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Forced Migration Prediction Tools

by Nasim Motalebi | Oct 30, 2020 | Forced Migration

Forced migration prediction tools can facilitate early warning mechanisms which in turn, can improve early coherence between humanitarian and development activities. Our stand-alone report on existing forced migration prediction tools presents an ongoing effort by humanitarian organizations to develop computational models to predict drivers of forced migration and the demographics of migrants to help policy makers create the best response strategy6F. Projects such as Project Jetson7F or World Vision's early-warning tool pose potential to be incorporated in coherence activities. Yet they are far from practical adoption since they are in early research and experiment phase. We have present these and other relevant tools in this study (as of October 2020) that can be used by stakeholders to inform their policies regarding refugee integration programs. Moreover, we present a study by OACHA that provides a guideline for the

responsible development and adoption of these tools. We find these resources necessary to improve the application of forced migration prediction tools in the context of refugee crises.

Part of our analysis on forced migration prediction tools is its accessibility and common use among humanitarian organizations and other practitioners. We have identified 5 major prediction modeling tools that use different data inputs and are used for data-based decision making during different phases. Appendix I shows a chart of these prediction tools and their contribution to timely decision making and effective response prior to the inflation of refugees and migrants. The purpose of these tools is mainly seen to support five major tasks:

1. Predicting the invent of a crisis
2. Predicting the type of crises that would lead to forced migration
3. Predicting the flow of forced migration
4. Predicting demographics of migrants and as a result their needs
5. Evaluation tools to assess the risks of implementing predictive modeling tools.

A common downfall within these tools remains to be their lack of generalizability due to limited data inputs that inform the model. However recently there has been a focus on developing forced migration prediction tools for responsible use in analytics for humanitarian response. In a brief report, we have discuss these tools and their relevance to coherence activities. You can read the report here.

Project Jetson

Funded by UNHCR Innovation group, project Jetson's algorithm is designed to identify patterns of when countries reach tipping points that lead to mass migration, and its correlation to events such as famine and shrinking economies. Read more about Jetson here

The Migration Data Portal presents Jetson as a tool to be used towards achieving the SDG goals 3, 10, and 17 (goal number 10 being the most important for its focus on good migration governance and reducing inequality). The unique quality of Jetson is its innovative use of machine learning for short-term predictions, at higher frequency, and at lower costs than traditional calculations. Find out more

The Demographic Projection Tool

UNHCR's Demographic Projection Tool (DPTool) focuses on predicting the future size and composition of forcibly displaced persons. The main purpose of this demographic data is to provide the evidence base for programmatic response planning and advocacy in support of durable solutions for persons of concern (PoCs). Read more about the DPTool here.

The Early Warning Tool

World Vision's World View provides a semi-scalable tool that reflect on a broader number of country specific profiles across the globe. This tool reflects on the regional trends of conflict, destabilizing events, economic scrutiny, education, food security, health, nutrition, political security, and other environmental factors. Displacement is also separated as category that could reflect a crisis. Use the platform here

A Framework for Predictive Analytics in Humanitarian Response

Humanitarian decision-makers call for the increased use of predictive analytics to inform anticipatory action. However, the implementation of these tools remains a challenge due to three major reasons:

1. Lack of documentation of the predictive model and their intended use

2. No standard mechanisms for assessing the model for its technical and operational readiness and

3. The lack of attention to the needs, risks, and consequences of all stakeholders.

OCHA's document provides an information tool that standardizes these processes for better implementation. We therefore recommend using this document as a practice for coherence when assessing the use of forced migration prediction tools during protracted refugee crisis. Read this framework in more details and use it for your practice here