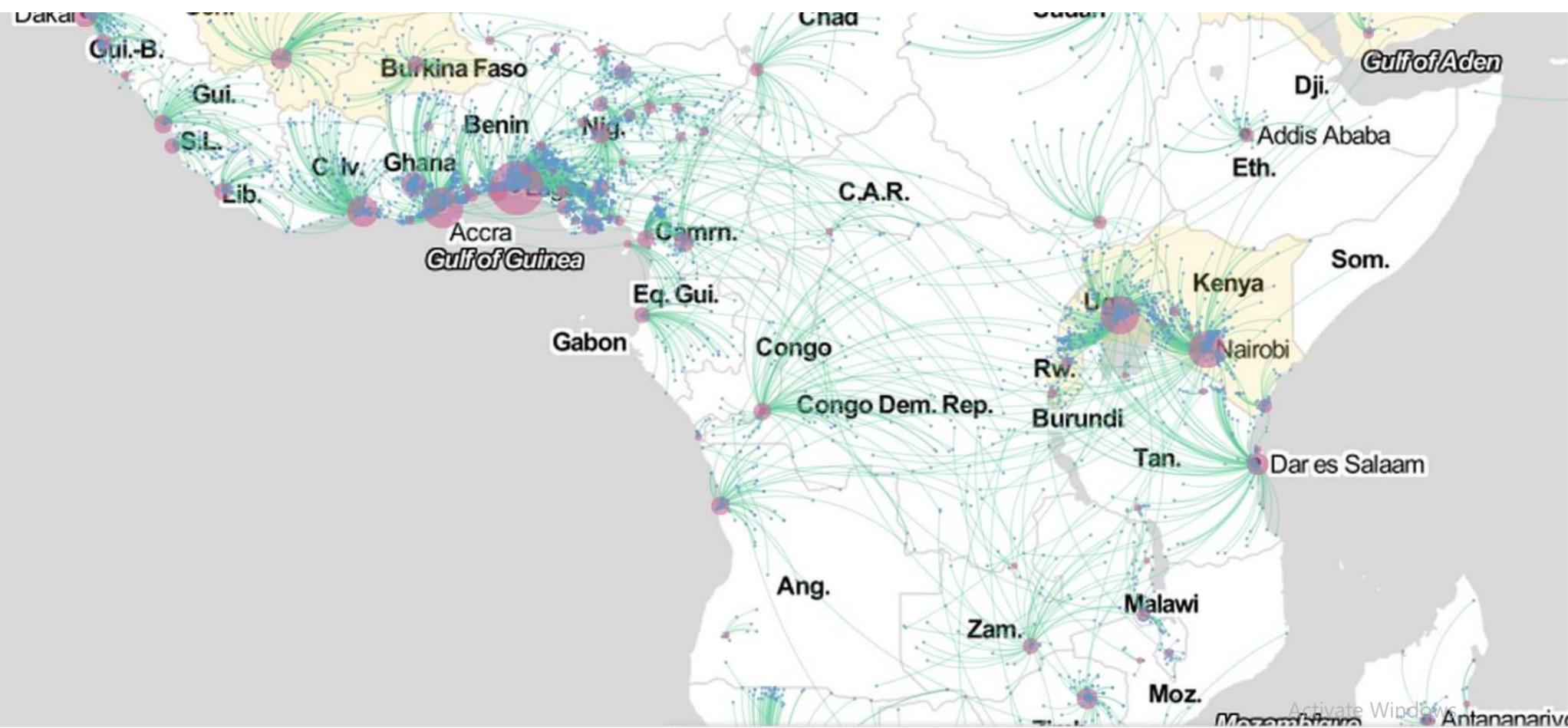
Accessibility to geo-data is somewhat impossible(Monopoly of Data);  
The vast amount of Data achieved by, needs pre-processing and preparing data in a high level;  
Third-party data access and the issue of privacy;  
The available data may even does not cover the meaningful amount of case population.

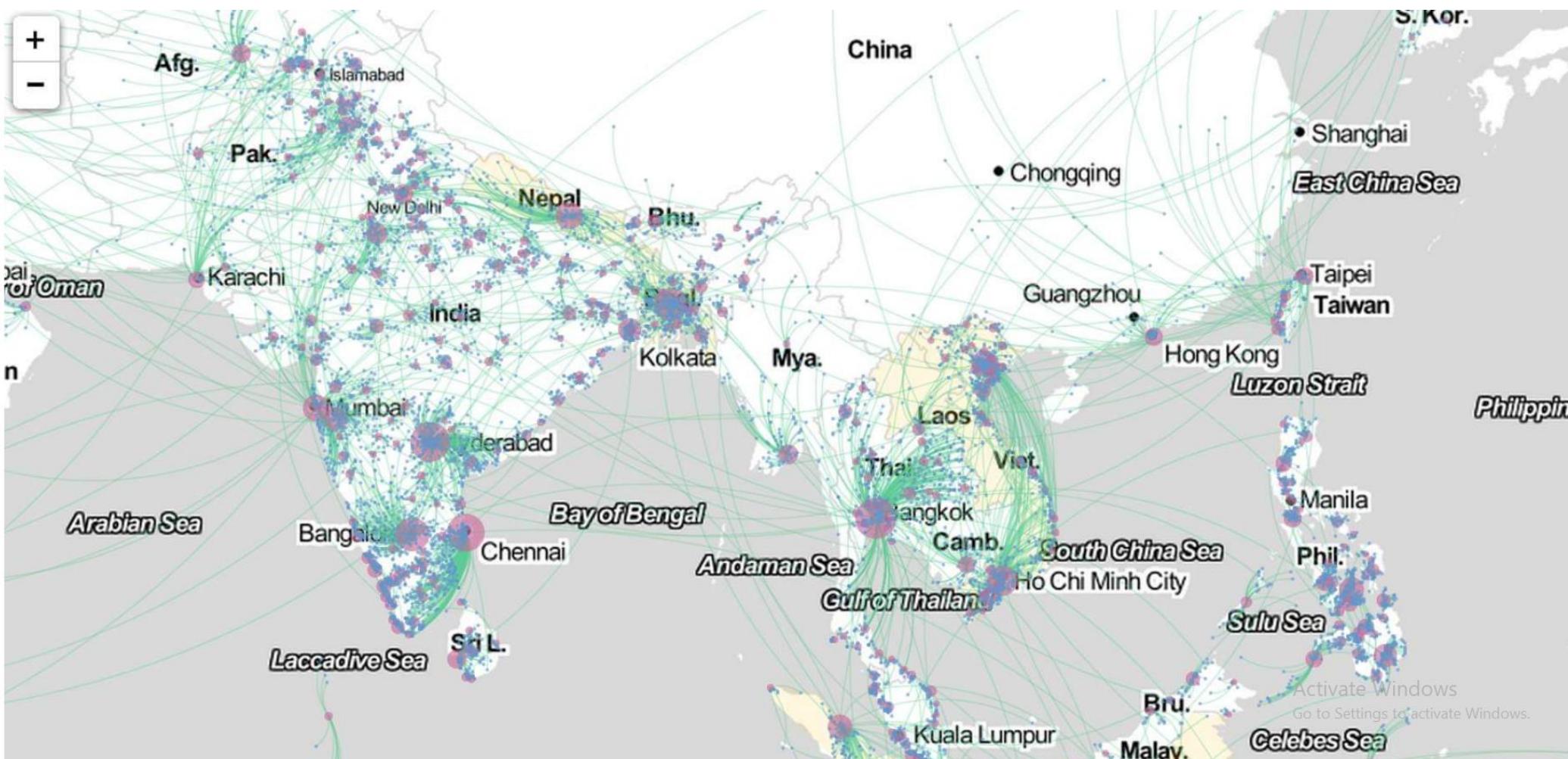
### **Facebook Data Science Team: Coordinated Migration (2012)**

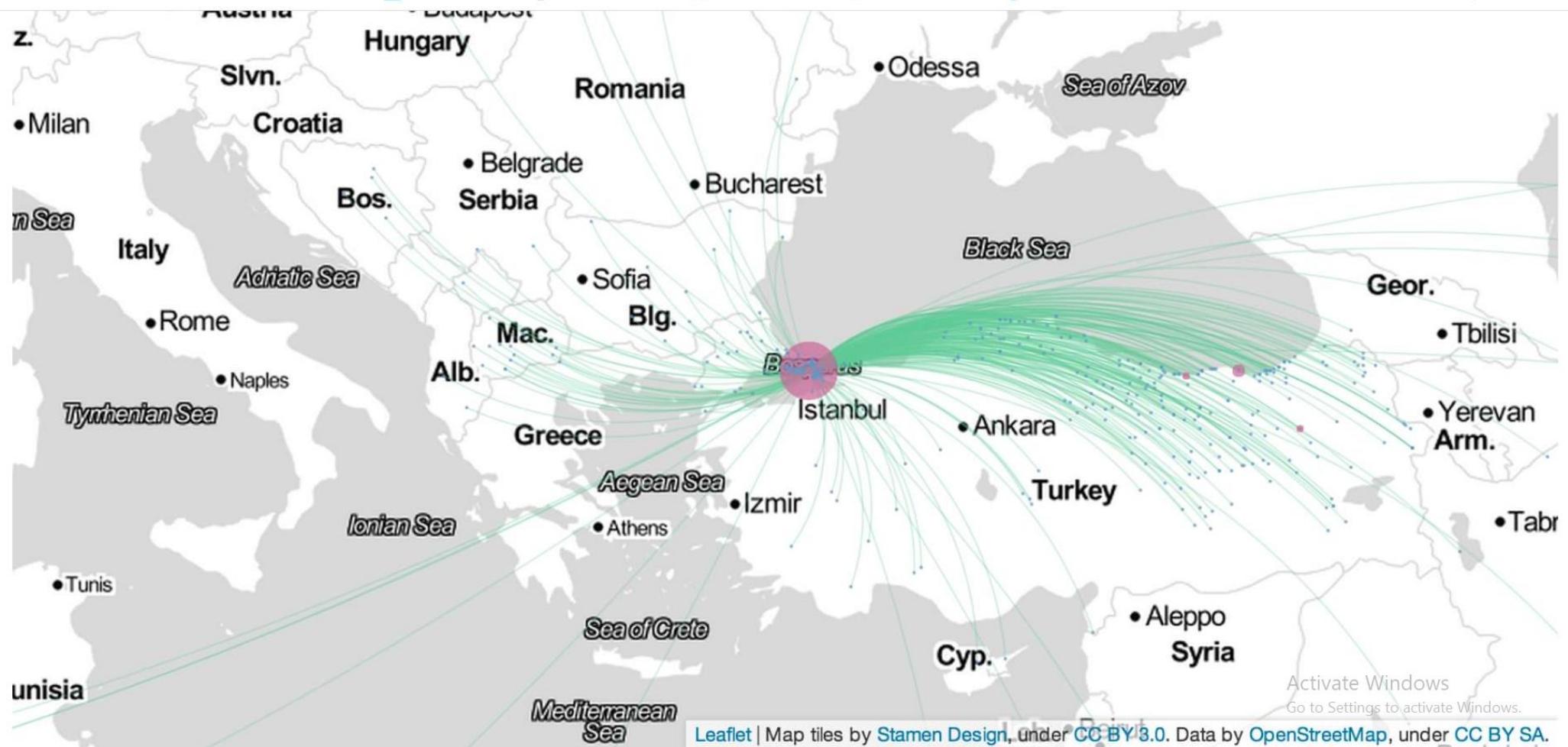
The results of this project give a brief insight into this potential: The maps visualize coordinated migration across the world, indicating destination cities with red dots and origin cities with blue dots with arcs in between to reflect various movements. In this project, the Facebook Data Science Team analysed migration using social media data. This project focused on so-called “coordinated migration”, defined as cases where a significant share of a population migrates as a group to a different city. To study the between-city coordinated migration, the team examined aggregated, anonymized data of all users who list both cities (departure and destination) on their Facebook profile.



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Cortado Software by Microsoft Corporation







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Leaflet | Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under CC BY SA.

## Covid-19 Mobility Data Network By Facebook

“The data contained in this map displays county level changes in the rates of mobility and staying put, which can allow people to understand the degree to which their communities may be adopting physical distancing efforts. Variations in mobility rates, displayed in time series on the graphs, are measured against a baseline from the end of February. These should not be interpreted as absolute numbers of people avoiding public spaces or large gatherings, but relative rates at which people chose to reduce their mobility or remain near home.”

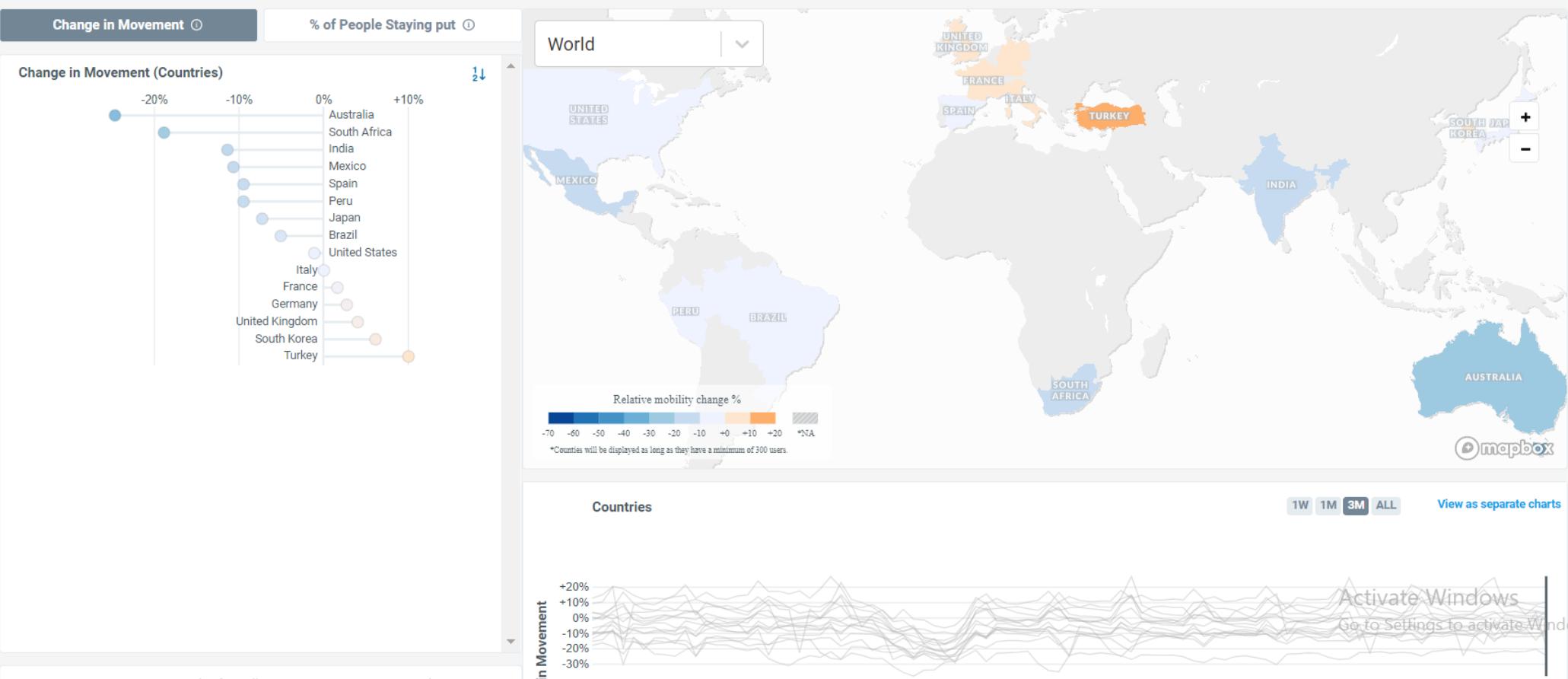
The output shows that areas with higher densities of population and services tend to be characterized by shorter trips and easier access to essential services. Areas with lower densities of population and services tend to demonstrate higher mobility before stay at home measures were put in place at baseline simply based upon the need to travel for access to jobs and services. Finally, these data represent a slice of Facebook users that have opted into the Location History setting, and may therefore be overrepresented in certain populations and underrepresented in others.

## Movement Trends

World

[Get Embed Code](#)

Updated 10/06



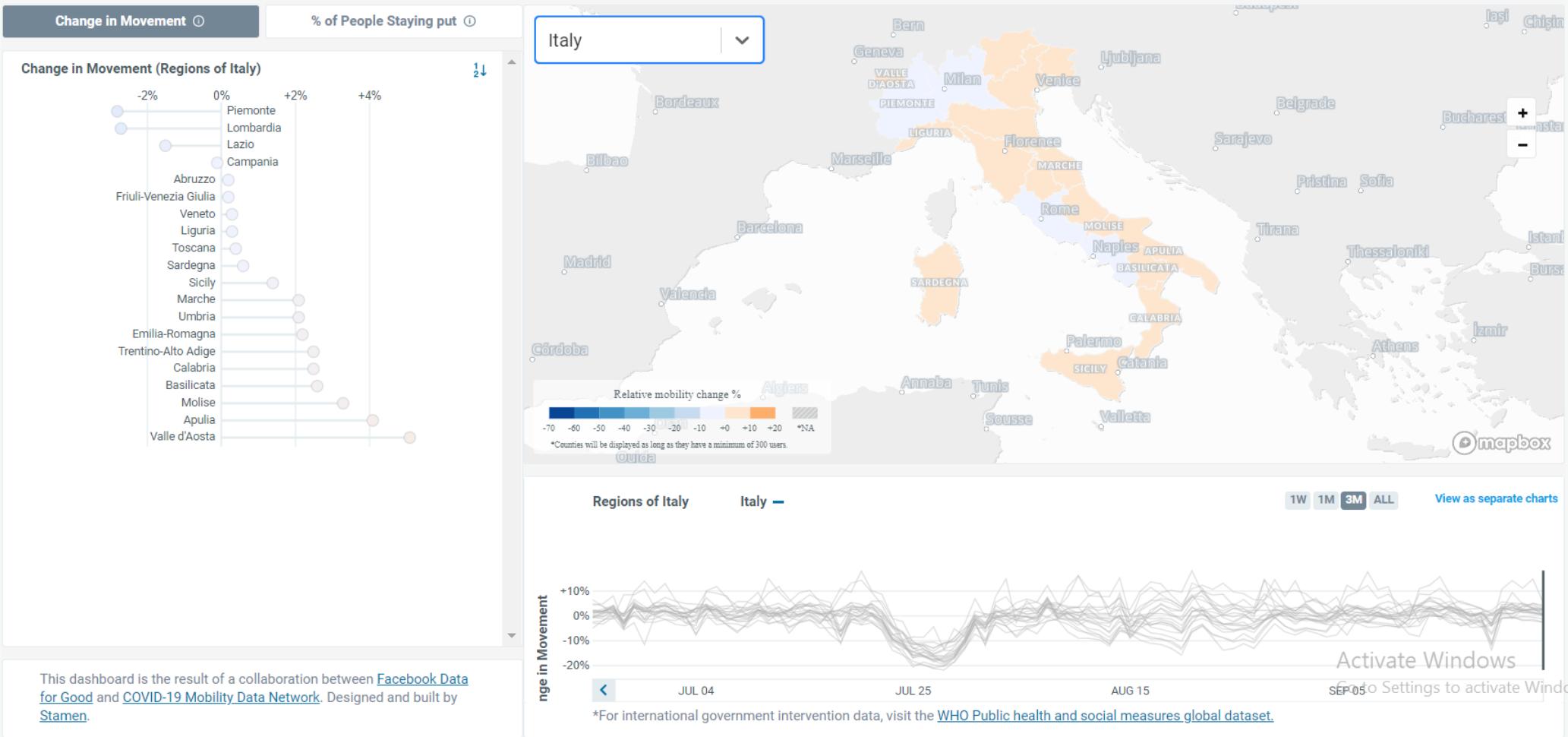
[Dashboard](#)

# Movement Trends

World > Italy

Get Embed Code

Updated 10/06



Dashboard

## Mobility

### Movement Range Maps

The maps inform public health experts and researchers about how communities are responding to COVID-19 stay at home and physical distancing measures.

[→ Learn More](#)

### Movement Maps

Movement Maps show how many Facebook location history users moved from one area to another.

[→ Learn More](#)

### Travel Patterns

Travel Patterns show comparisons of the number of Facebook location history users moving across long distances, like cross-country air or train travel.

[→ Learn More](#)

### Colocation Maps

Colocation Maps measure the probability that two individuals from two locations are found in the same location at the same time.

[→ Learn More](#)

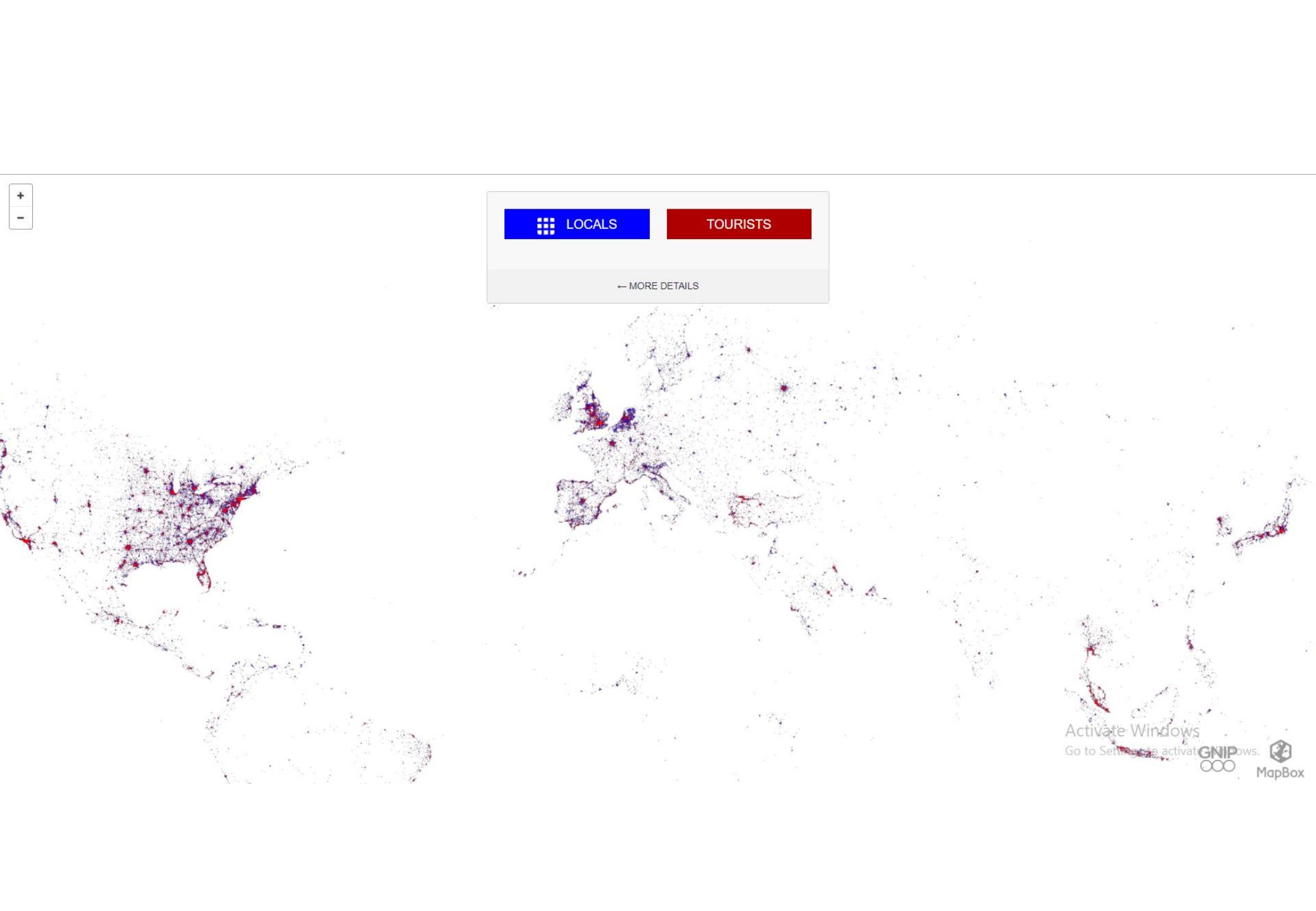
### Displacement Maps

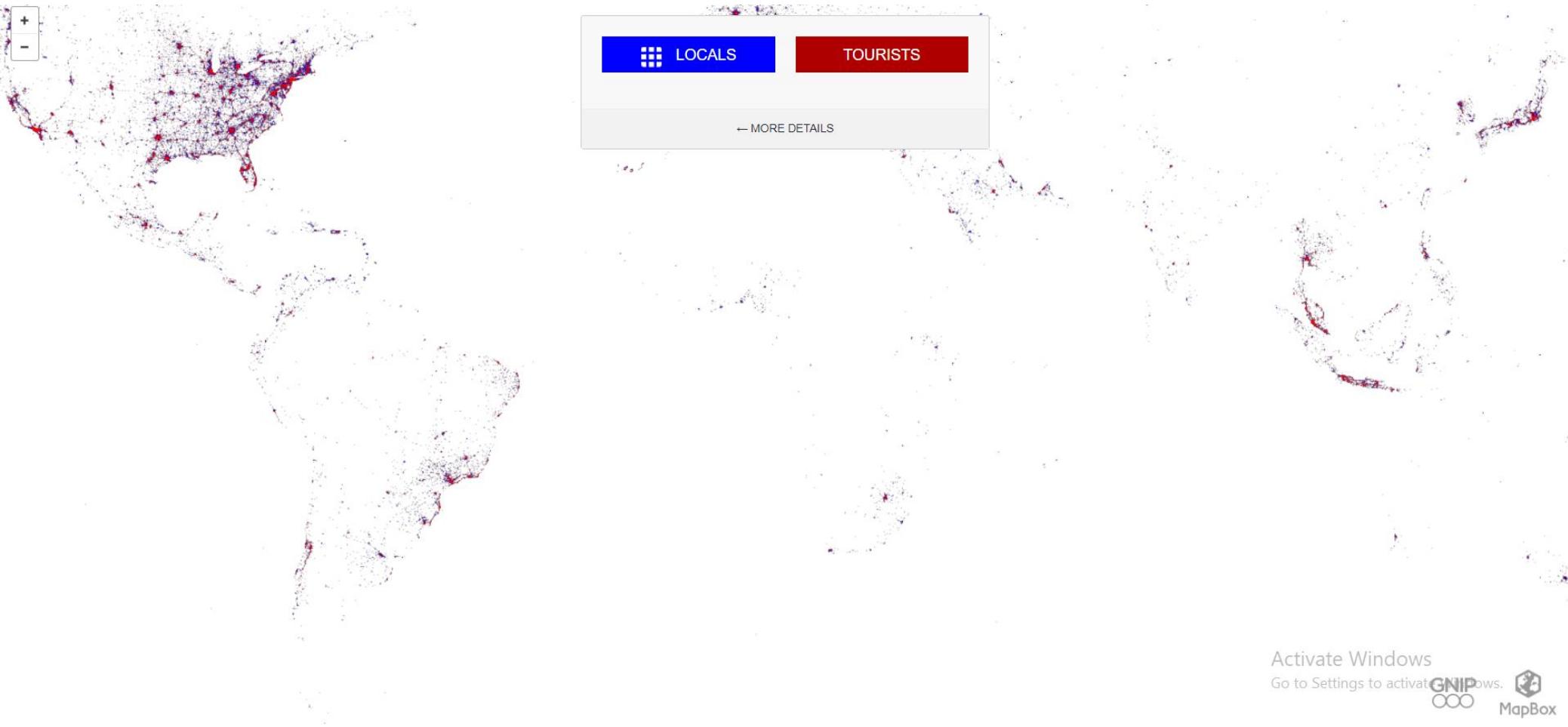
Displacement Maps estimate how many people have been displaced by a crisis over the long-term, and where those people are located after the event, typically at the city-level.

[→ Learn More](#)

## **Mapping the Population Distribution at the City Level based on Twitter Collected Data (Twitter and Mapbox)**

This project visualizes the population distribution in cities around the world using Twitter data. Distinguishing between residents and tourists, it develops innovative infographics that help better understand how intertwined the daily lives of residents and short-term visitors are. It is supported by MapBox, which provides maps that are automatically updated using artificial intelligence algorithms.





Activate Windows

Go to Settings to activate



# Foursquare: Independent Location Data Platform

## (Pooladsaz & Alvarez, 2019)



### SERVICE IDEA

#### MAIN IDEA

By this information, foursquare started by creating the network of personal users about their check-ins, preferences, the road they choose most of the time and their usual habits. Working on expansion of this data base, Foursquare offers this data base to the businesses and shops to get familiar with their active customers and also to know the potential ones in order to improve their works. Therefore, the system triggers by all those single user experiences which are fundamental and essential for the existence of Foursquare.

Considering how Foursquare benefit from this system, it only gets paid by business users if the single user either toggles on the recommendation to get more information, or if they check-in to a physical location within 72 hours upon seeing that.

#### A COMPLETE PICTURE

Make data-driven decisions based on **consumers' real world behavior**.



-Surface **new opportunities, keep track of trends**, and access unique competitive intelligence

-Gain a **360 degree view of your customers** based on the places they go

-Dedicated analysts with **location expertise** to answer the questions that matter most to your **business**

#### UNRIValed ACCURACY

First party, **"always-on"** foot traffic data you can rely on.



-Unbiased, non-incentivized panel from owned and operated apps as well as partner apps

-Multi-sensor, background aware technology with true stop detection

-Trusted by Fortune 500 companies including Accuweather, AT&T, T.J.X. and more

#### ACTIONABLE INSIGHTS

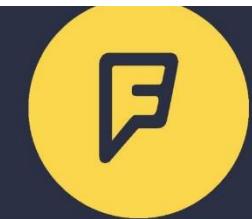
Inform audience targeting, messaging, offerings, and strategic partnerships with rich insights such as...



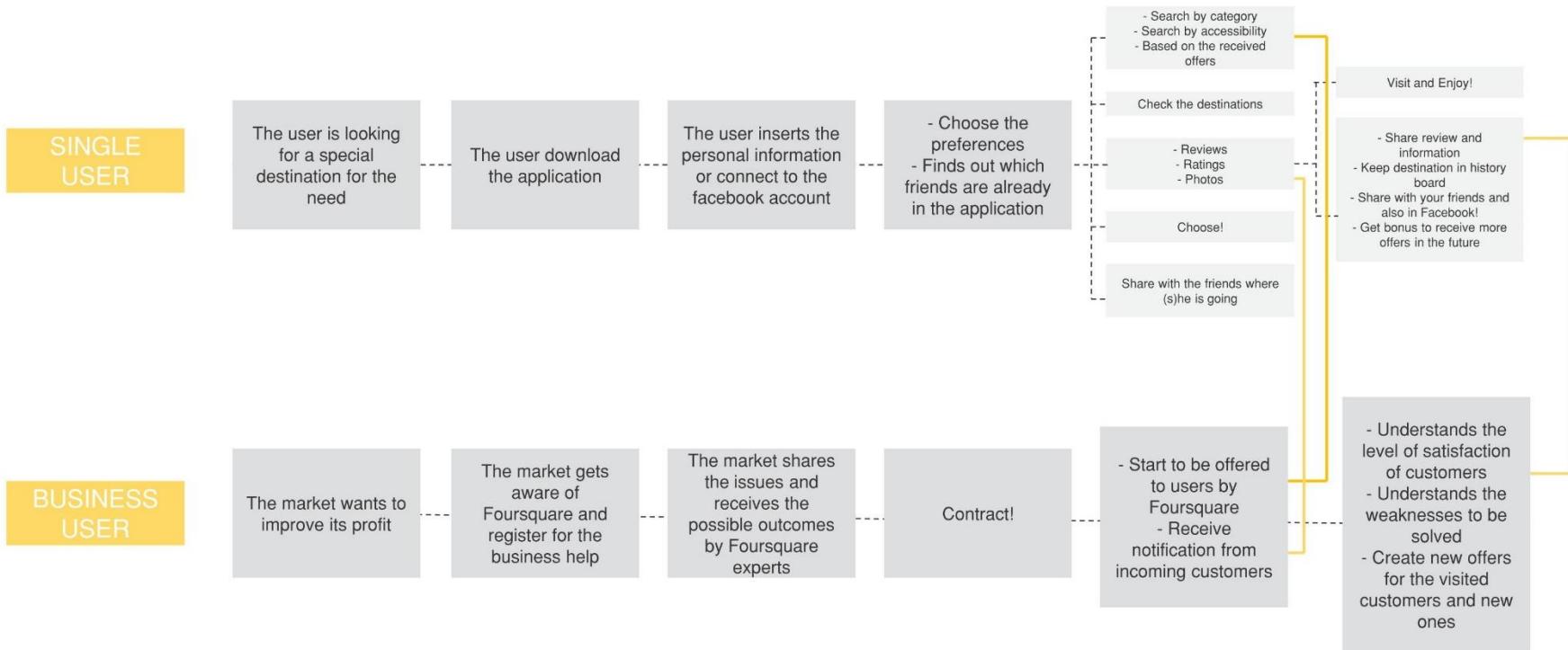
-Customers' lifestyle preferences, brand affinities, behavioral propensities, and other psychographic characteristics

-Consumer journeys illustrating all of the places people go and their path to purchase

-Visit patterns by day of week and time of day, visit frequency, distance traveled, category penetration, and more



# CUSTOMER JOURNEY



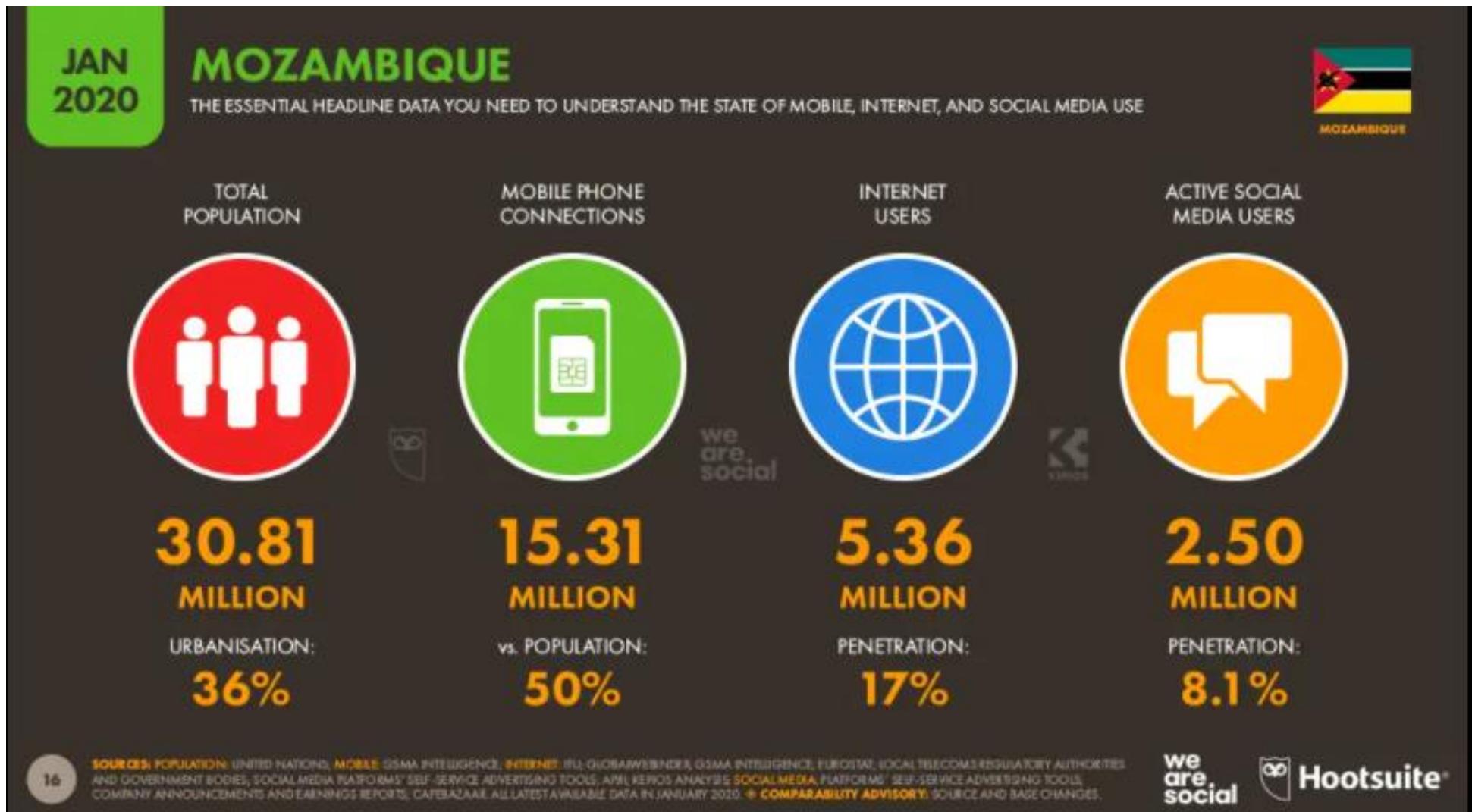
## **Conclusion**

This presentation tried to somehow clarify if and how the population movements in Mozambique, specially in Cabo Delgado is being recorded. IOM has been taken this work so far and while the achieved data could be applied in different actions to respond to the crisis, the time-taking not continuous level of data could affect on the usability of it for certain actions.

Beside that, it was a primary approach to observe the more efficient methods, specially using CDR data, to address different type of incidents and crisis. This type of innovative data could help researchers enlightening the hidden source of data, overlapping it with other types of data from satellite imagery and UAV to administrative ones. This type of data could help other organizations in decision-making processes and estimate the level and intensity of crisis to be addressed, from supply management, to land cover changes.

However, the accessibility and pre-processing this type of data should be considered and this would be a place where the power of cooperation, negotiation and even leverage comes out.

In addition, these numbers should be considered for further decisions:



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<Thank You!>