

## Introduction

This is a brief report on the 20 days spent in Indonesia and Philippines by Mohini Dutta on behalf of the Red Cross Red Crescent Climate Centre and Parsons - The New School for Design. Primary goals were to introduce games as a means of communication and education to the participating members of Partners for Resilience (PfR) in the region. Secondary goal was to isolate topics of interest to develop into game(s) moving forward with support from CDKN.

A total of 6 sessions were conducted, with a diversity of gameplay scenarios that developed as a result of a varied group of participants. A healthy cross section of participants allowed for a wide range of reactions to be observed, letting the game design consultant observe and account for more subjective cultural behaviours.

The games played were:

### **1. Humans Vs. Mosquitoes (HvM)**

- A simple game that mimics vector growth and its relationship to communities at risk. Played with 6-12 players, but scalable for larger groups. Allows players to role-play as a mosquito, or as part of a community of affected humans where each group is trying to eradicate the other in the face of changing climate factors.

### **2. Price of Prediction (PoP)**

- A game that simulates the decision making process in humanitarian organisations that pre-emptively plan for disaster relief and decisions made during disasters. Allow players to role-play as a humanitarian aid worker planning for disasters for their community while working with limited funds and an ever-changing climate.

### **3. Ready!**

- A game that simulates the process of disaster preparedness in a community about to be affected by a natural calamity. Players role-play as community stakeholders who have a limited amount of time and must protect as much of their assets as possible.

Overall, the reception towards games by the PfR partners was very positive. There was considerable interest in developing a game (or games) designed for the region (Indonesia and Philippines) along with interest in learning more about game-making on the whole. This interest in using game systems for generating deep learning and meaningful interactions bodes well for the longer-term goals of the CDKN project, as it means some initial ideological obstacles have been cleared already.

The three suggested recommendations from this experience are as follows

- a. A quick translation of the rules for the current games (most immediate response)
- b. A game design workshop (intermediate response)
- c. Topics for a flagship CDKN game (long-term response)

## Session Overview

### ▪ Overview

The teams in both Indonesia and the Philippines were very receptive to trying the games in the sessions conducted. They shared a wealth of feedback about the games and their utility in their work, and we had very rich discussions about the possible pit-falls and ways to mitigate the same. A very rich set of sessions overall.

### ▪ Facilitation Experience

Each session had different combinations of players, but ended on a positive note; the players had a lot of fun playing the games, and also learnt a lot about each system after experiencing them through the game. There were many surprising observations that arose from these tests.

Primarily, the value was in observing the interaction between the players and the system, noting the minutiae of emotional reactions towards the different gradients in the play experience. Since game sessions are constructed emotional experiences, with introduction, lift and peak stages built to both embed the narrative of the roles players take up more deeply, and to create emotional empathy in the players by taking them through a range of emotions of the character they are playing.

In Indonesia, given the language barriers between players and the facilitator, explaining rules was particularly difficult; not only was the idea of learning through play a novel experience, the system was alien too.

In the Philippines, there was no language barrier. However, since the teams in the Philippines had experienced game sessions before, they had more rigid expectations from the game experience. They had less patience with rules explanation, had more assumptions about strategy; as a result they faced some of the same ideological issues that were noticed in Indonesia.

As a result, there was some experimentation with facilitation strategy that occurred, which will be very valuable in constructing (facilitation) guidelines and rule sets at a later point. There were 3 methods of facilitation that were used to gauge player reactions:

- a. The first used exhaustive power-point presentations as a visual aid to explain the nuances of the game rules, and introduce the game to the players before any play or game like activities were introduced.
- b. The second was more conversational with a question-answer style introduction to both the game and the rules to play it by, and then beginning the play.
- c. The third did away with the exhaustive introduction, paring it down to a few words of introduction about the game concept, and the most fundamental rules required to play the game. The power-point was used to clarify points, and not as the centre point of the introduction.

In this scenario, the **third method (c)** was most useful. By keeping the introduction and rules explanation to a bare minimum, we trade an initial understanding of the system for keeping up the momentum and interests of the group. Making the players play the game once without

giving them a lot of information allows the players to "get their hands dirty" by interacting with the system first and asking questions later. This is very good from a systems learning point of view, as the players familiarise with the system as they learn the rules. Making mistakes is one of the cornerstones of tacit learning, as a lack of familiarity with the rules allows for ludic exploration (spontaneous, free and playful) that eventually allows players to learn the nuances of the system without actually going through the cumbersome process of rules reading and learning. Also, the less information given out (spoken or visually), the less scope for confusion, misunderstanding and losing interest; by allowing players to experiment and try what they will, we liberate them from the need to make informed decisions, and encourage a more ludic experience. As a result, the first time a game is played, very few players know what they are doing. But after going through the whole game, seeing a win condition and a loose condition in action, and most importantly, seeing the results of their own decisions play out, allows the players to understand the game system better, understand the rules better, and adapt their play to see how different strategies have different effects. This reinforces both the dynamic nature of game systems, and the dynamic nature of the real-world systems game mimic. The great advantage of games over conventional learning sessions is the ability to experiment with a dense system; by putting theories/strategies in use, players can see the effects of conjunction on a responsive system.

- **Player Reactions**

## **INDONESIA**

The participants in Indonesia were interested in more fun ways to interface with their communities and stake-holders, while conducting educational sessions in an unconventional way. Their expectations were more exploratory as this way of teaching/learning is not very common for them. This was an advantage while facilitating the sessions as the players did not have very deeply set pre-conceived notions about what to expect, allowing them to be blank slates, and very good play-testers. Some of the players had played games at Red Cross Red Crescent Climate Centre (RCCC) events in the past, and used that experience to compare and contrast the different games played. The participants were very interested in exploring the use of games to interface with their government, and impact policy making. The groups were very open to playing and learning from games and also shared various topics that personally affected their communities.

At one memorable play test in Maumere, one group realised it had made some bad investments in PoP and had to leave the game (as penalty); this after having just lost the previous game. I expected them to be very angry and frustrated with the game system, but instead, they told me how their consecutive losses had ended up reinforcing the learning-goal of the game (balancing budgeting for disasters with budgeting for forecast information). By trying similar strategies, but paying more attention the second time they realised the flaw in their investment strategy, and saw the utility of prediction information in a realistic light, having a moment of deep learning. This is a striking example of the value of tacit learning, wherein, a negative experience (such as losing) can lead to a positive outcome for the participants. As a matter of fact, the participants who learnt the most were the ones who lost, because they analysed their actions with a lot of scrutiny, to understand what went wrong, thereby understanding the system in the process, and having a deeper connection to both the game and it's learning goal. This is a very positive scenario, as (usually) games have a minority of winners and a majority of players who do not win; so for players to still be able to empathise with, and learn from a system that did not reward their participation (by not winning the game) bodes very

well for the learning and teaching potential of games.

## **PHILIPPINES**

In the Philippines, the participants had experienced a few serious games that had been played at sessions before, and had already had an introduction to games as learning systems. This was a double-edged sword; a disadvantage sometimes as the participants were less willing to experiment with strategy at times, expecting each game to be similar to the ones they had played before and then advantageous as they were able to grasp the nuances of game-narrative much better.

This required adapting the facilitation to encourage players with game play early on, and spend less time discussing the details of the game structure by spending too much time with rules etc. Once the participants began to play the games in earnest, they enjoyed it immensely; with genuine competition and player intent coming out. As a result, the end-of-session discussions were very rich, with players commenting on the utility of the existing games and suggesting a wealth of topics that could be used while considering a future CDKN game project. At one session the participants tested a game under construction and had very illuminating feedback about what could be altered to improve it.

At the session in Manila, one participant who won one game of PoP, shared that she had calculated the odds and had decided to take on a reckless strategy, forgoing investing in forecasts and instead paying for advance aid more often to pad the same. Whereas this strategy worked for her once, the second time she played, she did not win. On being asked why, she noted that the weather fluctuates and that she might have had better luck the previous turn, and her strategy fell apart over 1 turn where she decided to take a risk and payed a high price for it. She concluded that forecast information was an advantage, although the cost was high (players get 10 beans and must invest a part of this in forecast information, this can vary from 1 bean to 6). This is a textbook session scenario where a player can experience the entire emotional gradient of the game and makes a conclusion based on the varieties of strategies they employed and the results of each.

Whereas the session in Manila had a favourable outcome from success and failure, the session in Palawan had a team of very quiet players who did not interact or discuss much, who won by playing the game incorrectly. These players forgot to participate in paying for certain actions in the game, and as a result ended up with more beans than any of the other players. In large groups, after the initial rounds, it is very hard to monitor the specific motions of each participant, and such errors can occur. The negative impact is that the team seems to have won by not doing anything; neither taking risks nor taking a safe approach of caution. However, this was mitigated by constant team switching throughout the session, so two players rarely played together, forcing players to rely less on static strategy.

### **• Planner Reactions and suggestions**

Planners had a positive reaction to the sessions. As not all planners could participate in the play sessions, they were updated about the activities in the sessions via video and notes taken by participants at a meeting on the last day of the sessions (first meeting in Maumere and the second in Manila). Games are currently used in team-building activities and other group exercises in this region. Seeing games of a similar scope used to educate a group about a

system was very gratifying for them.

Suggested topics based on feasibility, for a CDKN game from above list:

- i. **Solid waste management**
- ii. **Vulnerability Capacity Assessment (VCA)**
- iii. **Related eco-system effects**

The main suggestions received are in the following categories:

1. Topical suggestions for new games

- a. **Industrial pollution (*suggested in Indonesia and Philippines*)**
  - o Effects of industrial development, specifically the effects of industrial waste on the ecosystem it inhabits, with a focus on the effects to existing industry (such as tourism, fishing, and farming).
- b. **Adaptation-Mitigation (*suggested in Indonesia*)**
  - o A game to show the relationship between adaptation and mitigation. (My team and I have already made a similar game for the Nordic Council, and this can be easily adapted for Indonesia.)\*
- c. **Related eco-system effects (*suggested in Indonesia*)**
  - o The relationship between applying conservation strategy to specific ecosystems and how this affects other ecosystems in the region (ex: Effects of strategy for coastal systems on hilly regions etc). As a way to bring different environmental strategists and activists to consider myopic strategies as part of a larger system.
- d. **Solid waste management (*suggested in Indonesia and Philippines*)**
  - o The management and disposal of solid waste in both rural and urban settings.
- e. **Reduce dependency on rain-fed crops (*suggested in Indonesia*)**
  - o Given the strong effects of a changing climate on this region, disparity in rainfall can make the difference between drought and adequate yield from the fields. Encouraging growth of crops that do not depend on rain can reduce vulnerability.
- f. **Advantages of Disaster Risk Reduction (DRR) at a community level (*suggested in Indonesia*)**
  - o Showing the different forms of, and the various effects of these DRR strategies at a community level for the stakeholders, and policy makers (to support such initiatives at a government level).
- g. **Illegal Logging/Fishing (*suggested in Philippines*)**
  - o The effects of irresponsible consumption of natural resources through illegal fishing and logging to discourage communities.
- h. **Natural Disaster (*suggested in Philippines*)**
  - o Suit of mini games showing the effects of and DRR for natural disasters.
- i. **Livelihood Vs. Mitigation (*suggested in Philippines*)**
  - o Showing the difference in livelihood over a long time period to communities at risk from climate disasters. The comparison between showing the effects of mitigation for disaster preparedness as opposed to the short-term effects on livelihood by this investment of time and resources.
- j. **PfR framework (*suggested in Philippines*)**
  - o A game to explain the relationship between the different aspects of the PfR framework. Showing how Climate Risk Assessment affects Ecosystem Management leading to Disaster Risk Reduction
- k. **VCA (*suggested in Philippines*)**
  - o A game to make Vulnerability Capacity Assessment more interactive and

engaging for communities

**I. Policy impact (*suggested in Indonesia*)**

- A game to empathise government officials towards the state of and the effects of policy on their constituents.

**2. Utilising existing frameworks to compliment game-interventions**

**Using local folk games as inspiration (*suggested in Indonesia*)**

- Local games played in the communities by children (and adults in when they were children) can reduce the confusions that arise when introducing a new systemic activity. By using familiar elements from existing folk-games (such as the using hide and seek as a mechanic in game, for a community where physical games involving running are very common) allows for the use of comparable games to explain the game activity to the community members. *An example of this is Rock-Paper-Scissors, which is a common game in the US, to explain the basic idea of HvM to participants in the west; however, in Asia/Africa, this fails as this isn't a very well know game.*

**Working with children, women and older community members (*suggested in Indonesia and revisited in the Philippines*)**

- Children and older community members have more free time and can be harnessed to participate in game activities. Both these participants can be used to teach their families what they learn. This empowers older members, who are largely absent from the community activities (apart from positions of respect).
- Women; who do not always have as much time, can be encouraged to take some time off from their work and chores to participate in an activity tailored for them, to encourage empowerment through women-specific activities.

**Using games to interface with and create empathy in government officials and policy makers at community events (*suggested in Indonesia*)**

- Indonesia has a very rigidly hierarchal political structure, where a very formal relationship exists between the government officials and their constituency. The only time the officials meet with the communities is when they come to a village for a formal occasion, and give a speech. District level officials also attend community events planned by PfR members and the Red cross. However, by including government officials in an activity chaperoned by these humanitarian organisations; either in an observational position, or as part of the game, we allow for a more informal environment for communication, and an opportunity to create empathy in the policy makers by allowing them to interact both with game systems about their constituents, and also interact with them personally.

**Using game sessions as opportunities to connect academics, government officials and humanitarian staff (*suggested in Indonesia*)**

- Since game sessions can double up as social occasions, a game session can be useful in bringing together government officials, academics and researchers along with humanitarian staff workers to have open dialogue and discussion about relevant policy matters.

**Using games to reinforce existing projects**

- This was a recurring theme throughout the sessions, with participants thinking of games as a way to reinforce the messages in existing projects.

▪ **Issues highlighted**

The players were a mix of community facilitators and planners, which allowed for a rich cross section of opinions during the discussion sessions. The facilitators looked at the games as tools for communication with their communities, and pointed out possible uses for, and concerns about using the games with their respective communities. Social behaviours vary between different cultures, and perception plays a very big role in the use and utility of game-systems. The structural factors they foresaw as being of the most concern were:

- **Use of dice in conservative communities**

The use of many dice, and dice rolling as a primary mechanic in a game (such as Ready!) caused some concern in the groups in Indonesia. In Muslim communities where gambling is frowned upon, the participants feared that the community stakeholders would be hesitant to play a game that used a lot of dice.

- **Bidding/betting as a for profit action**

The reaction to using a bidding system in a game (like in PoP) caused some of the participants to feel like bidding was an overtly capitalist activity, feared that it might send out a negative message to the participants about the goal of the activity they were participating in.

- **Playfulness too casual**

After playing HvM, the participants were concerned that the fun and playfulness of the game might take away from the serious message of the game. They were interested in injecting more formal learning moments in the game activity.

Simply clarifying and introducing the problematic element very clearly can mitigate a lot of these concerns. By putting it in context of the greater system it is possible to clarify the role of dice, cards or bidding as being a tool, and not as a gateway medium for gambling.

### **Recommended suggestions moving forward**

Next Steps:

#### **1. Translation and rules [Immediate]**

- Quick translation of rules and facilitation guidelines to be sent to partners as soon as possible. The prime goal of this is to maintain momentum generated by the current intervention.
- This would include a rules set and a brief facilitation guide for volunteers to use while hosting games in their communities.

#### **1. Workshop [Intermediate]**

- Given that there were a large amount of game topics suggested by the groups in both Indonesia and the Philippines, it is doubtful that there will be resources to address most of them.
- Also, a majority of these topics are very specifically tied to local concerns of the community volunteers and facilitators. Making them less useful as a global CDKN representative game.
- However, many of these topics can benefit from, and be addressed by games. Many topics can be addressed loosely by utilising simple existing game mechanics; either from local games from the region, or from simple games currently existing (*a good example of this is Snakes and Ladders, which has been, and can be re-designed to tell various*

- narratives)*
- One way to address these smaller game topics is through a workshop. This has the dual advantage of acting as a crash-course in games and understanding game based learning (through the act of making) with interested participants, as well as providing them with tools to design simple games in the field themselves. This reduces both dependency on external game designers for quick-and-dirty game design, and allows the games to evolve and adapt to new circumstances long after CDKN's association has ended.

There are three possible variations to the workshop:

a) **One day session**

- Participants are introduced to the basic idea of game design using a set of exercises in ideation and simple game design.
- This will primarily involve re-skinning (changing the narrative of) existing games that they may be familiar with, with the intention of allowing them to leave with a simple game-like system that they can use in their work.
- The participants come to the workshop with a topic or theme they want to develop (into a game), be placed into groups with similar ideas and work at helping each other's project.
- The final output for this can either be simple individual games or group game projects that will be constructed with help from the workshop facilitators and game designers. These will be recycled versions of existing games.

b) **Two day session**

- Groups of 3-4 participants would come to the workshop with a common game idea and 1 local game that they can share with the rest of the group.
- On the first day, the participants will participate in a set of ideation activities and game design exercises that will help clarify their ideas in game design terms. They will be introduced to basic game mechanics and ways to think of the subject matter with the intention of producing a game (simplify the topic, identify strong systemic elements, isolate a core mechanic). They will be asked to make a simple game prototype of their idea for the next day (this is to show the interaction or game mechanic, not necessarily be a fleshed out playable game).
- The next day, each group will present what they created (failure to make something that works is OK, as this is an exercise to see how they use game systems to tell their stories), discuss with the rest of the groups and the game designers what they think went wrong and then work on finessing their game into something playable by the end of the day.
- The final output can range from game like activities to playable games. Teams whose games have high potential could work with game designers to finesse their games if there is interest in them.

c) **One day session of sharing and training**

- Sharing of local games and discussion of local game culture.
- Playing some of the existing games with special focus in training and facilitation guidelines.
- Introduction to "What are games" with an exercise in game re-skinning and game adaptation. Using existing games as a template will allow for quick game design experimentation in a familiar system.
- Discussing player experiences and lessons learned to identify strong takeaways. The

focus here is on encouraging a familiarity to games more than specific game output.

### **1. CDKN flagship game(s) [Long-term]**

- Researching a specific topic agreed to be most relevant to the goals of CDKN with relevant subject matter experts to best understand the topic and isolate the most useful systems for a game intervention, within it.
- Trying to find a topic that addresses local issues, but can be used globally in other CDKN projects would be a bonus.
- Working with local volunteers and facilitators to understand the target audience better, and tailor the game to be culturally sensitive to the region(s).
- Designing and testing the game as often as possible with the target group, and adapting the game to the feedback received.
- Ending with a game or game system that addresses the issue selected, backed with video/image documentation and response data collected from testing the game with focus groups that are monitored for data collection (using surveys and questionnaires) to support findings.

## **Observations and Conclusions**

### **Current observational metrics used**

Currently, data was gathered using written questionnaires and video recording of discussions and game sessions. The advantage to this is that participants have the freedom to express their opinion on their own terms. The disadvantage is that language is often a barrier, resulting in answers in a native language or in limited English. Another disadvantage of using written questionnaires that go back to a facilitator is that participants feel too polite to be really critical, leading to stilted responses.

An alternative to this is to make the questionnaires completely anonymous, having them deposited in a box or envelope at the end of the session, allowing for more anonymity. Using a multiple-choice system instead of blanks for participants to fill might mitigate the language barrier, or a translator can be used for a bi-lingual questionnaire. Another backup is to have a dedicated videographer who records conversations between participants, and casual discussions, where participants can feel more comfortable talking about the games and the session.

### **Local collaborator and translator**

Having a familiar staff member working with the facilitator helps with putting the participants at ease and creating a more relaxed environment. They feel more confident asking question and sharing comments with someone they are familiar with, especially in situations where a translator is required (as was the case in Kupang and Maumere).

A simultaneous translator was very useful in the Kupang session, as he reduced instruction time and discussion time by translating as the participants were speaking, reducing the translational time lag.

### **Advantages of game designer in field**

As a game designer, it was invaluable to be able to study the reactions of local participants to games systems. By being in the same geographical region as the target group, I was able to adapt the game to their suggestions, and play it with them to get immediate feedback

about what works and does not. Cultural sensitivity plays a strong role in game design, as the perception of a game changes the way a participant interacts with it, often changing its impact if not handled appropriately.

While in Kenya, for another CDKN engagement, a District Health Officer (DHO) shared his frustration at being unable to overcome the reluctance of local malaria affected patients to seek professional medical aid. There were many reasons for this, including reliance on folk medicine, quacks, and lack to faith in medicine amongst others, and I saw an opportunity to address this with adding a "Go to Hospital" option in HvM. Since I had a community I could test with, I was able to test this new addition immediately, and noticed a positive change in the game that squarely addressed the DHO's concerns.

There is also a tendency of third party volunteers being less receptive to player criticism and less sensitive to player behaviour, when play-tests are done remotely, without the game designer's involvement. Even the reaction in Indonesia to dice and bidding would have been lost, if not misrepresented, unless witnessed. The main reason for this is that these elements of the game are not "wrong" or break the game, but instead prompt a less positive reaction from the players, which can often be ignored or disregarded as "not being important". Many subtle nuances are lost in translation, which provide invaluable data on human interaction reactions, which can help the designers sculpt a more culturally finessed game.

### **Local ownership resulting out of co-creation processes**

By involving the local staff in the game design process, we can foster a stronger sense of ownership over the project by the local staff, and encourage longevity to the project motivated by them. This can make the local staff more involved with playing, and adapting the game, to keep it alive longer.

### **Adaptable and dynamic project management**

With the help of interested staff members, we can aim to prolong the life span of the game, aiming for a more folk-game like impact, where the game begins to spread virally, from player to new players, removing the need for the local staff to be the sole facilitators. Also, by knowing how to adapt the game to local issues and the changing climate, the local staff has a dynamic and adaptable system that they can change (in some cases) with the changing concerns of their stakeholders.

---

On the whole, this was a very rewarding experience, where I learned as much from the participants as I hope they learned from me. Since games are such dynamic systems, it was very gratifying to be able to make changes, see their effects and alter them accordingly in real-time. This maintained the momentum and cohesion in the changes to the system, and allowed for comparisons between versions to select the best ones.

I hope that I can continue the work started on this project, and interact more with the PfR partners in Indonesia and Philippines. The positive reaction to games, and the enthusiasm to begin playing games was very encouraging, and makes me think that this region might be a very good location for a games intervention.