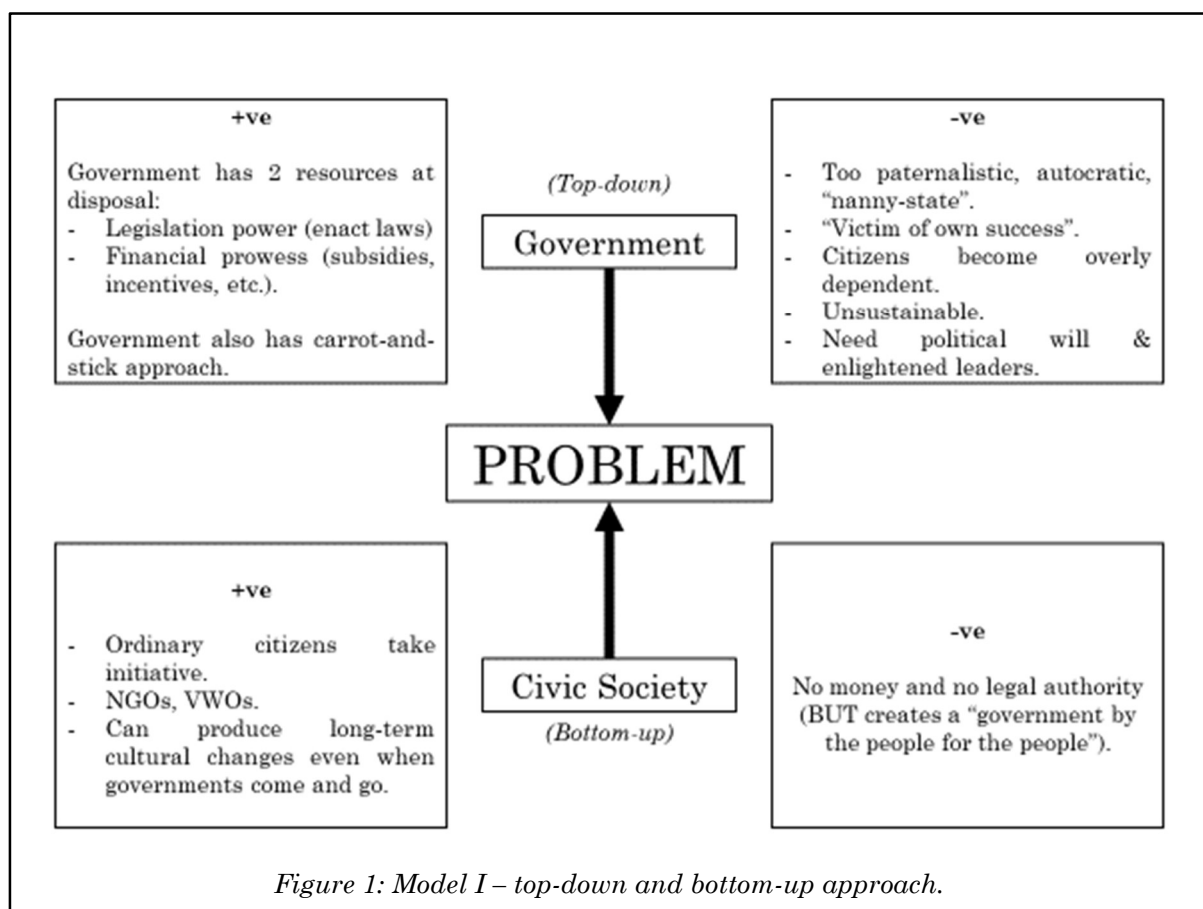


1.2 - MENTAL MODEL

A mental model is a kind of internal symbol or representation of external reality, hypothesized to play a major role in cognition, reasoning and decision-making. Here, mental models are a set of tools used to reason problems.

The first mental model introduced here is called **top-down** and **bottom-up** approach (Figure 1), viewing from the perspective of government and citizens respectively. This explains why and how a society works or does not work to address a problem.



The second mental model is called “3As” – **accessibility, affordability and awareness**. For example, we can consider whether some information is accessible to the citizens, whether a technology is affordable to a country, or whether the citizens are aware of the existence of a problem.

The third mental model is called “3Ds” – **disruptive, destructive and divisive**. This can be used to analyse the negative impact of something to human society. Disruptive works on human. For example, when talking about technology, we can

consider how owners of tech, “GAFAU” (Google, Amazon, Facebook, Apple and Uber) / big data / drones and driverless technology / AI and robots affect the life of workers / the poor / the elderly / the disabled. Destructive works on the planet. For example, we can consider how nuclear technology / fossil fuels and fracking / CFC plastics bring short-term gain and yet long-term unintended consequences to the planet. Divisive works on the society. We can consider whether a technology can cause division of the society (in terms of social class, for example).