



An IOM enumerator monitors and counts the number of boats and people crossing the Thailand-Myanmar border in Mae Sot. © IOM 2018

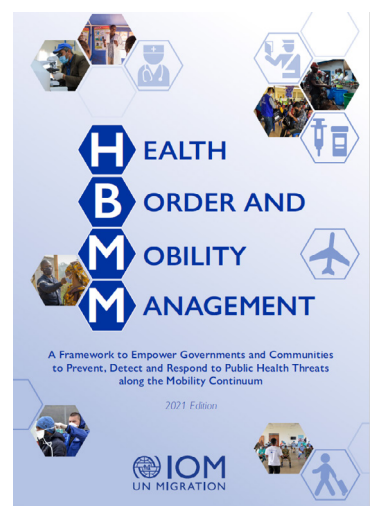
ASSESSING POPULATION MOBILITY DYNAMICS AND PATTERNS TO INFORM PUBLIC HEALTH EMERGENCY PREPAREDNESS AND RESPONSE

In line with the Global Health Security Agenda and the 2005 International Health Regulations, the International Organization for Migration (IOM) is working with stakeholders and partners globally to rapidly detect and respond to disease outbreaks, with an approach anchored in an in-depth understanding of human mobility dynamics.

The complete pathway of population movement at points of origin, transit, destination and return is known as the mobility continuum. It includes mobility both within and across borders. Numerous locations along the mobility continuum such as points of entry (PoEs), transit hubs and gathering sites represent spaces that carry specific health risks for mobile populations and host communities. These risks depend on the scale of mobility flows, interactions between mobile populations and host communities, and the potential occurrence of public health threats such as communicable disease outbreaks in these spaces.

IOM's Health, Border, and Mobility Management (HBMM) framework is a conceptual and operational framework that outlines the Organization's strategic role and objectives in preventing, detecting and responding to communicable diseases in the context of widespread and multidirectional human mobility. The scope of

HBMM activities ranges from the collection and analysis of information on human mobility dynamics, including how migrants and other mobile populations interact with host communities, to disease surveillance and response mechanisms along mobility corridors. A core component of the HBMM framework is population mobility mapping (PMM), a tool adapted from **IOM's Displacement Tracking Matrix** in collaboration with the World Health Organization (WHO). It aims to inform public health interventions that prevent, detect and respond to public health emergencies and international health threats along the mobility continuum by understanding human mobility dynamics and identifying priority communities and locations that may be vulnerable to public health risks.



Population mobility mapping



PARTICIPATORY MAPPING EXERCISES

Facilitated group discussions with key informants, during which participants share their knowledge of mobility and spaces of vulnerability in relation to an area of interest through illustrations on a base map.



SITE EVALUATIONS

Field visits to priority sites identified during the participatory mapping exercise, with the aim of verifying and collecting supplementary information through direct observations and key informant interviews on site.



FLOW MONITORING

Traveller surveys carried out at specific points, either at points of entry or locations with high mobility within a country, with the objective of collecting data on population flows and mobility characteristics.

OBJECTIVES OF PMM

1. To characterize the profiles of migrants and mobile populations and the major mobility routes used in a geographical area of interest.
2. To identify spaces of vulnerability, which are locations where migrants and other mobile populations interact with stationary local communities. These spaces represent environments that can be conducive to increased health risks, such as communicable disease outbreaks.
3. To identify priority locations that are vulnerable to infectious disease outbreaks and other public health threats and have low capacity for adequate preparedness and response.
4. To support resource allocation and the design and implementation of public health interventions and action plans at identified priority locations to strengthen emergency preparedness and response capacities.

PMM consists of three linked components illustrated above, which can be undertaken to inform public health emergency preparedness and response. However, depending on the context and resource constraints, it is not always feasible to carry out every component of PMM. In such instances, the appropriate components should be determined in coordination with relevant authorities and partners.

IOM has conducted PMM for public health preparedness and response in many settings, including the Democratic Republic of the Congo, Nepal, Madagascar, Mozambique, South Sudan and Guinea, among other countries, in the context of Ebola virus disease (EVD), plague, COVID-19, and the development of mobility-centred approaches to routine childhood immunization.



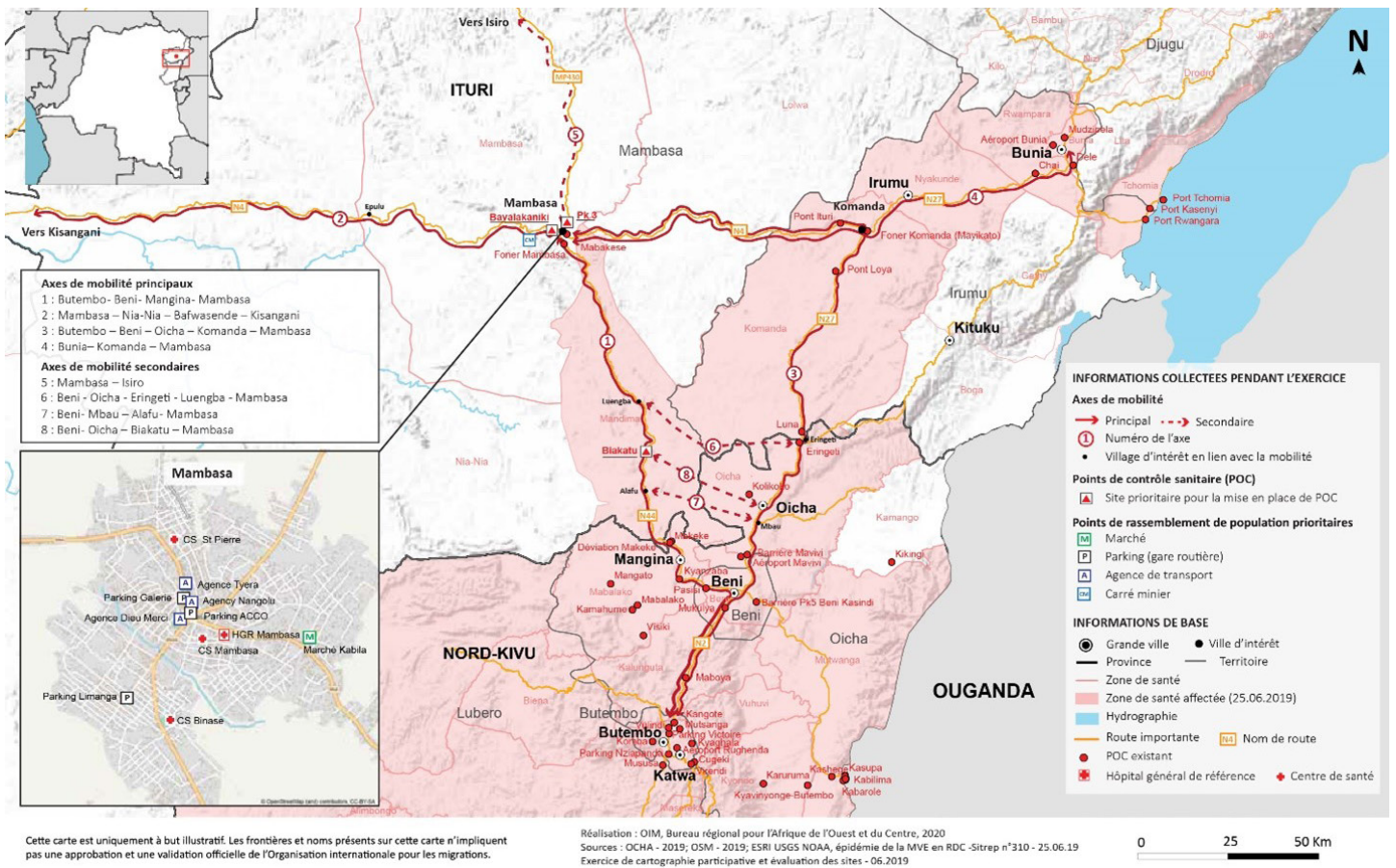
Site evaluation of the Lao-Thai Friendship Bridge II PoE, Lao People's Democratic Republic during the COVID-19 pandemic. © IOM 2020

EXAMPLES OF PMM OUTPUTS

EVD RESPONSE IN THE DEMOCRATIC REPUBLIC OF THE CONGO

In the context of the tenth EVD epidemic in the Democratic Republic of the Congo, the Ministry of Health in collaboration with IOM conducted 12 PMM exercises in strategic locations. Participatory mapping exercises (component 1 of PMM) were carried out to provide epidemic preparedness and response actors with information on the dynamics and characteristics of mobility in and out of affected areas, and to identify priority sites for the implementation of public health measures. Key informants were representatives of formal and informal sectors – such as health and education workers, local authorities and community leaders – and were identified based on their knowledge of population mobility and health issues at local and higher levels.

The key informants identified and located on maps major mobility routes, PoEs and spaces of vulnerability, and then selected priority sites for the implementation of public health measures, including health screening points, based on the volume of travellers, connections to areas affected by the epidemic and connections to major cities in the country. Population mobility characteristics related to these priority sites (including departure and destination points and modes of transport, for example) were then characterized.



Example of participatory mapping exercise in the Democratic Republic of the Congo. © IOM 2019

These exercises were followed by site evaluations (component 2 of PMM) with the objectives of:

1. collecting GPS coordinates of the sites identified in order to construct a final map;
2. verifying data on priority sites with local actors; and
3. collecting additional information such as the feasibility of setting up health screening points.

Results were shared with the Ministry of Health, WHO and other key partners in the field, and were also used to make evidence-based recommendations to relevant epidemic management subcommittees to strengthen EVD preparedness and response. At prioritized locations almost 100 high-risk contacts and over 30 persons testing positive for the disease were identified, and front-line workers were trained in contact tracing and risk communication and community engagement.

COVID-19 PREPAREDNESS AND RESPONSE IN NEPAL



Site evaluation of a formal PoE in Krishnanagar, Nepal, during the COVID-19 pandemic. © IOM 2020

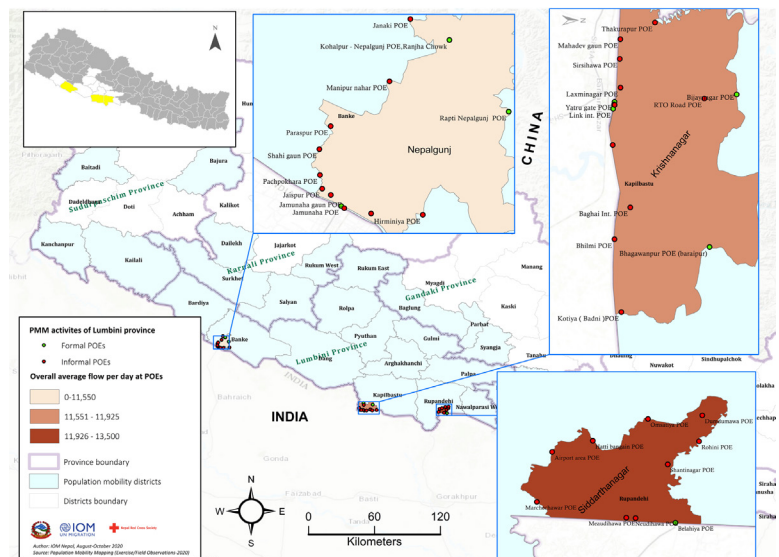
Covering three provinces with a population of 700,000 people, IOM implemented PMM in 2020 in partnership with the Nepal Red Cross Society as part of Nepal's national COVID-19 Response and Preparedness Plan. Over 60 staff members were trained prior to a nine week-long fieldwork exercise comprising over 800 individual interviews and focus group discussions in which government representatives, non-governmental organization representatives, community workers, drivers and vendors shared their knowledge regarding population mobility.

These discussions (adapted to ensure COVID-19 infection prevention and control measures were followed) identified over 600 sites with high population mobility and increased vulnerability to health threats that were selected for further assessment, including PoEs, markets, transport stations, worksites, places of worship, health centres, traditional healer sites, schools, entertainment centres, and others.

Based on this and the site evaluations that followed, the PMM team was able to produce maps illustrating population flows at key locations including PoEs, characterize these locations in terms of the presence of potential public health threats (including lack of water, sanitation and hygiene facilities, health screening capacity, and waste management facilities), describe common reasons for mobility among the population (such as cross-border trade, seeking health care, and visiting family), and gained an understanding of relevant spaces of vulnerability in the provinces. Despite challenges related to the lack of official names of many PoEs, difficult terrain and weather impacting site accessibility, movement restrictions due to the pandemic, language difficulties and infection prevention and control requirements, the PMM exercise provided invaluable information regarding human mobility dynamics in the targeted areas.

Following completion of the PMM project, key recommendations were made to strengthen Nepal's COVID-19 response. These included:

1. establishing health screening stations and infection prevention and control measures (including water, sanitation and hygiene) at PoEs and other priority locations such as transport stations, markets and places of worship, based on areas of need identified during PMM;
2. implementing mechanisms for contact tracing at locations such as PoEs and transport stations for example, informed by PMM data;
3. strengthening infection prevention and control and water, sanitation and hygiene at priority sites with high population mobility and limited existing capacity to prevent the spread of disease;
4. investing in health infrastructure, particularly for remote and difficult-to-access health posts;
5. focusing on risk communication and community engagement by involving citizens in public health activities and improving awareness of the importance of water, sanitation and hygiene, given observed deficits in knowledge regarding infectious disease risks including for COVID-19;
6. enhancing the skills of health, immigration and security officials working at PoEs through training and the development of standard operating procedures; and
7. conducting flow monitoring (component 3 of PMM) in order to obtain more comprehensive data on migration flows based on priority sites identified in the initial phases of the project, and extending PMM to other provinces in Nepal.



PMM at the district level and assessed PoEs in 3 municipalities in Lumbini Province. © IOM 2020



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