

1145-91-2647

Amit Patel*, 100 Morrissey Blvd, McCormack Hall 3-425, Boston, MA 02125, and **Naoru Koizumi, Brian Wilson** and **Namesh Killemsetty**. *Agent-based Modeling as Policy support Tool for Emergent Social Systems: Case Studies in Informal Markets for Housing and Organs.*

We model emergent social systems using agent-based modeling in two distinct markets where informality is a norm rather than exception. First is the case of emergence of slums in cities of the global South and the second is the case of emergence of illicit trade networks for human organs. Both slums in cities and organ trade networks are known to be complex systems that emerge from human behavior of multiple types of agents. In both models, informal systems emerge as a result of human-human and human-environment interactions between relevant agents and the social and spatial environments within which they are embedded. The purpose of our models named Slumulation (in the case of slums) and OrganSIM (in the case of illicit organ trade networks) is to provide a laboratory to test several policy ideas in a simulated environment to study their impacts ex-ante. This research develops analytical frameworks to examine structural patterns and evolution of slums in cities and organ trafficking networks internationally. (Received September 25, 2018)