

Project 3: 3D Mapping Simulation Game Prototype

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We live in the era where problems are getting more complex, dynamic, and hard to predict. These problems with a lot of interconnectedness to other (sub)systems do not typically have quick and simple solutions. These simple solutions are often overlooked to solve much larger problems, typically addressing the problem with best practice approaches. Best practice approaches are indeed efficient for simple and predictable problems that have already occurred in the past. However, the history from past experiences is not always helpful. What often happens during decision making is problem simplification and stuck in the past as there is too much going on, too many people are involved, and hard to get a grip of what is happening. Holding on to the past cannot bring us to the reality, resulting to view and shape the systems according to existing knowledge. Moreover, it limits our way seeing the possibilities and interconnectedness in a system which might be having broader and deeper meaning than it appears (Figure 1). Trying to tackle these wicked problems can be overwhelming. Therefore, the decision makers are unable to capture the root causes leading to unsuitable, ineffective, and unsustainable solutions.

As the future leaders and agent of change, either in a system or working place, we have to sense the new possible pattern in the future. Otto Scharmer invented a concept called Theory U to lead from the emerging future by desensing and disconnecting with our feelings and background knowledge. This prototype is designed to introduce Theory U: 3D mapping concept in the workshop and to develop the leadership with key soft skills in holistic system thinking, embodied system understanding, emerging problem solving, and negotiation through simulation game. The simulation game is a made-up study case where the participants will act upon the given term of references. This workshop is often applied to practice the negotiation skill of stakeholders in conflict resolution, for instance transboundary conflict in watershed. One role can be assigned to 1-2 participants wherein each receive two documents, i.e. general information and confidential document for each assigned role. One important thing to be noted that the facilitator of the workshop should emphasize the key-point to leave behind the background knowledge of participants and act according to the TOR. The participants' biased perspectives from are allowed.

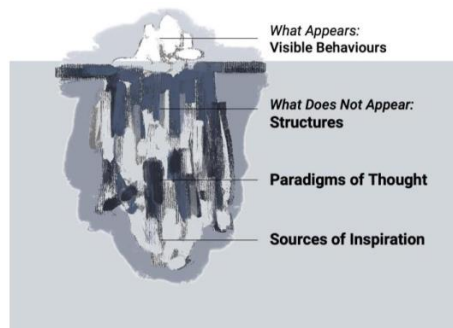


Figure 1. How complex problems are often sensed¹

¹ Presencing Institute. 2022. U Lab 1x: Leading from The Emerging Future.

General Information for All Participants

Theory U Simulation Game: 3D Mapping of Raising Socioenvironmental Conflicts in The Landfill Neighborhood

Babonia is the one of the least developing districts encompassing 500 km² and 800,000 inhabitants in the country of Tasaka. Historically, the district did not have landfill. Therefore, the Babonian people practiced open dumping and open burning, resulting bad air quality in considerably all over the districts and neighboring area as well as contaminating water and soil. With the growing population and many immigrants in the district due to two big industrial activities, the exacerbated contamination was inevitable.

In 2015, the government constructed Batu landfill to tackle the emerging issue of unsafe solid waste practices. The landfill is located Batu Village, the less densely populated village in the district. The closest residential area is 5 km (horizontal measurement). After two operational years, there are three major complaints issued to the government. In the light of pressing issues, the Enviro as a local NGO has called together the key stakeholders to address the following key concerns below and identify the emerging future possibilities for all.

- Bad odor from the transportation and landfill
- Decreased income from local business, especially small food stalls and restaurants
- Decreased nearby water quality



Figure 2. Map of Babonia Districts

The background of Batu Landfill

At the beginning of Batu Landfill construction, majority of Babonian people supported the plan as the increased awareness of potential health risks in the future. The government (regulated by Ministry of Environment) subsidizes the solid waste management at 95% of total cost, while the rest are imposed

to the households. As the mismanaged solid waste treatment has been long embedded in the society with free of cost, imposing a new tariff caused a disapproval from some people. Regardless, the new operating landfill has successfully reduced 70% solid disposing to the environment.

The landfill construction plan had raised some public concern in terms of bad odor. Being one of the poorest areas in the districts, the surrounding residents could not do much to oppose the landfill construction near to their neighborhood. The residents were not fully aware of the following problems occurring after the operational, i.e. traffic and decreased water quality from leachate² generation. Contradictory, The Wanata River is reported to decrease its quality due to the insufficient leachate treatment. The treatment is currently limited to cut down the operational expenses. Since 2017, the residents have been protesting to the landfill authority to tackle the problem. However, the authority has been ignoring the complaints due to the lack of operational expenses. With the help of the local NGO, namely Enviro, the surrounding residents impacted protest to the local government and landfill authority to get the compensation and solve the raised issues.

The background of Batu Village

This village is a home for 1,000 inhabitants with poor economic condition. The village is near to two big factories employing more than half of the villagers. The rest of villagers work as non-permanent workers, e.g. truck drivers, maid, part-timer in small food stall, etc. As the existence of factories, many food stalls are lined up along the road. The discharged wastewater from factories to the river has assumingly met the standards.

Since the Batu Landfill operational, food stall businesses are slowly going down which is assumingly caused by bad odor. On the other hand, some villagers get extra income from illegal recyclable materials collection from the landfill. From Enviro's point of view, this unprotected practice is highly risky for the collectors due to the potential landslide.

Stakeholders:

Ministry of Environment: Tasaka national government body responsible for environmental preservation in Babonia district. This institution was the first to initiate the Batu Landfill project and its operational subsidy. The ministry directly coordinates with Batu Landfill Authority in terms of financing and monitoring.

Batu Landfill Authority: A small governmental body under the Ministry of Environment responsible for operational, maintenance, monitoring, and reporting.

Enviro: An independent local NGO concerning the environmental-related issue who supports the Batu Village to voice their opinion as well as raises the issue of water contamination, legalize the waste collection, and bad odor from transportation. The Enviro was also the first to discover the water contamination in the river.

Head of village: An individual representing the Batu residents and small business owners who has filed complaints to the Batu Landfill Authority, but no further responses were taken.

Simulation game instructions

The simulation game is divided into two sessions. The first session is building self-capacity comprising of the concept of Theory U: 3D mapping tool introduction and followed by the practices of dialogue

² Contaminated liquid that is generated from solid waste or any form of liquid washing out with solid waste.

walk and 3D mapping using their topic of choices (Table 1). These practices are important to develop the participants' skills in listening, openness, and past detachment. Then, the second session is simulation game where the participants are asked to follow some of Theory U tools to analyze the emerging issues and reach into agreement involving the three key concerns (Table 2).

Table 1. Agenda introductory setting of Theory U: 3D Mapping

No.	Agenda	Duration (min)	Aim
1	Theory U: 3D mapping introduction	10	To give a brief introduction of Theory U and 3D mapping concepts
1	Dialogue walk	10	To practice the ability to listen and download the information leaving behind the initial judgement.
2	3D mapping of personal topic	60	To give a personal experience of 3D mapping crucially important for real-case study implementation

Table 2. Agenda setting of the simulation game

No.	Activity	Stakeholder in Charge
1	Key-concerns brief explanation	Enviro
2	Different perspective from all stakeholders	All stakeholders, led by Enviro
3	3D mapping of current systems	All stakeholder
4	Reflection of current systems	All stakeholder, led by Enviro
5	Negotiation: 3D mapping of desired future	All stakeholder, led by Enviro
6	Negotiation: best strategy achieving the desired future	All stakeholder, led by Enviro

Ground Rule for Participants

1. Participants are encouraged to creatively improvise in creating the system by following the basic information in the Term of Reference (TOR), just be consistent.
2. Participants in role-playing should immerse to their given situations and leave behind the background knowledge.
3. Participants agree to make an effort to understand one another's concerns.