INTRODUCTION

Context
The spread of COVID-19 around the world continues to threaten the full reopening of borders and regular migration pathways for many around the world. Total confirmed cases in Africa are above 1,390,000, including 33,622 deaths, with 20,371 cases in Cameroon (OMS).

As part of the response to the COVID-19 pandemic in Cameroon, the Ministry of Health (MINSANTE) in collaboration with its technical and financial partners have strengthened activities for the preparedness and response to slowing down and controlling the virus. In support of these activities, the International Organization for Migration (IOM) in partnership with MINSANTE and the World Health Organisation (WHO), conducted a Population Mobility Mapping (PMM) in Cameroon’s East region.

The region holds particular significance for a greater understanding of mobility trends and migration practices, due to its strategic position of being the main point of access by road to the Central African Republic and Chad, both land locked countries that rely heavily on the continued and uninterrupted transport of freight and persons for a range of essential goods and services. A general strengthening of public health measures along these mobility corridors within East region was thus seen as a priority for the first roll-out of this exercise.

This report presents the findings and results of the PMM of Cameroon’s East region, which included a participatory mapping exercise (PME) in the Eastern city of Bertoua on 25 August 2020, followed by field visits.

Aim and Objectives
Human mobility is a complex and dynamic phenomenon, which has shown capable to amplify the spread of infectious diseases and the impact of public health events. The PMM brings an understanding of mobility dynamics to present public health interventions, to add to classical approaches of assessing risks to public health in any particular region. The purpose of the PMM is to provide epidemic preparedness and response actors with information to prevent the introduction or to limit the spread of the disease in the country and border countries, by prioritizing sights for additional public health interventions based on a greater knowledge of mobility characteristics and trends within a particular region. In this case mobility corridors through which routes supply large quantities of goods to landlocked neighbours Chad and CAR.

The specific objectives for this exercise were therefore to:
- Identify the Points of Entry (PoE), Axes of mobility, and Points of Interest (PoI) within Cameroon’s East region and at its frontiers with neighbouring states.
- Based on estimations on mobility flows and other criteria, provide a list of specific PoEs and PoIs in East region that are for the highest priority in public health interventions in times of a public health emergency.
- Collect additional information on the mobility characteristics and dynamics in East region, as well as a stronger understanding of current cross-border collaboration and challenges.

APPROACH

Participatory mapping is a tool that collects information from key informants through a group discussion. This tool is based on IOM’s Displacement Tracking Matrix (DTM), and IOM’s past experience in Population Mobility Mapping, specifically for epidemic preparedness and response activities in West Africa and the DRC. The current version is the result of a collaboration between IOM and WHO.

Key informants are identified by the Government of Cameroon and IOM based of their knowledge of the community, population mobility and public health at local, regional and other levels, and come with a strong multisectoral working knowledge able to represent various diverse stakeholders. The exercise began with a presentation by the Ministry of Health on the state of the epidemic and the actions taken by the country, the risks of spread by mobility, and the objectives of the exercise. Key informants were then asked to identify and locate PoEs, major axes of mobility (routes) and PoI/points of congregation on maps, to identify places where travellers could interact with other travellers and/or the local community. Discussions were then led on the current state of cross-cross-border collaboration between Cameroon and the Central African Republic, for greater coordination and public
health measures including efficient screening at key border posts. Among these points, participants selected priority sites for the implementation of public health measures based on the following criteria: volume of travellers, connections to areas affected by the epidemic and connections with other major localities in the country. Population mobility patterns and dynamics at these points were then characterized (main departure and destination, types of travel etc.).

The exercise was followed by an assessment of prioritized sites in the field, with the following objectives: i) Collect the GPS coordinates of the sites identified during the exercise to develop the final map; ii) Verify the information collected during the exercise and make direct observations on site; iii) Collect additional information for the introduction of additional public health measures and interventions such as screenings, hand-washing stations and risk communication based on a needs-based approach.
FINDINGS

The findings are based on the contributions at the PME in Bertoua of 19 participants from 15 organisations or bodies present (MINSANTE, Commissariat de Garoua-Boulai, Sous-Prefet de Garoua-Boulai, IOM, OCHA, UNDP, UNHCR, WFP, WHO, Action Contre la Faim, Association Mains Solidaires, Croix Rouge, Croix Rouge Francaise, Plan International, Solidarite International).

Information collected was then subsequently confirmed with the maximum number of field verification visits possible within two days following the PME, for the key sites along axes of mobility based on the estimated number of travellers and persons congregating. Twelve sites were visited (10 PoIs and 2 PoEs).

It was recorded throughout the exercise that nearly all unofficial PoEs were small military posts along the frontiers with either CAR or the Republic of Congo, with the existing road access and infrastructure making them a convenient point of unofficial cross border flows by local populations. It was also the general consensus by participants that whilst certain official PoEs had witnessed a drop in cross-border flows due to the COVID-19 pandemic, in particular Garoua-Boulai and Kentzou, the overall number of cross border movements at all PoEs was likely to have stayed the same and in some cases actually risen at unofficial PoEs that had closed themselves of to non-freight vehicles/persons.

A further 17 ‘Points de Chutes’ were identified by some participants, in which specific villages/towns along the frontiers were named as key places of final departure for individuals’ cross border mobility. From the 11 PoEs prioritized for additional public health interventions, the estimations by participants of daily cross border mobility of persons is shown below.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Garoua-Boulai*</td>
<td>Official</td>
<td>Partially open to trucks only</td>
<td>400 (200 trucks)</td>
<td>1500</td>
</tr>
<tr>
<td>Kentzou*</td>
<td>Official</td>
<td>Open</td>
<td>160</td>
<td>600</td>
</tr>
<tr>
<td>Ntam</td>
<td>Official</td>
<td>Partially open</td>
<td>300</td>
<td>300</td>
</tr>
<tr>
<td>Gari Gombo</td>
<td>Official</td>
<td>Partially open</td>
<td>80</td>
<td>115</td>
</tr>
<tr>
<td>Tocktoyo</td>
<td>Official</td>
<td>Partially open</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Zamboy</td>
<td>Unofficial</td>
<td>Partially open</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Gbiti</td>
<td>Official</td>
<td>Partially open</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Libongo</td>
<td>Official</td>
<td>Partially open</td>
<td>40</td>
<td>75</td>
</tr>
<tr>
<td>Bombe Bakari</td>
<td>Unofficial</td>
<td>Partially open</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Bombete</td>
<td>Unofficial</td>
<td>Partially open</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Tsabal Samari</td>
<td>Unofficial</td>
<td>Partially open</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

*Site was visited to confirm data findings in days following PME
2. Axes of Mobility

The second theme identified the main axes of mobility (routes) taken in East region for movement of persons, the characteristics of this mobility, and the main origin and destination of travellers.

A total of 6 main axes of mobility were identified by participants during the exercise. They were:

- **Route National 1**: The main artery of the East region for long distance travellers and trucks driving from Douala to Yaoundé to Bertoua into CAR (Bangui) and Chad (N’Djamena). The road was identified as the busiest for mobility of all routes in East region.

- **Route National 10**: The road leading from Bertoua, via Batouri to Kentzou, the second largest PoE in East region by expected traffic on the CAR border.

- **Provincial 5**: A road intersecting the Routes Nationals 1 & 10, from Gado-Badzere to Ndokoyo to Batouri.

- **Departmental 25**: A road leading from Batouri to PoE Tocktoyo, situated between PoEs Garoua-Boulai and Kentzou.

- **Provincial 4**: A road from Batouri, to PoE Gari Gombo, to all the way south to PoE Moloundou on the Congo border.

- **Provincial 6**: A road in the south-west of East region, from Abong-Mbang on Route National 10 to PoE Ntam on the Congo border.

For trucks travelling along these axes from Cameroon to CAR, a large range of products are transported including essential health items, food, construction materials, car parts, petrol, cloths, mining equipment and plastic. For trucks travelling along these axes from CAR to Cameroon, products are transported including wood, plantain, couscous, manioc.

Travelers will stop and congregate for the variety of reasons, including for rest, prayer, sleep, meals, and for administrative reasons (weighing stations for trucks). A truck driver will take around 7 days to travel from Douala all the way to N’Djamena, meaning that there are many sights for stoppage and congregation along these mobility corridors.

3. Points of Interest/Congregation

The third theme identified and prioritized PoIs or points of congregation that existed along the key axes of mobility identified, including for various types of stoppage including for food, sleep, rest, prayer, or administrative reasons where travellers can interact with other travellers and/or the local community.

Along the 6 axes of mobility that were identified, a total of 33 points of interest were recorded by the participants, including 21 that were chosen for prioritizing public health measures.

<table>
<thead>
<tr>
<th>Axe of Mobility (Route)</th>
<th>Number of Points of Interest</th>
<th>Number of Sights Prioritized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Route National 1</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Route National 10</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Provincial 5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Departmental 25</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Provincial 4</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>33</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

On the next page are the following 21 points of interest prioritized for additional public health interventions, with information on the type of stoppage/congregation.
<table>
<thead>
<tr>
<th>Name</th>
<th>Mobility Axe</th>
<th>Estimated Number Stopping</th>
<th>Details</th>
</tr>
</thead>
</table>
| Mandjou (W.St)*       | RN1          | 658                       | • Just outside of departure point of Bertoua, many trucks stop for the weighing station located just before town.  
• No health screening currently conducted. Handwashing and sensitization materials present. |
| Giwa Yangamo*         | RN1          | 550                       | • Town including a small church and mosque, market.  
• No health screening currently conducted. No handwashing station. Sensitization materials present. |
| Tonga Gadiama*        | RN1          | 200                       | • A town used for food, sleep and rest by many long distance travelers/truck drivers.  
• Health screening conducted at local medical center, presence of handwashing stations and sensitization materials. |
| Ndokayo*              | RN1          | 3500                      | • A town on the cross roads of the Route National 1 and Provincial 5, for turning off to Betare Oya and down to Batouri. A small mosque, bus station.  
• No screening or sensitization materials. Presence of hand washing stations. |
| Gado-Badzere*         | RN1          | 125                       | • A town on the cross roads of the Route National 1 and the start of Provincial 5.  
• No health screening currently conducted. Handwashing station and sensitization materials present. |
| Garoua-Boulai*        | RN1          | 10000                     | • Final town on main PoE into RCA. Large convoys of trucks leave to travel into CAR three times a week (Monday, Thursday, Saturday).  
• All drivers receive their mass screening in morning of convoys. Presence of public health measures and established coordination with local medical center and hospital. |
| Bazzama*              | RN10         | 225                       | • Small town for stopping between Bertoua and Batouri.  
• No screening, handwashing stations, or sensitization materials. |
| Gadji*                | RN10         | 350                       | • Small town for stopping between Bertoua and Batouri. Small mosque and restaurants.  
• No screening, handwashing stations, or sensitization materials. |
| Batouri*               | RN10         | 5000                      | • Largest town on RN 10 between Bertoua and Kentzou. Large bus station.  
• No screening. Presence of handwashing stations and sensitization materials. |
| Ngoura*               | RN10         | 600                       | • A town on the cross roads of the Route National 10 and Provincial 4 towards South and eventually Congo. Bus station, mosque, market.  
• No screening or handwashing stations. Presence of sensitization materials. |
| Nyabi*                | RN10         | 100                       | • Small town on route with a mosque, small market, restaurant.  
• No screening or handwashing stations. Presence of sensitization materials. |
| Mbile                 | RN10         | 300                       | • Small town and refugee camp close to Kentzou. |
| Lolo                  | RN10         | 300                       | • Small town and refugee camp close to Kentzou. |
| Kentzou*              | RN10         | 500                       | • Town just in front of second largest PoE by estimated flow volume (10km away).  
• At local medical center no screening. Presence of handwashing stations and sensitization materials. |
| Betare Oya            | P5           | 100                       | • Largest town on P5 route. |
| Ndelele               | P4           | 300                       | • Town situated between Ngoura and PoE Gari-Gombo. |
| Gari Gombo            | P4           | 300                       | • Town on the route, also estimated as the fourth largest PoE by estimated flow volume. |
| Ngaressingo           | P4           | 175                       | • Refugee camp 5 km before Yokadouma. |
| Yokodouma             | P4           | 100                       | • Largest town on P4 route. Cross roads leading south to PoE Mouloundou, and east to PoE Mboy II. |
| Timangolo             | D25          | 200                       | • Town on the way north from Batouri to PoEs Gbitti and Tocktoyo. |

*Site was visited to confirm data findings in days following PME
4. Cross-border Collaboration and Needs

The final stage of the PME exercise was dedicated to an analysis of the current state of collaboration and coordination between Cameroon and CAR for increasing the effectiveness of public health measures along the international border. Additional collaboration and coordination, including joint practices for the screening and referral of suspect cases between the two authorities is an important step for the effective controlling of any public health emergency, and is to be encouraged in the future. A discussion on the general needs and challenges of COVID-19 response actors in Cameroon was also held, to obtain a clearer picture on where additional resources will have the maximum impact for the overall preparedness and response efforts.

Mechanisms of collaboration: Since 1 July 2020, an agreement between the Governments of CAR and Cameroon led to the suspension of double testing at both sides of the border, a practice that was previously causing a serious backlog of truck drivers to congregate at Garoua-Boulai while waiting for their test results to be processed in Bangui. Cameroon’s rapid testing kits and their results are now recognized by authorities in CAR. Congestion at Garoua-Boulai has since reduced, and the screening of truck drivers is carried out 3 times a week for each of the 3 convoys of trucks that leave Garoua-Boulai towards Bangui each week (Monday, Thursday, Saturday). A committee manages the correspondence between officials of both CAR and Cameroon to coordinate between them, composed of the Chief of District and the Chief of Health at the border post. For each district in East region there are also committees including the Chief of the district.

Associated Documents: All guidance for Cameroonian officials on the screening and referral of suspect cases is verbal at the time of publication. Standard Operating Procedures (SOPs) are currently in the process of elaboration and to be operationalized soon, from the Ministry of Health with WHO and IOM support.

Focal Points: For specific contact details for focal points operating in East region, please contact iomcameroon@iom.int with the subject line: EAST REGION PMM REQUEST FOR FOCAL POINT CONTACT DETAILS.

Needs: Sensitization campaigns and activities still continue to engage with community members who do not believe that the COVID-19 virus exists, and the message of correct methods for hand washing and self-confinement are still not fully communicated. Furthermore, participants of the PME found that risk communication strategies are often too centrally coordinated and thus in a top-down nature that does not allow for a flexibility of messaging depending on the particularities of communities engaged with. A more effective public communication moving forward will also have to target the growing problem of COVID-19 associated stigmatisation, with many fearing to take a COVID-19 test due to the expected stigmatisation following a positive result.

The COVID-19 pandemic in Cameroon has also led to a large level of procurement for the supply and distribution of materials including gloves, masks, soap, thermometers, handwashing stations and more complex items such as respirators and other hospital equipment. It was identified through the PME that some kind of exit strategy was needed for this provision of materials, to both ensure that certain sanitary items are more sustainably supplied by long term actors such as the government, as well as that long term capacities are reinforced to ensure that proper care and attention is given to complex items such as respirators.
CONCLUSIONS AND RECOMMENDATIONS

Conclusions
The results of this PMM have provided a better understanding of the dynamics and characteristics of migration and population mobility in Cameroon’s East region, and the main axes of mobility that serve as supply routes to neighbouring Chad and CAR. Through the contributions of participants, 11 points of entry and 21 points of interest have been prioritised for further public health measures in East region, due to a recognition of the key sights where the transmission of communicable diseases is most likely due to the congregation of persons. Various difficulties were identified by COVID-19 response actors that must be addressed for the more effective implementation of public health measures moving forward, for the COVID-19 response but also as best practices for any future public health emergency in Cameroon.

All this information including the coordination map will be shared with the Ministry of Health, the World Health Organisation and any COVID-19 response stakeholders in Cameroon that will help to coordinate additional resources in the future, both for COVID-19 response as well as any future public health crisis.

Recommendations

- **Reinforce all 32 prioritized sites (PoEs and PoIs) with additional public health measures including the strengthening/introduction of screening capacities at local medical centres, the sensitization of COVID-19 associated risks and the supplying of handwashing stations, all through a community engagement approach where local authorities/chiefs are first consulted and identified to take charge for the sustainability of activities.**

- **Construct cisterns/wells for a drinkable water source next to screening points where none already exist at the 32 prioritised sites.**

- **Provide additional material assistance to local medical centres and other points at the 32 prioritized sites in East region including additional sets of gloves, facemasks, thermometers, hand washing stations, and other such items that are required. Engage with the Ministry of Health and other authorities to create a contingency plan of response to any future public health emergencies in Cameroon’s East region to provide an already pre-prepared list of priority sites for public health interventions based on the analysis of mobility characteristics and trends in the area.**

- **Develop risk communication with community engagement plans and strategies that follow bottom-up and decentralised approaches, putting communities first for the planning and roll-out of activities. This includes community consultations for more targeted and sensitive communication that is culturally appropriate for each community, ideally with tools being designed in partnership with the Chief of Village or other local representative roles in East region.**

- **Coordinate to a greater extent with available child protection and gender specific actors in East region, to liaise and refer on cases requiring greater attention following the negative impacts of long periods of confinement.**

- **Create a material assistance hand-over strategy for actors supplying high-levels of material assistance including complex hospital equipment to ensure the sustainable management and care of supplied equipment for future health crises.**

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