2. Focus on operational data: the International Organization for Migration's Displacement Tracking Matrix, and the Mixed Migration Centre's Mixed Migration Monitoring Mechanism initiative

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GLOBAL COMPACT FOR MIGRATION OBJECTIVES

DATA

Abstract: This chapter aims to answer the questions: (a) Why do we need to measure migration? and (b) What should we expect from good data on migration? It analyses two data collection tools in detail: IOM's Displacement Tracking Matrix (DTM) and the Mixed Migration Monitoring Mechanism initiative (4Mi). First, it describes and compares both tools. Both have made available to the public considerable information on mobility in countries where there was little or no previous knowledge about the topic. It thereafter focuses on DTM and combines different series of data. Two sorts of combinations are tested: data of the same nature obtained at different dates, and data of different nature obtained at the same date. It concludes by giving recommendations on how to further DTM's data collection efforts.

2.1. Introduction

What should we expect from good data on migration – in general and, in particular, in West and North Africa? At the most elementary level, in order to measure the contribution of migration to the size and growth of a population, one needs data on the size of migrant stocks and flows, possibly by origin and destination. Then – considering that migration is selective, so that migrants do not fully resemble non-migrants in either origin or destination populations, and that different migrant groups do not resemble each other – one seeks to assess if and how migration transforms the makeup of societies, the one migrants leave and the one they join, whether in transit or permanently. For this, data on migrants' individual characteristics, compared with those of non-migrants, are necessary. Finally, because migration is an exceptional experience,[2] one must understand how it affects the lives of individuals – of the migrant in the first instance, but also of those left behind and those in the communities of destination. Investigating this matter requires data on migrants' experience at several steps of the process (pre-departure, journey and post-arrival) covering a variety of domains, from economic conditions to legal status, social conditions, human rights and physical security, among others.

Data collection pursues several goals: registering individuals for administrative purposes; informing public policies and other forms of collective action, as well as the public debate; and conducting academic research (Fargues, 2018), among others. This chapter will focus on the last two goals and will focus in particular on operational data, such

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[2] International migrants represent only 3.5 per cent of human beings globally.

as those collected through IOM's Displacement Tracking Matrix (DTM) and the Mixed Migration Centre's (MMC's) Mixed Migration Monitoring Mechanism initiative (4Mi), since much of the evidence presented in this volume is based on these tools. The chapter aims to provide a key to reading and interpreting such evidence, and discuss how operational data can complement national statistics in West and North Africa.

2.2. Displacement Tracking Matrix and Mixed Migration Monitoring Mechanism initiative

DTM was initially conceptualized in Iraq in 2004 to conduct needs assessment and monitoring in the context of internal displacement. It has since evolved into a system to track population mobility in different contexts, within or across countries, and has been implemented in the context of mixed migration across the Mediterranean. MMC's 4Mi has been active since 2014 and has monitored mixed migration flows in various world regions, along major migration hubs. These tools have in a few years made available to the public considerable information on mobility in countries where there was little or no previous knowledge about the topic. Moreover, while classical sources (censuses, household surveys and administrative systems) hardly record migrants with an irregular status, DTM and 4Mi record people regardless of their legal status and therefore are well suited to observe irregular migration.

DTM has released a continuous flow of often monthly publications, including various series, such as in the case of Libya: Displacement Event Tracking Report; IDP And Returnee Key Findings Report; Detention Centre Profile Generator; Rapid Migrant Assessments; Rapid Assessment Reports; Alert Snapshots; Return Intention Survey; Dashboards; and several other occasional titles.[3]

Data produced by DTM and 4Mi are in essence operational. They are originally collected and processed to inform regular programming and action by IOM and other partners among migrants in the field (Bonfiglio, Leigh and Zakoska-Todorovska, Chapter 39 of this volume). At the same time, these data can inform other interested parties, such as academia and the media, although this should be seen as an opportune by-product, not a core objective. The question is how to use these location-specific data to draw a greater picture of migration along the Central Mediterranean Route (CMR).

DTM collects data on stocks and flows. This deserves to be noted, since most migration data from traditional sources are primarily on stocks, while information on flows is patchier. It provides records and reports mainly on four categories of people on the move: internally displaced persons (IDPs), returned IDPs, return migrants, and (international) inward and outward migrants, among other mobile populations, through its four standard components:

(a) Mobility tracking, to quantify stocks of displaced (or migrant) populations;
(b) Flow monitoring, to quantify population flows through specific locations;
(c) Registration, to collect census-like data in a location; and
(d) Surveys, to collect information on specific issues.[4]

Several chapters in this volume are based on data collected through the flow monitoring and survey components. The former provides information not only on the volume of movements through specific location, but also on people's basic characteristics (sex and nationality), intended destination and means of transportation. Flow Monitoring Surveys provide much more detailed, individual-level data – including on respondents' socioeconomic profiles, journey experiences, future intentions and expectations – and can include specific thematic modules, for instance on experiences of abuse and exploitation, which can serve to inform programmatic responses by IOM and other actors.

4Mi collects data through individual interviews. It "aims to offer a regular, standardized, quantitative and potentially globalized, system of collecting primary data on mixed migration flows".[5] Its objectives are to inform policy debate

[3] See the "Report" section at migration.iom.int.
[4] More information is available at https://dtm.iom.int/about.
[5] Mixed Migration Centre, 4Mi in-depth insights on mixed migration dynamics, available at www.mixedmigration.org/4mi/.

and programmatic responses, identify protection gaps and establish deeper knowledge. Data are collected by "monitors", who are generally themselves migrants or refugees, through structured interviews with people on the move in urban migration hubs and at border crossing points.[6]

Monitors apply a snowball technique to build a non-random, purposive sample. The sample comprises a large majority (over 90%) of migrants, with a particular focus on those with protection concerns, but also a few smugglers when possible (MMC, 2018). Data collected among migrants include migrants' profiles and reasons for migration, routes, protection risks at origin and along routes, economy of the journey, and intended destination. Data collected among smugglers include their incentives, their links to other State and non-State actors, and their modus operandi.

While DTM and 4Mi methodological documents partially indicate the limitations of the data,[7] a review of the limitations of these tools would be helpful to correctly interpret the figures presented in this volume, and to use them appropriately for policy and programming purposes. It is worth noting that some of the limitations observed are an inherent feature of the operational focus of DTM or MMC activities, such as time constraints imposed by operational data needs, which necessitate a key informant-driven methodological approach, as opposed to fully comprehensive data collection exercises involving the population concerned. Likewise, the required geographic coverage may not allow enough time for a headcount approach.

An overall characteristic of both DTM and 4MI data is their selectivity, which challenges the common requirement of representativeness. DTM and 4MI data collection systems are indeed based on three successive selections, none of them random:

(a) First, a selection of places: The entire territory of a country cannot be covered, only parts of it. Transit hubs, points with a high concentration of displaced people, areas especially affected by causes of displacement, busy border-crossings and such are selected because their situation is of particular concern to IOM or MMC. In most cases, these places do not represent the whole country.[8] Extrapolating non-representative observations made in non-randomly selected contexts is a complex exercise that requires a precise assessment of biases. Otherwise, because DTM and 4Mi may operate in areas with particularly acute problems, extrapolating general situations from local findings entails a risk of overstating problems.
(b) Second, a selection of periods: A place is under observation as long as it is a strategic waypoint for mobility. When flows slacken, DTM and 4Mi shift to other places. Different places mean different contexts. Is it possible to measure trends putting together observations made in different places, without controlling for contextual factors? In addition, displacement is recorded at specific moments in the week (working days and hours) while mobility, which can be continuous, may fluctuate according to time. Does the mobility that is missed resemble that which is observed?
(c) Third, a selection of respondents/monitors: Because the entire population under study (displaced people, returnees and migrants) cannot be interviewed due to the often difficult circumstances in which IOM and MMC operate, in the best-case scenario, a selection of individuals in the population, and/or external informants, is interviewed. Interviewed individuals are not randomly sampled in the migrant population (because no sampling list exists, or for other reasons) and there is no statistical way to assess their representativity. Interviewed informants can hold various positions, such as representatives from municipality offices, members of civil society organizations, police or custom officers, staff of bus stations, truck drivers, community leaders or migrants, for example. Informants' subjectivity may distort realities, and there is no rigorous way to assess if and how their position is conducive to biases, although IOM attempts to provide basic information on the credibility of informants.[9] For instance, a DTM report on Libya informs the reader that 52 per cent of data collected was rated by its authors as "very credible", 33 per cent as "mostly credible", and 14 per cent as "somewhat credible".

[6] Who "people on the move" are exactly is not a straightforward notion (unless interviews take place in a means of transportation). What is the duration beyond which a stopover in the journey becomes a stay?

[7] "Data collected represents the situation at specific points of transit at certain times, and provides only a partial view of the volume and characteristics of population flows transiting through the Flow Monitoring Points. This tool does not intend to provide a total number of all transiting populations, but rather to estimate volume and characteristics of population flows transiting through an observed point" (IOM, 2017). "4Mi data is not representative of national or international migration flows. It therefore cannot be used to provide estimates of the volume and characteristics of the overall migrant population… 4Mi data is also self-reported and MMC has no means to verify, for example, reported incidents" (www.mixedmigration.org/4mi/4mi_faq/).

[8] Oversampling regions where migrants concentrate is also a common technique in migration surveys, out of concern for limiting the size, and the cost, of a survey.

[9] Burkina Dashboard 29 August 2019: "All data included in this report are based on estimates. IOM does not guarantee nor comment on the relevance, exactness, reliability, quality or comprehensiveness of data contained in this report."

Ratings were based on the consistency of information provided by different informants, and on whether it is "in line with general perceptions" (IOM, 2019a).[10]

Keeping the above limitations in mind, the wealth of information DTM and 4Mi provides on population flows and the profiles of people on the move, their experience and their needs, is a significant breakthrough in contexts where timely and regularly produced evidence on migration flows and profiles is sorely lacking. The open question is whether and how the gap between statistical and operational data in countries on the CMR can be bridged to provide a more comprehensive picture of migratory trends on the route. A starting point would be exploring the possibility of combining different operational data sets, which is the subject of the next section.

2.3. Combining data series: examples based on DTM data

DTM reports contain detailed descriptive statistics that are mostly univariate or bivariate distributions of counted or estimated individuals. Do these data lend themselves to constructing classical indicators of migration? Is it possible to combine different series of data? The examples below examine two sorts of combination: data of the same nature obtained at different dates, and data of different natures obtained at the same date.

2.3.1. Example 1: Net migration estimated by changes in migrant stocks in Libya

DTM provides estimates of migrant stocks in Libya at each round distributed according to basic characteristics, such as the place of stay in Libya or the country of origin. In case of complete enumeration, changes in migrant stocks from one round to the next would measure the migratory balance or net migration between the corresponding dates. Tables 2.1a and 2.1b provide such changes during an interval of around one year (from round 21 to round 26).

Table 2.1a. Estimated numbers of international migrants in Libya by region at DTM rounds

Mantika (Region)	Migrant stock		Change
	August 2018	July 2019	
Tripoli	148 460	133 323	- 15 137
Ejdabia	68 798	70 227	+ 1 429
Murzuq	43 534	65 429	+ 21 895
Misrata	77 635	58 191	- 19 444
Sebha	38 815	48 650	+ 9 835
Almargeb	30 220	19 840	- 10 380
Aljfara	29 976	17 426	- 12 550
Other	231 738	242 058	+ 10 320
Total	**669 176**	**655 144**	**- 14 032**

Sources: IOM, 2018 (available at https://dtm.iom.int/ data extracted on Dec 20, 2019). DTM Round 21 Data Summaries for Publication, and IOM (2019) DTM Round 26 Data Summaries for Publication.

[10] Another report on Libya explains: "At field level, DTM is working with its enumerators towards strengthening triangulation mechanisms through an increased number of sources at different administrative levels" (IOM, 2019b).

Table 2.1b. Estimated numbers of international migrants in Libya by citizenship at DTM rounds

Country	Migrant stock		Change
	August 18	July 2019	
Niger	130 087	128 661	- 1 426
Egypt	96 963	101 219	+ 4 256
Chad	91 904	98 325	+ 6 421
Sudan	80 491	77 842	- 2 649
Nigeria	64 980	58 372	- 6 608
Ghana	46 726	37 995	- 8 731
Mali	36 152	30 303	- 5 849
Bangladesh	23 126	24 947	+ 1 821
Syrian Arab Republic	10 260	18 190	+ 7 930
Somalia	17 858	140 83	- 3 775
Tunisia	5 784	7 411	+ 1 627
Morocco	7 147	6 693	- 454
Guinea	3820	6 540	+ 2 720
Ethiopia	7 429	6 425	- 1 004
Eritrea	7 185	6 005	- 1 180
Senegal	6 533	5 655	- 878
Burkina Faso	6 380	5 524	- 856
Palestinian Territories	1 853	5 070	+ 3 217
Côte d'Ivoire	4 310	2 816	- 1494
Cameroon	2 659	2 396	- 263
Algeria	2 228	2 146	- 82
Pakistan	19 09	1 654	- 255
Zambia	1 600	1 505	- 95
Other	11 792	5 367	- 6 425
Total	**669 176**	**655 144**	**- 14 032**

Sources: IOM (2018) DTM Round 21 Data Summaries for Publication and IOM (2019) DTM Round 26 Data Summaries for Publication.

The picture that emerges seems very plausible (though not verifiable). As a whole, Libya would have had a net loss of international migrants from August 2018 to July 2019. There are marked contrasts from regions with net entries (Murzuq and Sebha in particular) to regions with net exits (Misrata, Tripoli, Aljfar and others). Contrasts are also noticeable between migrants' countries of origin, from nationalities with a negative net migration (Nigeria, Ghana and Mali, among others) to nationalities with a positive net migration (the Syrian Arab Republic, Egypt, Chad and Tunisia, among others). If these trends were real, one should look for determinants in the varying economic and political conditions in Libya itself (Table 2.1a) and in the origin countries of its migrants (Table 2.1b). However, it may also be that the methodology of data collection has created statistical artefacts linked, for example, to changing points under observation.

2.3.2. Example 2: Deriving flows from time series of stocks: The case of internally displaced persons, returnees and migrant individuals in Libya

The successive rounds of DTM from January 2016 (round 1) to June 2019 (round 26) provide summaries of cumulative numbers of returnees, IDPs present and migrants present (this last series was discontinued as of March 2018), as counted or estimated in localities under DTM observation in Libya. Put together, these numbers provide monthly time series of stocks (Table 2.2). Subtracting one stock from the following, one theoretically obtains the change (balance of flows) in the corresponding period (Figure 2.1).

Table 2.2. Numbers of internally displaced persons, returnees, and migrant individuals in Libya, DTM Libya – Round 1 (January 2016) to Round 26 (July 2019)

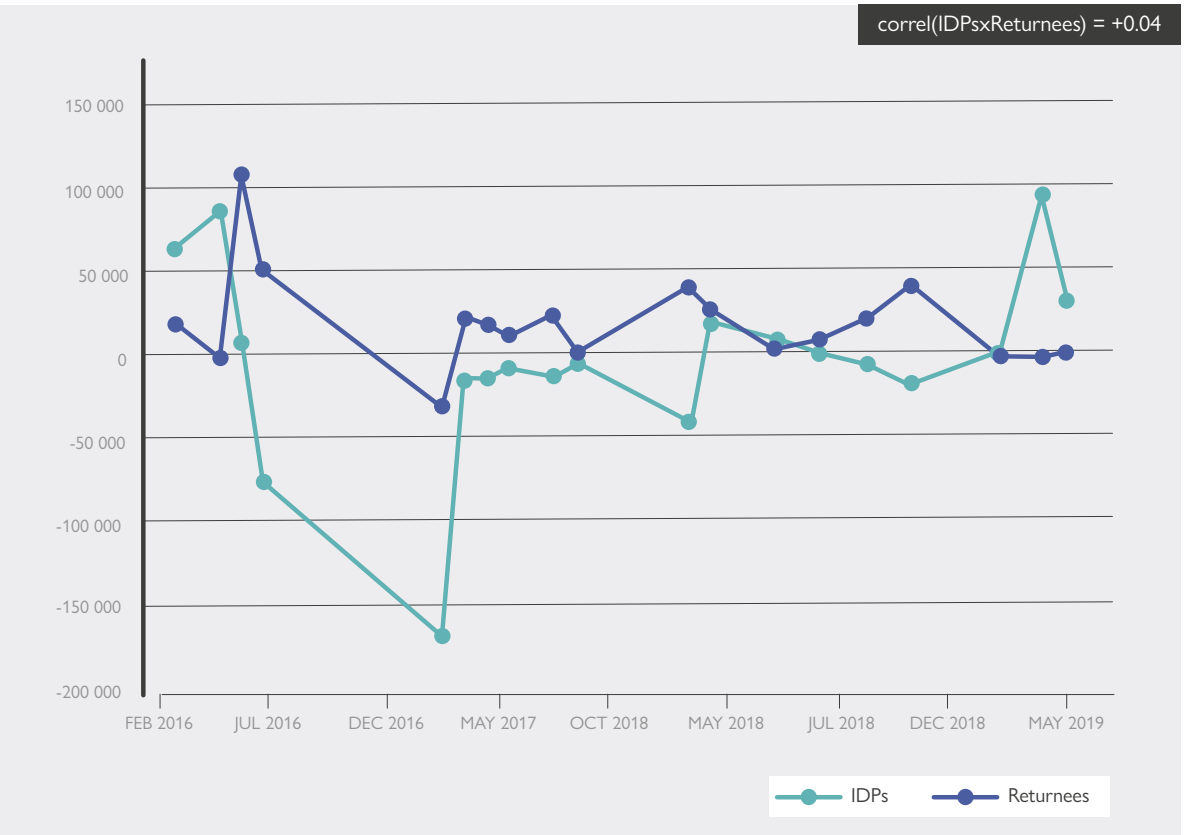
Round	Date	IDPs	Returnees	Migrant individuals		
				In Baladiya	In detention centres in Baladiya	Crossing Baladiya
1	Jan. 2016	268 943	130 637	114 770	4 686	30 459
2	Mar. 2016	331 622	150 362	142 370	5 194	60 260
3	May 2016	417 123	149 160	234 669	8 716	204 806
4	June 2016	425 250	258 025	264 014	6 831	277 046
5	July 2016	348 372	310 265	276 957	4 405	309 402
6	Sep. 2016	-a	-	-	-	-
7	Dec. 2016	-	-	-	-	-
8	Feb. 2017	-	-	-	-	-
9	Mar. 2017	256 615	227 866	351 382	-	-
10	Apr. 2017	240 188	249 298	393 652	-	-
11	May 2017	226 164	267 002	390 198	-	-
12	June 2017	217 022	278 559	400 445	-	-
13	Aug. 2017	204 458	301 988	416 556	-	-
14	Sep. 2017	199 091	304 305	421 844	-	-
15	Nov. 2017	-	-	-	-	-
16	Feb. 2018	-	-	-	-	-
17	Feb. 2018	165 478	341 534	704 142	-	-
18	Mar. 2018	184 612	368 583	-	-	-
19	Apr. 2018	-	-	-	-	-
20	June 2018	192 513	372 741	-	-	-
21	Aug. 2018	193 581	382 222	-	-	-
22	Oct. 2018	187 423	403 978	-	-	-
23	Dec. 2018	170 490	445 845	-	-	-
24	Apr. 2019	172 541	445 476	-	-	-
25	June 2019	268 629	444 760			
26	**July 2019**	**301 407**	**447 025**			

Source: Libya rounds 1 to 26 of DTM.

Note: a "-" signifies missing data.

The numbers of IDPs are expected to increase and the numbers of returnees to decrease in the moments when the security situation worsens, and conversely IDPs to decrease and returnees to increase in moments of lull. A negative correlation should link the two series. This is not the case. Is it because the two phenomena have different temporalities (one reacting later than the other to sudden changes in terms of security)? How do fluctuations in the two series match the timeline of events in the Libyan civil war? Is it instead because the nature of data provided on stocks does not make it possible to deduct flows? To decide this question, one needs all the technical details on how aggregated numbers were constructed.

Figure 2.1. Changes in numbers of internally displaced persons and refugees in Libya, from one DTM round to the next, January 2016–July 2019



Source: Author's calculations based on data reported in Table 2.2.

2.3.3. Example 3: Incoming and outgoing flows in the Niger, 2017–2019

Borders are strategic places for observing flows of international migrants. Yet, border statistics are usually of poor quality and not usable to properly count migrants. Would data collected at DTM flow monitoring points (FMPs) be a good proxy? In the Niger, DTM provides monthly numbers of incoming and outgoing migrants at key transit locations since January 2017 (Table 2.3). Combining the two series, one can obtain the balance of population movements at FMPs (Figure 2.2).

Over the two and a half years of observation, numbers of incoming, outgoing and total migrants reached, respectively, 289,274, 267,786 and 557,060. These are modest numbers for a country with 22.5 million inhabitants, corresponding to annual rates of immigration and emigration of respectively 0.51 per cent and 0.48 per cent. The resulting migratory balance is negligible: a monthly average of +716 individuals (+21,488 in 2.5 years), corresponds to an average annual rate of 0.04 per cent. In brief, not many foreign nationals cross the land borders of the Niger, and almost everyone who enters will leave sooner or later.

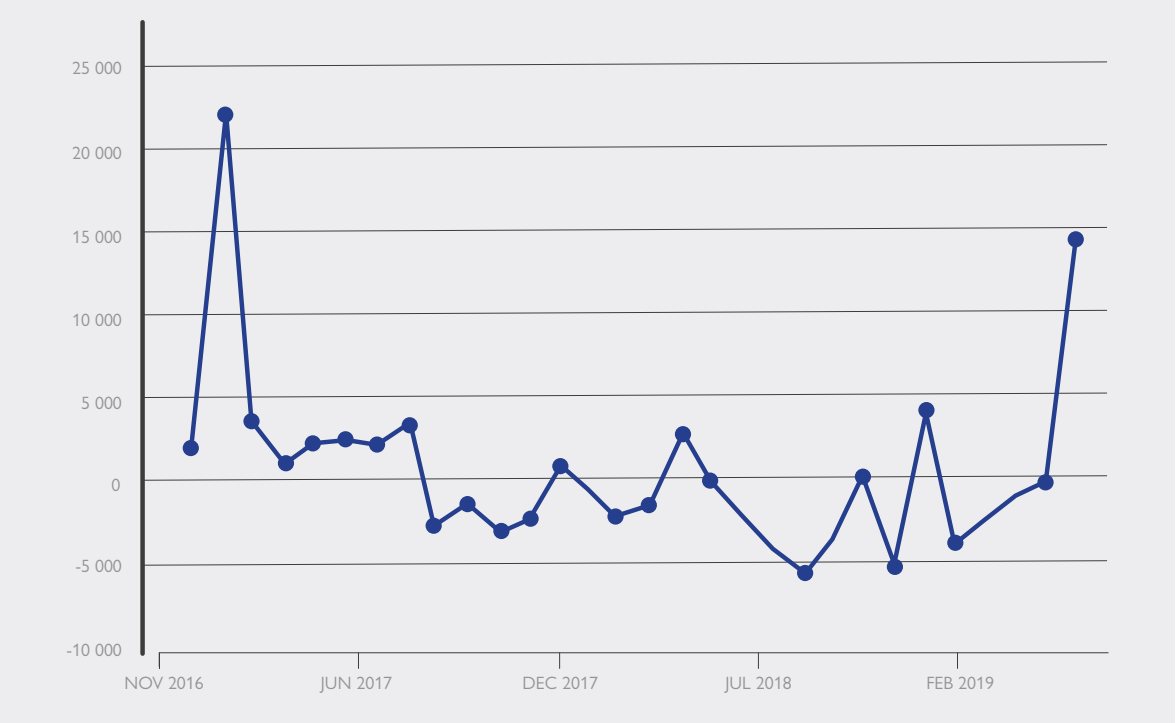
Of course, actual rates should be higher, since not all international migrants pass through DTM's FMPs. But if entries and exits were to increase proportionally, adding FMPs would not affect the balance, which is close to zero. Interestingly, the extension of DTM coverage by the addition of four FMPs in August and September 2018 significantly increased the counted numbers of entering and exiting individuals (Table 2.3) without affecting the balance of entries and exits (Figure 2.2). Fluctuations of the balance are significant, however. It would be interesting to verify if the two peaks observed in February 2017 and June 2019 correspond to surges in numbers of readmissions from Algeria in application of the migration agreement passed in 2014 between the two countries.

Table 2.3. Monthly numbers of incoming and outgoing migrants in the Niger, January 2017–June 2019

Month	Incoming	Outgoing	Month	Incoming	Outgoing
Jan. 2017	8 424	6 524	Apr. 2018	4 758	6 056
Feb. 2017	27 239	6 329	May 2018	9 471	6 770
Mar. 2017	8 416	4 802	June 2018	2 224	2 093
Apr. 2017	6 549	5 442	July 2018	4 848	6 632
May 2017	9 411	7 142	Aug. 2018	5 319	9 187
June 2017	6 725	4 387	Sep. 2018	12 118	17 127
July 2017	6 058	3 954	Oct. 2018	10 379	13 728
Aug. 2017	12 082	8 754	Nov. 2018	16 661	16 412
Sep. 2017	2 541	4 972	Dec. 2018	11 374	16 119
Oct. 2017	3 592	4 863	Jan. 2019	24 808	21 124
Nov. 2017	2 669	5 440	Feb. 2019	10 067	13 478
Dec. 2017	4 600	6 821	Mar. 2019	10 025	12 417
Jan. 2018	4 151	3 085	Apr. 2019	19 456	20 507
Feb. 2018	3 464	3 901	May 2019	22 567	22 493
Mar. 2018	3 834	5 656	June 2019	15 444	1 571

Source: DTM Population Flow Monitoring – Dashboards #01 to #24.

Figure 2.2. The Niger: Monthly balance inflows–outflows at flow monitoring points, January 2017–June 2019



Source: Table 2.3.

2.3.4. Example 4: Mixed flows or mixed motivations?

A majority (93%) of migrants and refugees interviewed by 4Mi in Burkina Faso, Mali and the Niger cited economic reasons as their main motivation for departure, as compared with a low 15 per cent citing violence and insecurity (MMC, 2019). Yet, at the same interviews, 42 per cent of the respondents declared they had the intention to apply for asylum once at destination. Is it that migrants have received information before departure information about asylum being the most efficient channel for obtaining a permit of stay? Or is it that the same person is simultaneously in search of economic opportunities and protection, and puts forward one or the other reason according to the context?

2.4. Conclusions: bridging the gap between operational and statistical data

Operational data provided by mechanisms such as DTM and 4Mi have been crucial to enhancing understanding of migration dynamics and migrant characteristics in West and North Africa, given the limited availability of migration data from national sources in these regions. Further strengthening data collection and dissemination on outward and inward international migration (including return migrants) would help understanding of the dynamics playing out at regional levels. Using common templates for publications based on operational data collected in different locations and at different points in time would also facilitate comparison and (under certain conditions) aggregation, which would allow the building of such "regional pictures".

A large part of the data is obtained through interviews with informants. Numbers provided by informants may, or may not, result from actual counting of the migrants. They may, or may not, reflect subjective views as much as well-informed estimates. Reports based on operational data should systematically make clear what the sources of data are – be these effective counting by IOM or MMC staff or indirect information. A critical review of potential biases

of informants would be helpful to adequately interpret and use the data. In addition, it would be helpful to always include an explanation of how samples of interviewees were constructed, and strive for operational data to get as close as possible to random.

2.4.1. Opening operational data to the local statistical environment

Neither DTM nor 4Mi operates in a statistical vacuum. All the States along the CMR have statistical offices with an increasing interest in measuring migration and related phenomena. Population censuses of the 2020 round will all contain, for the time, a set of questions about internal and international migration, including country of birth, country of nationality and year or period of arrival – although, at the time of writing this chapter, census operations in many countries were stalled or postponed due to the COVID-19 pandemic (UN DESA, 2017). Other questions are on the agenda of a number of statistical offices in the world, as well as post-census surveys. Operational data collection activities by IOM, MMC and other partners should support national data collection systems and be integrated into data capacity-building efforts at the national and regional levels as far as possible.

Administrative data offer another, often untapped, source of potential knowledge on mobility, migration and the conditions of mobile people. DTM and 4Mi should reflect on methodologies adapted to these kind of sources in countries where they operate.

2.4.2. Favouring the emergence of balanced views

Not all migrants are equally vulnerable, including along the CMR. Many migrants are safe and successful, and their success is precisely why migrants continue to travel this route. Only a comprehensive account of migrants' situations in CMR countries, including employment opportunities in Libya and elsewhere, makes it possible to comprehend negative developments in terms of risk – that is, probability – with positive developments as another possible outcome.

Collecting data on all categories of migrants in the framework of DTM and 4Mi would help build a nuanced image of migration, and identify what leads to risks and destitution, and what results in success. The overall goal of the production of knowledge on migration in countries along this route is to support efforts by countries and humanitarian and development partners involved to achieve safer and more orderly migration. It is also to incite States, starting with European Union member States, to expand legal migration channels. For this, reaching an accurate and balanced picture of migration on the CMR is necessary. Documenting both the risks and factors that may exacerbate those, and the developmental benefits of migration, is necessary to incite States to increase regular migration opportunities while providing assistance and protection to migrants in vulnerable situations.

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