Safety Nets Simplified: Simulated Decision-Making in Volatile Developing Economies

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Abstract: Tanzania Social Action Fund (TASAF), the largest social protection agency in East Africa, developed a productive social safety net (PSSN) program aimed at enabling farmers to better manage their most pressing concern – rising drought risk. Faced with the challenge of communicating the complexities of this PSSN, TASAF designed and then tested a simulation game with over fifty rural farmers. This gameplay enabled these farmers to learn about TASAF's systems of conditional cash transfers and how PSSN participation can translate into added benefits for the greater community. In fall 2012 TASAF adopted this game as the sole extension tool for its national rollout targeting 13 million Tanzanians living below the poverty line. This poster outlines how the design of this inhabitable game enables this particular community to engage and understand the PSSN's complex system in order to make informed decisions that will improve their real-world livelihood.

Scientific and technological advancements enable climate scientists today to anticipate climate threats better than ever before. Humanitarian organizations now need to design, implement, and improve decision-making tools that can successfully turn early warnings into early actions (Suarez, 2009). Poor households in developing nations are particularly vulnerable to volatility and shocks caused by natural disasters and climate change, and social protection programs are increasingly seen as important tools to address disaster risk management and climate change adaptation challenges.

The Tanzania Social Action Fund (TASAF), a government organization focused on national poverty reduction and the largest social protection agency in East Africa, developed a productive social safety net (PSSN) program to help impoverished families improve their quality of life, rather than assisting in only reactionary disaster relief. In particular, the program enables farmers to better manage rising drought risk. However, explaining the magnitude of a social development program is not a straightforward task, especially to a layperson. The challenge is amplified when the information receiver has a very limited ability to read, compute, and think critically – such as a Tanzanian subsistence farmer. Yet simulation games are particularly useful in linking abstract concepts in a simplified reality by allowing players to reflect together on their shared experiences (Dorn, 1989).

TASAF management recognized the benefits of using a simulation game as a tool for communicating their new PSSN to rural farmers after playing a prototype funded by its partner the World Bank's Social Protection and Labor practice. This initial game, which simulated TASAF's systems of conditional cash transfers and how PSSN participation at the household level can translates into added benefits for the greater community, had TASAF management walk away with a better understanding of all the variable effects of their own program. As a result, TASAF requested the World Bank to commission the adaptation of this prototype to further correspond to its beneficiaries' priorities. The final game called *Uwezeshaji Kaya Kuhimili Majanga* (UKKM, meaning "enabling households to withstand") captures the core elements and relationships of TASAF's PSSN, including critical external factors like rainfall, and maps them to clear in-game choices and consequences that are familiar to Tanzanian farmers and therefore easy for them to understand.

Mendler de Suarez et al (2012) define an inhabitable game as "playable dynamic models that can meaningfully engage people in experiencing complex systems—to better understand their current or potential role in transforming them—in a way that is both serious and fun". UKKM's design as an inhabitable game makes it an efficient learning tool for improved decision-making and therefore also improved risk management. Specifically UKKM demonstrates the following characteristics, which make such games excellent experiential learning tools to explain climate risk management:

- Compressing time and space that allows for controlled experimentation without the distractions and confounding aspects present in a real-world system.
- Allowing for a comparison between the status quo and an alternative world where a productive social safety net is available.
- Enabling players to understand how their individual decisions impact the system as a whole
- Allowing all players to actively inhabit the dynamic system (no one takes a "back seat" role),

which in turn creates opportunities for peer-to-peer learning and dialogue.

- Empowering players to actively evaluate options and take action (i.e. decision-making).

In July 2012, the TASAF team tested the game in three villages in two districts with 54 farmers. After playing the game, each group of farmers shared lessons learned, including the importance of good planning and decision-making. The game also convinced them that early and regular investment in child education and health will provide a more steady income in the long-term. They also understood the importance of taking precautions to counteract the reality of climate change, like contributing labor to public works projects that mitigate climate risk for the entire local community. For example, when surveyed about how they would apply what they learned from the game in real life, one farmer on behalf of his group succinctly stated that they would: (a) invest in children, (b) keep enough savings, (c) invest in environmental protection, (d) run a productive farm with crop and livestock, (e) make good investment decisions.

In this experiential learning game, the farmers feel more connection and motivation to participate because this inhabitable game provides an immersive virtual environment where all the players are allowed to engage equally and can bring their own outside experiences and assumptions into the game (Bailenson et al, 2008). While the primary objective of the game is for players to understand the benefits of the PSSN, they also come away with an even more fundamental awareness that thoughtful decision-making is still critical to building resiliency. Many of the farmers who played the game expressed an astute understanding of the program's conditional cash transfers for education and health along with a new sense of empowerment from informed, autonomous decision-making.

Climate risk management is not an easy concept to explain to a layperson. However, simulation games inherently possess characteristics that lend themselves well to communicating climate risk and risk mitigation because they allow players to see how their decisions manifest based on unknown external conditions. While there are many considerations that go into its design, this case serves as encouragement to pursue an inhabitable game experience to communicate complex systemic information, specifically climate-related content.

References

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