

Serious Games with Serious Players: Game Play with International Decision-makers

E.D. McGrady, Catherine M. Trentacoste

October 2014





This document represents the best opinion of CNA at the time of issue.

Distribution

Distribution is Unlimited. Specific authority contracting number: 13-00614.

Photography Credit: E.D. McGrady.

Approved by:

October 2014

A handwritten signature in blue ink, appearing to read 'Paul E. Faeth'. The signature is stylized and somewhat abstract, with a prominent horizontal stroke at the top.

Paul E. Faeth, Director
Energy Water and Climate
Institute for Public Research

Abstract

In 2013 the Skoll Global Threats Fund asked CNA Corporation to design and develop a game exploring information-sharing, conflict, and cooperation on the Indian subcontinent. The goal of the game was twofold: to understand information-sharing, its impediments and effects on water sharing and decision-making, as well as understand how gaming could be a tool for social change. The game was executed in two instances, one in the Washington, DC area with U.S. subject matter experts, and the other in Kuala Lumpur, Malaysia with senior leaders from each of the countries involved. This gives us a unique opportunity to explore how games compare across cultures, as well as how well this game allowed senior leaders to address controversial issues. We find that the cross-cultural effects occurred mostly in how particular countries implemented their policies, but that strategic issues and attitudes remained similar across the two instances of the game. From player feedback as well as game observations we conclude that games with senior officials from countries who have a history of tension between them are possible, and may provide a more engaging way for them to discuss controversial issues than a traditional meeting format.

This page intentionally left blank.

Executive Summary

A longstanding controversy in the world of professional or serious games¹ is whether players can effectively “simulate” players from other cultures or experiences. This is distinguished from the inevitable differences that will occur between different players and how they make decisions, even from how the same player will make different decisions from day to day. The research on cross-cultural effects in game play is something that is currently a topic of study in the social science literature, with the idea that “WEIRD” (Western Educated Industrialized Rich Democratic) subjects or players do not effectively represent non-WEIRD groups.

In 2013 the Skoll Global Threats Fund asked CNA Corporation to design and develop a game exploring information-sharing, conflict, and cooperation on the Indian subcontinent. The goal of the game was twofold: to understand information-sharing, its impediments and effects on water management between Bangladesh, China, India, and Pakistan, as well as understand how gaming could be a tool for decision-making. The game was executed in two instances, one in the Washington, DC area (referred to as the “D.C. instance”) with U.S. subject matter experts, and the other in Kuala Lumpur, Malaysia (referred to as the “regional instance”) with senior leaders from each of the countries involved. This gives us a unique opportunity to explore how games compare across cultures, as well as how well this game allowed senior leaders to address controversial issues.

Any comparison between instances of the game will naturally be heuristic and qualitative. Comparisons will also be clouded by differences between players, and the dynamics of player decision-making. However in this case we have two nearly identical repetitions of a game on a challenging topic, one with WEIRD players and the other with senior decision-makers from the countries being considered. As games themselves tend to produce qualitative results, we can at least use these instances to explore and caveat any results with player behavior.

¹ Serious games are defined as: “games that do not have entertainment, enjoyment or fun as their primary purpose [1].” The term refers to a variety of games but here it is used along with “professional game” to designate a game with a serious purpose that better defines or explores public policy [2].

We divide the results of our observations into differences in play and differences in outcome.

Differences in play

Players in both instances of the game were engaged and participated effectively as evidenced by participation levels and acceptance of game mechanics. One concern was whether the senior level players for the regional instance of the game would participate transparently, or would act out the role they thought they should play. Based on game observations all players participated realistically and honestly without any outside concerns dominating game play.

We did identify that in the D.C. instance of the game players began to participate perhaps too enthusiastically, with the risk of fanciful or fictional behaviors being included in the game. For example, players dressing for their roles reflected a great degree of enthusiasm for the game, but at the same time such enthusiasm may allow for actions that might not be realistic for actual decision-makers in the region. This is an important consideration for the game controller: too much success engaging the players may be as risky for a game environment as too little participation or engagement.

Differences in outcome

We saw two significant differences between the games:

- In the D.C. instance the India players engaged in a cyber-attack on Chinese water infrastructure. This was designed to be covert, with the India players desiring to obtain accurate information about Chinese water flows. We suggest that this attack may have been a product of both fanciful players in the D.C. instance, as well as cultural bias from both the players as well as the game controller.
- Terrorism in the regional instance produced significant conflict and challenges for the players, even threatening to spill over into the real world. The game controller in this instance had to react and change game flow in order to downplay the situation. Our observations suggest this arose from all parties in the regional instance having lived through terrorist threats, and a high level of distrust on the issue between countries.

At the same time there was considerable agreement between the games on the strategic issues of how to treat water flows between countries. India players

consistently sought bilateral negotiations while Bangladesh players pushed for multilateral talks. This reflects both India's central power position as well as Bangladesh's role as a lower riparian. Pakistan players kept their distance in both games from outside influences, choosing to focus on water infrastructure and its own economy. Internal political considerations dominated for India and Bangladesh teams while the China team saw water in the region as just another tool in foreign policy negotiations.

We suggest that, in these two instances, the primary differences were at the "tactical" level while the larger driving forces for action and reaction between countries remained the same. This suggests that different players, or players from different cultures, may make decisions because the strategic drivers are similar, but the details of how they implement those decisions will vary by culture and player.

Other results

We also saw the game reinforce the idea that "the game controller is a player" and in any analyses of game results the culture and decisions of game control should be accounted for in determining whether the results are culturally biased [3]. In the D.C. instance, game play between a player from the U.S. Department of Defense and the game controller was conspicuous in its focus on technology and military issues, which did not occur in the regional instance of the game.

Player feedback and game observations also suggested that the free-form game format that was used here is an alternative way to conduct interactions between countries trying to resolve conflict and issues. Players agreed that the game format was more engaging and stimulating than a typical meeting format. Game controller observations suggested that players were able to present realistic sets of policy and diplomatic ideas to other countries players, with the "cover" that it was "only a game." Such formats could allow a more free-flowing dialog and provide a structured environment for resolving conflicts.

This page intentionally left blank.

Contents

Introduction	1
Game design.....	3
Game players.....	6
Paper overview.....	7
Cross-Cultural Play	8
Can we compare the two instances of the game?	8
Was there a difference in play?	10
Player engagement.....	10
Player interaction	11
Player cooperation	12
Was there a difference in game outcomes?	12
U.S.-India relations and cyber operations	13
Terrorism.....	14
What was similar?	15
What can we conclude?	16
Player Participation	19
What did the players think?.....	19
Was the game effective?.....	20
Should we run the game again?	21
Conclusions	22
References	24

This page intentionally left blank.

Introduction

The role that culture plays in determining game outcomes is a subject of some debate and interest within the professional gaming community. How do the life, cultural, and professional experiences players bring to a professional, or serious, game affect play? Is our tendency to translate western styles of gaming to other cultures and venues appropriate, or should modifications be made to the games in order to account for different ways of making decisions and interacting?

In this paper we discuss two instances of one game where the primary difference was in the cultural makeup of the players. While our story is anecdotal, and only covers one game in two situations, the comparison may shed some light on cross-cultural gaming issues.

In 2013, the Skoll Global Threats Fund (SGTF) asked CNA Corporation (CNA) to design, develop, and execute two instances of a game exploring the issues surrounding information-sharing on cross-border flows and water infrastructure as well as cross-border water flows on the Indian subcontinent. Specifically the SGTF was interested in rivers that flow through Bangladesh, China (mainly the Southern Tibetan region), India, and Pakistan. Figure 1 shows the primary rivers and geographical relationships discussed in this paper. The goal for the events was to bring together key Track 2² decision-makers from the countries involved to discuss regional water issues.

² Track 2 diplomacy is unofficial dialogue and problem-solving activities aimed at building relationships and encouraging new thinking that can inform official processes. Track 2 activities usually involve non-governmental organization leaders, influential academic leaders, and other civil society actors who can interact more freely than high-ranking officials [4].

Figure 1. Map of region^a



^a. Note that China refers to the Brahmaputra River as Yarlung Zangbo.

The first instance of the game was played by U.S. subject matter experts simulating leaders from the countries involved. The second instance was played by former military and political leaders from the countries involved. The two instances of the

game gave us an opportunity to examine several issues of interest to those who execute serious games on international leadership topics. These include:

- What differences did we see between U.S. subject matter experts simulating country leaders and actual country leaders playing the game?
- How do senior officials from other cultures and countries react to being asked to play in a game setting where conflicts with real-world adversaries will be simulated?

Although the example we discuss here is only one sample of such an activity, it provides one of the best opportunities to examine these questions.

Game design

We designed the game as a large-scale role-playing game. Country teams were composed of a Prime Minister (representing the party in power) and an opposition leader from a region within each South Asian country, along with a Military Leader (who doubled as a Foreign Minister when required) and a Minister of Water. Over the course of two days the players moved through 5 years of game time in 5 game turns.

The first instance of game play was held in the Washington, D.C. area in January 2014 at CNA headquarters. Participants included about 20 U.S.-based subject matter experts who were assigned to a country team based on their expertise. The D.C. instance allowed us to see how U.S. players would react to the issues. Players representing Bangladesh, China, India, and Pakistan dealt with issues of water management during a period of prolonged drought, followed by flooding. Based on the results of the D.C. instance, we updated some game mechanics³ before playing the second instance, which was held in Kuala Lumpur, Malaysia in June 2014 and included 16 participants. The country teams were composed of retired senior ambassadors, military generals, and water experts from each of the respective countries.

The game's scenario lasted five years, beginning in 2015 and ending in 2019, with each turn representing one year. During each turn, participants were tasked with running their country and their water systems. This included establishing the goals the Prime Minister wanted to pursue, as well as the country's national goals and

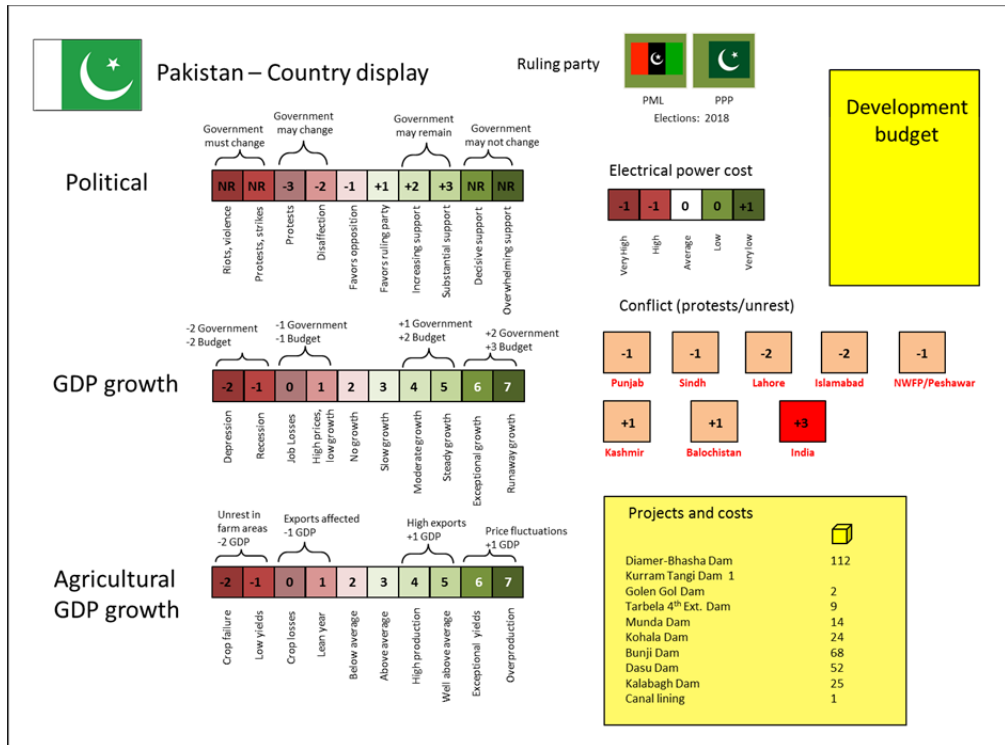
³ The main difference in game design between the two instances was the water management component. In the D.C. instance players were given pre-printed sheets with water flows levels. In order to allow for more dynamic play, a dynamic water flow map was created for each country in the regional instance of the game (see Figure 3).

objectives. Players also controlled water flows at critical points in the system, such as the Farakka Barrage in India,⁴ along with the amount of water diverted to regional irrigation. In addition, players had to decide the key initiatives they wanted to push, including dam and irrigation initiatives, and how they were going to fund these initiatives and objectives.

Players were given game boards (see Figure 2), which were visual displays that portrayed information about their political support; national security and foreign policy issues; and economic and agricultural status. Players from either political party could call for elections if that were possible in the real world; otherwise, elections occurred during the normal election cycles of the respective countries. Elections were won or lost based on a die roll, modified by the current political state of the country and the economy. Players could do anything in the game that the roles they were playing could in the real world, though most of these real-world activities were abstracted and condensed to allow for game play.

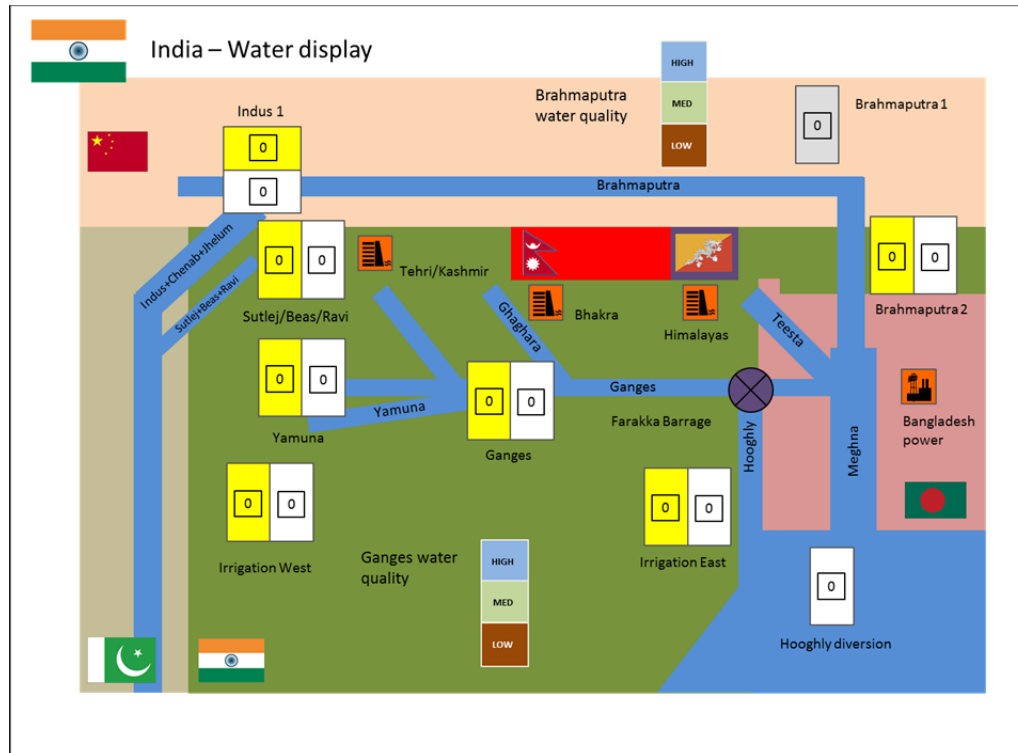
⁴ The Farakka Barrage (shown on the map in Figure 1) is the primary diversion of the Ganges River prior to its entering Bangladesh. The Barrage diverts water into the Hooghly River in order to prevent flooding, and provide water to the Calcutta region.

Figure 2. Sample game board



These game boards were accompanied by water maps (see Figure 3), which showed the water levels in the current year (white spaces) and projected levels for the following year (yellow spaces). Both displays were updated each turn. Over the course of the five years (in game time), there were three years of intense drought, followed by two years of flooding. The drought played havoc with the agricultural sectors of the countries' economies, and the flooding had the potential to create a slow onset disaster requiring national or international response.

Figure 3. Sample water map



A plenary discussion was held at the end of each turn, during which members of each country team (typically the Prime Minister player and opposition party players) were required to make statements regarding their public positions and provide any information that other country teams might want to know about their internal actions. Players could share as much or as little information as they wanted, and they could lie about their position on certain issues, if they wished. The majority of the country teams employed this tactic in both instances of the game.

Throughout, the game controller injected pre-planned events, such as terrorism, political scandals, and disease outbreaks to which the players had to respond. These pre-planned events were presented to players as a handout containing news events that would be occurring during each year (or turn) of the game.

Game players

Players for the D.C. instance of the game included representatives from academia, the U.S. Department of State, think tanks, and current and retired military officers.

The role of the Bangladesh Military and Foreign Office was played by a former General in the Bangladeshi army. He was the only foreign national in the D.C. instance of the game. The U.S. players ranged from several former Ambassadors to a U.S. Air Force Lieutenant Colonel (reserve). The Lt. Col. played a significant role as the Military and Foreign Office for India and affected game play, as described in the section on game outcomes.

In the regional instance of the game, all of the players were from Asia, ranging from a former Senior Government Official of Pakistan to retired Generals and former Ambassadors for the other countries.

China was seen as a unique player in the game because the Himalayan region has a peripheral role in Chinese politics and economics. In the D.C. instance of the game, China was played by a committee of academic experts. In the regional instance, the China team was run by a committee of two individuals from China.⁵ One represented the political/military component in Southern Tibet, and the other filled the role of the water expert in the region. Political and economic effects were not used for China which therefore only had a water map.

Paper overview

This paper discusses how the two instances of our game engaged players in water-related discussions. Our goal is to describe the similarities and differences between U.S. and regional players, and to discuss how the regional players reacted to participating in a free-form role-playing game.

We begin by describing how similarities and differences between the player groups can identify the similarities and differences that we saw between the way cultures approach play. We then discuss our views about the effect that culture had on player participation in the game. Finally we present player feedback from the game and what it implies for future international gaming efforts on water.

For in-depth analysis on the strategic observations and insights from the two instances of game play, along with a brief summary of actions taken in the regional instance, see both the interim and final report of *Bone Dry and Flooding Soon: A Regional Water Management Game* [5-6].

⁵ In both instances of the game, China was run by a committee of players and did not have the same simulated economic or political outcomes. This was because the Brahmaputra River system is a small part of the entire Chinese economy and political system. Thus the China players, unlike other players, did not have displays for their political or economic situation.

Cross-Cultural Play

Different cultures have different decision-making processes as well as different modes of play. A question in serious games is how applicable the results from one set of players are across cultures or even different groups of players from the same culture. The two instances of this game represent a paired set of games on the same subject where the players have similar expertise but come from different cultures.

There has been considerable work in examining differences in decision-making and conflict resolution [7-8]. In the past there has been little research on how different populations engage in and make decisions through games, though this is an area of increasing study. Recently games and game-like techniques have been used to examine some of these cross-cultural and gender differences [9-10]. Studies of play and games have tended to focus on cultural differences in children's play [11-12] and anthropological comparisons of historical and traditional games [13-14].

In psychology research there is also the well-described problem of research on only WEIRD populations, which may skew results when trying to apply them to other societies. Research suggests that WEIRD populations are different in many ways, including moral reasoning, reasoning styles, motivations, and categorization [15].

Here we examine how the two instances of the game differ, and what that might say about cross-cultural gaming. We will describe our results through a series of questions related to the game.

Can we compare the two instances of the game?

While no two instances of any serious game will be identical, there were significant similarities in mechanics and play between the two instances of our game. Both games were controlled and observed by the same group of analysts and game controller. The game controller's decisions that affected the course or outcome of the game were made by the same lead controller in both instances. In addition, the scenario remained essentially the same, with only small adjustments in the news events and the injection of new information in response to players' actions.

However, there were also significant differences between the games:

- The players were different for all but one of the roles.⁶
- The venues were in different countries; however, in both cases, the overall layout of the venue was the same (individual tables for each country team in the same room).
- In the D.C. instance of the game, the India players introduced cyber operations, and there was interplay between the United States and India players, both of which resulted in considerable discussion between the game controller and the India team, along with new events and in-game injects, that did not occur in the regional instance of the game.
- In the regional instance of the game, pre-scripted injects of news reports on terrorist attacks produced tension between India and Pakistan players. There had been little or no reaction to these events when they appeared in the news in the D.C. instance of the game. Thus in the regional instance the game controller had to develop new injects in order to de-escalate what the game controller perceived as a real-world distraction and danger in the game.
- Between the two instances the game designers simplified the model used for managing water.⁷ Based on observations in both instance of the game this did not make much difference to the players; in both instances, players chose not to micro-manage water and instead focused on policy issues related to water, international relations, and internal governance.

We believe that the greatest differences between the games occurred because of player behavior, and the biggest difference in design—the change in the water model—did not have a significant effect on the course of either instance.

Thus, we believe that we can compare the two instances of the game and gain insights into the sources of any differences. These insights are descriptive and qualitative, not predictive and quantitative. They simply describe how these players

⁶ The individual who played the Bangladesh Military Chief was the same in both instances of the game.

⁷ In the D.C. instance of the game we had a detailed hydrological model of water flows for each country. This was not easily understood or used by the players in their decision-making. For the regional instance of the game we greatly simplified the display showing only relative levels of flow on major rivers and at key points in the rivers. This gave players a graphical display that was easier to understand. See Figure 3 for a sample water display from the regional instance.

differed in their approach and suggest that there may have been some cultural influence on game outcomes.

Was there a difference in play?

Game play can be characterized by player engagement, interaction, and cooperation.

Player engagement

Player engagement is how invested, interested, and engrossed in the game the players are. Players who are invested in the game take on game roles, feel personally responsible for victories or defeats, and begin to act as if they are actually involved in the game scenario. They “lose themselves,” in other words, a suspension of disbelief occurs [16-17].

One metric we use to assess game success is the degree to which players participate, and whether players continue to play after the official ending of the game days or game play. In both instances, we had 100-percent participation, though we expected only 80-percent participation.⁸ In both instances, players continued to discuss the game and “play” after the end of the first day of the game. This suggests that in both instances, players were enthusiastic, cooperative, and trusting in the scenario and mechanics.

Players in the D.C. instance of the game showed considerable engagement with the game. On the second day of the game, one of the India political players arrived in traditional Indian Dashiki. Political players from all of the countries in the D.C. instance of the game made speeches⁹ and acted as though they were actually engaged in country politics.

The players in the regional instance were similarly caught up in the game. The political leaders made speeches representing their parties and views, in line with the actual beliefs and practices of those parties. For example, the Pakistan player

⁸ Based on experience we find that approximately 80 percent of players participate in large-scale, national-security games. These games provide the opportunity to “hide” or engage in/out of game actions, something that players take advantage of when bored or distracted.

⁹ The game was structured with a negotiations and planning phase, followed by a phase in which all of the political players (and occasionally others) could make statements and speeches. Both the player in power and the opposition player usually made statements at this time.

representing the party in power made several impassioned speeches that described a strong vision for the direction they thought Pakistan should go in the game.

The most significant difference in player engagement between the instances was the seriousness of the play. In the D.C. instance, the enthusiasm that occurred for both the scenario and the game play may have overcome the tasking set for the players, resulting in the game becoming something of a parody. For example, the wearing of the Dashiki could be seen as enthusiastic, or overly theatrical. In the regional instance, the players were engaged but saw the work as both serious and important.

In controlling games, we have found that there is a delicate balance between engagement with the scenario and game, and a sort of runaway theatricalizing that occurs as participants realize that they are in a play world where anything can happen. When that occurs, they can begin to behave in fanciful ways that can take them out of the game in the same way that non-participation or disbelief can take them out of effective participation. While this did not occur in the D.C. instance of the game, the U.S. players were further along the path toward a fanciful game than the regional players. We believe that the difference in tone for the games occurred because, for the non-U.S. regional players, the stakes in the game were much more real than for the U.S. subject matter experts “acting” as if they were in those roles. Likewise, the players in the regional instance were former government officials who may have had a more realistic perspective on jobs that they had held in the past, one that was based on actual experience.

Player interaction

Game play is also characterized by interaction. By “interaction,” we refer to the degree to which different players and groups work together or communicate. In a national security decision-making game,¹⁰ it is crucial that players engage in both internal and external negotiations. In both instances of the game, players enthusiastically participated in internal and external dialogue. Based on our observations, there did not seem to be a significant difference in frequency or nature

¹⁰ National security decision-making games (NSDM) refers to games where large groups of players run countries and work in an international arena to solve a problem.

of negotiations. In both instances, most negotiations were bilateral, and inter-party tensions dominated decision-making processes in all countries except Pakistan.¹¹

Player cooperation

A final component of game play is cooperation. By “cooperation,” we mean the degree to which players find the game’s purpose, scenario, and controlling authority credible. In both instances, there were no objections, and players quickly responded to the scenario and game play. There were no players who stood out as non-participants in either instance. Likewise there were no objections to the premise, or the way in which the game modeled water or economics. One metric we use to assess cooperation is the number of times players tell each other “don’t fight the game/scenario.” In both cases these types of reminders were not necessary.

Was there a difference in game outcomes?

Stephen-Downes Martin has argued that the game controller should be considered as a player in games [3]. By extension this would mean that the culture and biases of the game controller should also be seen in the game, both in the game controller’s decisions and their interactions with players.

There were two significant differences between the instances of the game, one of which relates to U.S.-India relations and cyber operations, and the other to terrorism. In each of these cases it was not only decisions by the players but involved actions and decisions by the game controller. As the game controller was a WEIRD individual with extensive experience in the U.S. Department of Defense, the game controller’s culture must also be included in an overall understanding of what happened in the game.

¹¹ In both instances of the game, the Pakistan team had little internal tension. Our observations suggest that, while the outcome was the same in both instances, the reasons for this were different. In the D.C. instance, players on the Pakistan team quickly came to consensus that they would cooperate with each other and with the India players. In the regional instance, the real-world status of the player for the party in power was such that it was clear that only one party would be in charge during the game, and players deferred to that individual’s decisions. In both cases, this resulted in the ability of the Pakistan team to make investments and decisions that mitigated the overall effects of the drought and floods as adjudicated by the game controller.

U.S.-India relations and cyber operations

The most obvious difference between the instances was the India team's use of cyber operations and their relations with the United States in the D.C. instance of the game. We trace this to the play of the India Military and Foreign Office role which was played by a serving U.S. Air Force officer. In coming to the role, he represented the forward-leaning, *realpolitik* nature of many U.S. military decision-makers. This resonated with a game controller who was already biased toward U.S. military issues.

In the case of U.S.-India relations, the game controller (representing the United States) quickly became engaged in a dialogue with the India team on matters of the U.S. rebalance to the Pacific and potential military cooperation. Both the game controller and the Air Force officer understood the dynamics of this situation, as well as the interests of the U.S. to obtain bases and capabilities in the region. In comparison, during the regional instance of the game, the role of the United States was equally as disruptive, because of a pre-scripted event which stated that Bangladesh was beginning Status of Forces Agreement (SOFA) negotiations with the U.S., but players were not interested in approaching the U.S. on military matters. In the regional game the players did not approach the U.S. regarding bases, and the pre-scripted inject was taken as a given with little interaction between the various countries and the United States.

Likewise, during the D.C. instance the game controller saw the India team's idea of using cyber operations against the Chinese water system as intriguing. The idea that there is a technical solution to political and social problems is one that is frequently encountered in U.S. military and civilian thinking.¹² Both the game controller and the Air Force officer (playing the India Military and Foreign Office role) shared that common culture, and could play out the cyber operation in sufficient detail to make it plausible and realistic. What was not realistic was the larger set of political considerations that would have severely challenged the use of cyber operations against China in this situation.

Within the context of the game it was the responsibility of the India political players to deny use of cyber against China, not the game controller's responsibility. The approval of its use may have occurred because of the fanciful enthusiasm (see previous discussion) that players had begun to develop by the time it was used in the latter stages of the game. In the regional instance of the game, there was little discussion of conventional military or cyber conflict.

¹² For example, Earl H. Tilford Jr., states the following in *The Revolution in Military Affairs: Prospects and Cautions*. "A characteristic of the American way of war is our fascination with technology and the search for that technological "silver bullet" that will deliver victory quickly and with a minimum of loss of life" [18].

Terrorism

The game events had several pre-scripted terrorist attacks occurring as part of the scenario.¹³ These were not state-sponsored terrorism, but they mostly originated in Pakistan and were directed against interests in India and Bangladesh.

In the D.C. instance of the game, the relationship between the India and Pakistan teams was cool and remote, with the Pakistan players seeking to share information and water with the India players and the India players continually rebuffing the overtures. Terrorism was discussed, but it was not a significant issue of contention. Likewise terrorism was a peripheral topic for the Bangladesh players, one they commented on but did not focus on.

By contrast, in the regional instance of the game, the series of terrorist attacks originating in Pakistan (and to a lesser extent, Bangladesh) caused great consternation and irritation among the players. The India players repeatedly and enthusiastically denounced the Pakistan team for allowing the terrorist events to occur. Pakistan players protested they were doing much to try to stop the terrorists and that they should not be blamed.

This tension culminated during a meeting between all the Pakistan and India players, during which the game controller became worried that the continual introduction of terrorist injects would begin to cause out-of-game conflict between the players. Subsequent injects were re-framed in such a way as to reduce Pakistan's involvement and highlight their counterterrorism actions. This still did not satisfy the India players, but it did defuse the broader issue.

During the regional instance Bangladesh players also became embroiled in a terrorism controversy when the newly elected (i.e. opposition) Prime Minister made remarks to the players that terrorism might come from Bangladesh because of the poor way in which they were being treated economically by other powers in the region. This threat caused significant protest and challenges from other countries, who accused the Bangladesh players of supporting terrorism. The game controller allowed a pre-scripted terrorist attack originating from Bangladesh to take place on the next turn, which did not improve the feelings of the other countries' leaders toward the Bangladesh Prime Minister player.

In the regional instance, the regional players' reactions to terrorism and terrorist injects highlight the potential for game analysis to miss cultural and political

¹³ There are several terrorist groups in the region. In the game these were generalized into Islamic extremists from Pakistan, Maoist fighters from eastern India and western Bangladesh, and Islamic extremists based in India or Bangladesh.

subtleties when U.S. players are substituted for those from the countries actually involved in such a scenario. Having players who had lived through terrorist incidents and felt passionately about the issue resulted in considerably different play between the two instances of the game.

What was similar?

There were many similarities between the games, a conclusion that is reinforced by the relatively small number of differences between them. And it is important to note that these differences were all marginal differences, they had little effect on overall game results.

One key similarity between the games was the interaction of the players on water and information-sharing. Players saw water as subordinate to issues of trust, cooperation, and conflict. Information-sharing did not increase trust, but rather trust seemed to increase information-sharing, and willingness to believe the information being shared. While the particulars of the conflicts were somewhat different between the games, the overall tendency of upstream riparian countries to treat water as a resource to be owned as opposed to shared was consistent across games. Both India and China players expressed this tendency in different ways, with China players tending to ignore entreaties from other countries and India players preferring to engage in lengthy, delaying, bilateral negotiations on issues.

Other similarities between the games included:

- The tendency for Pakistan players to form a coalition government to avoid internal disagreements while India and Bangladesh players had significant internal political opposition. Both the India and Bangladesh teams had significant friction between the two political parties in both games that resulted in elections and frequent changes in governments. The Pakistan team never had a change of government in the regional instance but did hold elections in the D.C. instance.¹⁴
- The desire for Pakistan players to focus internally on managing its water issues, while externally attempting reconciliation and negotiation. In the D.C. instance of the game the Pakistan players embarked on a significant attempt to

¹⁴ In the D.C. instance of the game, during the normal elections cycle (2018 for Pakistan) the opposition player decided to run for the position of Prime Minister. The change in government was the result of a successful die roll by the opposition player.

line its canals in order to conserve water, while in the regional instance it devoted even more resources to internal development efforts.

- Bangladesh players in both instances were hampered by internal political discord between the ruling and opposition parties. Bangladesh players changed governments in both games, and much of their focus was on resolving internal political conflicts. The Bangladesh team also pushed for multilateral agreements in both games, despite the India team's insistence on bilateral negotiations.
- The disruptive role of the United States (played by the game controller). In the regional instance this occurred through the mechanism of pre-scripted negotiations between the U.S. and Bangladesh, while in the D.C. instance players' negotiations initiated as we described above.
- The tendency of both China and India players not to be forthcoming on their actions surrounding water. In both instances players on the India and China teams deliberately misrepresented their actions regarding water to downstream countries. This occurred in different ways in the games, but the overall tendency was consistent between games.

These and other similarities suggest that the games were not strategically different in any significant way. For example, in both games water played an equal or lesser role with other political, economic, and cultural considerations when conflict occurred between nations. Likewise, internal political tensions were a significant factor for India and Bangladesh teams, while they were less so for Pakistan and China teams. The overall conclusions were the same. However in specific tactical elements the games did differ significantly. For example India players were more aggressive with military and cyber actions in the D.C. instance of the game, while Pakistan players made greater investments in water infrastructure during the regional instance of the game.

What can we conclude?

This is only one instance of a game allowing us to compare U.S. players "simulating" foreign leaders with former foreign leaders simulating their own leadership. This gave us a chance to see how the two instances were different in play, and to speculate on reasons for these differences. We, of course, have to be careful in comparing these game instances because we have limited data, there could easily be confirmation bias in our selection of differences and similarities. Our "analysis" is wholly subjective.

Nevertheless as described above we identified three significant differences in game play:

- *Engagement with the United States.* An obvious conclusion regarding the difference between the two games would be that U.S. players would be far more aware of, and interested in, engaging with the U.S. than the regional players from India. This was consistent with what we saw in the game.
- *Use of cyber.* We attribute the use of cyber to the perspective of a particular player in the D.C. instance of the game who was not present in the regional instance. This player's ability and cultural beliefs appear to have interacted with a similar cultural outlook in the game controller to produce the effects we saw in the game.
- *Reaction to terrorism.* The conflict between players over terrorism seen in the regional game did not occur in the D.C. instance of the game. In interacting with the players in the regional instance it was clear that they had been working on the issue of terrorism for a very long time, and were quite frustrated with each other over not getting it resolved.

We suggest that this game supports several general observations including the role of controllers as described by Downes-Martin in his work on adjudication [3]:

- When considering the effects of culture and experience on game decisions it is important to include the game controller as one of the "players" in the game. The game controller's culture contributes to the overall game flow as much as the player's culture. Even if the game uses abstract "models" and downplays subjective decisions by the game controller the models often encode the culture of the game designers and game controllers into formalisms that are then incorrectly perceived as objective.
- In a game with high levels of player engagement players may become unnaturally enthusiastic and this may carry over into fanciful game play. In our game this occurred when players were engaged in cross-cultural play, something that may invite greater theatrics and exaggerated player actions. This can be hard to manage because player engagement is one of the objectives of game design and control, and thus perceived as a good thing when it occurs.
- Player experiences and culture do appear to affect game play and results, but, in the two instances we are comparing, these differences were in emphasis and technique, not fundamental style. While we have been emphasizing differences here, the similarities between the games occurred in the strategies that players constructed for their countries. India players focused on maintaining bilateral relations so that other countries could not combine forces against it. China

players representing a major power with other considerations saw water as just another bargaining chip. While Bangladesh and Pakistan teams sought external and internal solutions to their challenges with water and security.

- The instances were similar in overall strategic results but differed in the details. Is this the result of differences between the player cultures or is it simply that we had different players? With our two instances of the game, we cannot answer that question definitively; however, a detailed examination of player and game controller statements, motivations, and actions suggests that some of the differences, such as the use of cyber and the reaction to terrorism may have arisen from cultural biases as opposed to simply having two different sets of players.

As with any game analysis the small sample size, large number of variables, and complexity of the situation make drawing broad conclusions difficult. Even if we substitute a different U.S. Air Force Lieutenant Colonel for the one playing in the D.C. instance of the game it is unlikely that we would have the same set of decisions occur. Some elements of game play are particular to the individual players, playing in that situation at that time. However we can say that the events that did occur (cyber operations) are rather uniquely associated with the player's culture (U.S. military) and not as much with the culture and outlooks of the regional players.

Player Participation

The next question we can ask is whether players in the regional instance were willing to participate fully in the game, given their status, culture, and potential real-world conflicts and concerns between the countries involved. One of our concerns before the game was that players from different countries would not participate realistically in the game due to a reluctance to replicate real-world political or international behavior. This could be the result of cultural influences, such as a need to check with superiors prior to making a decision, or real-world concerns, such as not wanting to be seen as realistically aggressive or deceitful because of concerns over image or perception.

We saw none of the players in the regional instance of the game hold back or change their game play in response to real-world sensitivities. Players played realistically and were not reluctant to make demands, bully, or misrepresent the situation to other players. For example, the China players deliberately decided not to tell other players accurate information about diversions on the Brahmaputra River, and they began a program of charging the Bangladesh players for water (or flood control). Whether these were realistic decisions is something we cannot determine, but they certainly were not decisions that players who wanted to play “nice” would have made.

The only real-world concern that occurred in the game was a result of the game controller’s actions, namely injects involving terrorism. This was the direct result of the game controller making the determination that Pakistan could not stop all terrorist attacks coming out of their country, something that is consistent historically but, as described earlier, created a significant real-world conflict between the player groups.

What did the players think?

Another way to understand game play is by asking the players what they thought of the game. We are particularly interested in the views of the regional players, because they represent senior decision-makers and influencers from the countries involved.

At the start of the regional instance of the game, the SGTF asked the participants to consider a few questions during the 2-day event. One was whether the game was an effective way to engage policymakers and help them better understand water-related

decisions. Another question was whether the game should be replicated, and, if so, what other countries or individuals should be included in the event. At the end of the game players were given a chance to discuss their views on these issues. In this section, we discuss player feedback related to those questions.

Was the game effective?

In the game out-brief, some players compared the situations they faced in the game to reality, and compared their actions to those that their leadership needed to take in their home countries.

Players in the regional instance stated that they found the game to be more effective and interesting than a “traditional Track 2 seminar,”¹⁵ which merely involves individuals having conversations about the *need* to share information and cooperate. In other words, during such events, no decision-making is required. By contrast, the game format forced individuals to act (or chose not to act), and, as the game progressed, players felt the effects of their earlier decisions.

Regional players also remarked that they liked that the game allowed them to take risks, make decisions, and receive feedback. Since each player was assigned a specific role, they had certain responsibilities to fulfill based on the Prime Minister player’s and country’s goals and objectives. The game allowed players to experience and understand the challenges they would face when presented with a difficult problem (e.g., the long-term drought). One of the players felt that it gave them a sense of confidence should they decide to return to politics.

Ultimately, having senior officials engage in a game on controversial topics suggests that such a mechanism could also be used as a political tool to help manage or resolve conflicts. Many government-sponsored Track 1¹⁶ engagements avoid controversy; however, by design, controversy was impossible to avoid in the game. This makes the game uncommon in that it was wholly realistic in the scenario and player freedom to act, and involved multi-cultural player groups who came from potential adversary countries.

¹⁵ Quote from India team player during outbrief.

¹⁶ Track 1 diplomacy is defined as official discussions typically involving high-level political and military leaders focusing on cease-fires, peace talks, treaties, and other agreements [4].

Should we run the game again?

As mentioned earlier, the regional instance of the game included Track 2 individuals, some of whom had served (even as recent as 2011) as Ambassadors, Foreign Ministers, and military leaders from their respective countries. Their participation and the success of the game suggest that the combination of a neutral venue and fair scenario resulted in positive and engaged behaviors from these senior individuals.

Game play often allows individuals to engage in behaviors that would otherwise be disruptive or inappropriate. In such a forum, interactions and decision-making among the leaders of rival or conflicting countries may allow them to engage in “pretend” dialogue on issues that are too difficult or sensitive for “real” dialogue to occur.

In their feedback, multiple participants suggested that it would be beneficial to include higher-ranking officials (such as Track 1 individuals) in other versions of the game. They felt that the dialogue engendered by game play would help these individuals make informed future decisions about water. Holding a game with Track 1 individuals is ambitious. A more realistic possibility would be to ask former Track 1 Ministers and Prime Ministers to participate. Alternatively, Track 1.5¹⁷ individuals or those on the path to becoming a Track 1 individual could be asked to participate.

Finally, based on our observation that trust and cooperation are required for information-sharing to occur (see [5-6]), then replicating the game may be justified to encourage relationships and produce dialogue about the *role* of trust in addressing natural or human-caused events.

¹⁷ Track 1.5 diplomacy typically denotes a situation in which official or non-official actors work together to resolve conflicts [4].

Conclusions

Although this game provides just one instance of a cross-cultural comparison, it is useful because it is a direct comparison between U.S. subject matter experts and foreign players in two nearly identical instances of a game. Based on the qualitative assessment of the game controller and analysis teams, we concluded that:

- Subject matter experts made decisions similar to those of senior leaders of other nations, but they did not exhibit cultural biases, experiences, and passions that are often involved in a real-world road to conflict. Lack of these decision-maker traits in a game resulted in differences in some detail between the play of the two instances of the game.
- The broad behavior of all the countries was similar, whether played by the U.S. subject matter experts or the regional leaders, but the rationale behind the behavior was often different.
- Both U.S. and regional players engaged enthusiastically and effectively with the game and game materials. This was facilitated by all of the regional players speaking English.
- There was no problem associated with leaders from different—and potentially rival—countries sitting down and playing a game on a controversial issue. In fact, players remarked that a game environment allowed for a more open and effective dialogue than other venues, such as conferences and meetings.

Game control was unsure whether Track 2 players would participate effectively in a game on controversial issues during the regional instance of the game. Player concerns about image or national policy could have shaped the game in ways that were unrealistic, or unworkable. For example, China players, wishing to portray China in a positive light, might have been more cooperative than the Chinese government would normally be. In fact this did not occur, as we describe here players in the regional instance were fully engaged and participated honestly and openly with each other.

This, along with player feedback, allows us to make some observations about games as tools for bringing decision-makers together to engage with each other on controversial issues:

- Inter-cultural Track 2 games can include contentious and important issues without generating withdrawal or unrealistic play from senior participants.
- Players enjoyed being able to make decisions and see the outcomes of these decisions. They felt this method of a game was more effective than traditional Track 2 seminars.
- If this game is repeated, sponsors and designers should consider inviting higher-ranking officials to participate. If that proves impractical or unacceptable to the nations involved, then former Prime Ministers and individuals who could be in those positions in the future should be considered.
- Track 1.5 individuals could use a future game as a mechanism for gaining synthetic experience in a higher-ranking role that they may someday hold.

The two instances of the Skoll Global Threats Fund Regional Water Game allowed participants a space within which to explore how water affected many different aspects of internal and external relationships. By structuring the game as an open exploration of all the various elements of national life we gained insight not only into how water fits into relationships on the subcontinent, but also how senior players participate in games across cultures.

References

- [1] Michael, David, and Sande Chen. 2005. *Serious Games: Games that Educate, Train, and Inform*. Cengage Learning PTR.
- [2] Djaouti, Damien, Julian Alvarez, Jean-Pierre Jessel, and Olivier Rampnoux. 2011. "Origins of Serious Games." In *Serious Games and Edutainment Applications*. Edited by Minhua Ma, Andreas Oikonomou, and Lakhmi C. Jain. 25-43. Springer.
- [3] Downes-Martin, Stephen. 2013. "Adjudication: The Diabolus in Machina of Wargaming." *Naval War College Review* 66 (3).
- [4] United States Institute for Peace. "Glossary of Terms for Conflict Management and Peacebuilding: Tracks of Diplomacy." United States Institute for Peace. Accessed Aug. 13, 2014. <http://glossary.usip.org/resource/tracks-diplomacy>.
- [5] Trentacoste, Catherine M., E.D. McGrady, Shawna Cuan, and Nilanthi Samaranayake. *Bone Dry and Flooding Soon; A Regional Water Management Game Final Report*. IRM-2014-U-008457-Final.
- [6] Trentacoste, Catherine M., E.D. McGrady, Shawna Cuan, and Nilanthi Samaranayake. *Bone Dry and Flooding Soon: A Regional Water Management Game Interim Report*. CNA Corporation. IPR-2014-U-007380.
- [7] Avruch, Kevin. 1998. *Culture and Conflict Resolution*. Washington, DC: United States Institute of Peace.
- [8] Eriksen, T.H. 2001. "Ethnic Identity, National Identity, and Intergroup Conflict: The Significance of Personal Experiences." In *Social Identity, Intergroup Conflict, and Conflict Reduction*. Edited by Richard D. Asmore, Lee Jussim, and David Wilder. Oxford: Oxford University Press.
- [9] LeFebvre, Rebecca Kay. 2013. "Deciding to Fight: A Cross-Cultural Comparative Study on Decision-Making in Conflict Situations." Kennesaw State University.
- [10] Villamor, Grace B., and Meine van Noordwijk. 2001. "Social Role-Play Games vs Individual Perceptions of Conservation and PES Agreements for Maintaining Rubber Agroforests in Jambi (Sumatra), Indonesia." *Ecology and Society* 16 (3): 27-46.

- [11] Edwards, Carolyn Pope. 2000. "Children's Play in Cross-Cultural Perspective: A New Look at the Six Cultures Study." *Cross-Cultural Research* 34 (4): 318-338.
- [12] Haight, W. L., X. L. Wang, H. H. Fung, K. Williams, and J. Mintz. 1999. "Universal, Development, and Variable Aspects of Young Children's Play: A Cross-Cultural Comparison of Pretending at Home." *Child Development* 70 (6): 1275-1515.
- [13] Csikszentmihalyi, Mihaly, and Stith Bennett. 1971. "An Exploratory Model of Play." *American Anthropologist* 73 (1): 45-58.
- [14] Roberts, John M., Malcolm J. Arth, and Robert R. Bush. 1959. "Games in Culture." *American Anthropologist* 61 (4): 597-605.
- [15] Henrich, Joseph, Steven J. Heine, and Ara Norenzayan. "The weirdest people in the world?" *Behavioral and Brain Sciences* 33 (2010): 61-135.
- [16] Perla, Peter P., and ED McGrady. 2011. "Why Wargaming Works." *Naval War College Review* 64 (3): 111-130.
- [17] Coleridge, Samuel Taylor. 1817. *Biographia Literaria (Biographical Sketches of my Literary Life)*. Project Gutenberg. Accessed July 2004. <http://www.gutenberg.org/ebooks/6081>.
- [18] Jr., Earl H. Tilford. 1995. *The Revolution in Military Affairs: Prospects and Cautions*. Carlisle Barracks, PA: U.S. Army War College, Strategic Studies Institute.

This page intentionally left blank.



The CNA Corporation

This report was written by CNA Corporation's Energy, Water, and Climate (EWC) division.

EWC division provides integrated analysis of these issues to gain a better understanding of the implications of their interrelationships and to help develop sound policies and programs to improve energy security, foster efficiency, and increase the likelihood of a secure, climate-friendly energy future.





CNA Corporation is a not-for-profit research organization that serves the public interest by providing in-depth analysis and result-oriented solutions to help government leaders choose the best course of action in setting policy and managing operations.

*Nobody gets closer—
to the people, to the data, to the problem.*