Bayesian belief networks â?? Their use in humanitarian scenarios An invitation to explorers

Description

Tweet

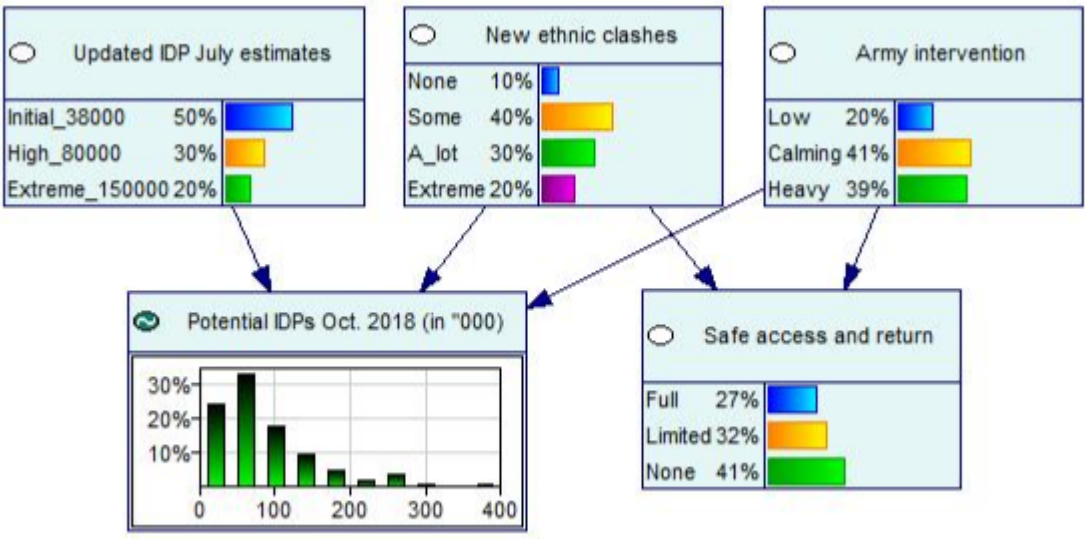
By Aldo Benini. July 2018. Available here as a pdf

Summary

This is an invitation for humanitarian data analysts and others â?? assessment, policy and advocacy specialists, response planners and grant writers â?? to enhance the reach and quality of scenarios by means of so-called Bayesian belief networks. Belief networks are a powerful technique for structuring scenarios in a qualitative as well as quantitative approach. Modern software, with elegant graphical user interfaces, makes for rapid learning, convenient drafting, effortless calculation and compelling presentation in workshops, reports and Web pages.

In recent years, scenario development in humanitarian analysis has grown. Until now, however, the community has hardly ever tried out belief networks, in contrast to the natural disaster and ecological communities. This note offers a small demonstration. We build a simple belief network using information currently (mid-July 2018) available on a recent violent crisis in Nigeria. We produce and discuss several possible scenarios for the next three months, computing probabilities of two humanitarian outcomes.

Figure 1: Belief network with probability bar charts (segment)



We conclude with reflections on the contributions of belief networks to humanitarian scenario building and elsewhere. While much speaks for this technique, the growth of competence, the uses in workshops and the interpretation of graphs and statistics need to be fostered cautiously, with consideration for the real-world complexity and for the doubts that stakeholders may harbor about

quantitative approaches. This note is in its first draft. It needs to be revised, possibly by several authors, in order to connect to progress in humanitarian scenario methodologies, expert judgment and workshop didactics

RD Comment: See also the comment and links provided below by Simon Henderson on his experience (with IOD/PARC) of trialing the use of Bayesian belief networks

Category

1. Unpublished paper

Date
16/10/2026
Date Created
24/09/2018
Author
admin