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Dear Reader,

We are pleased to present the fourth edition of the Berkeley Student Journal of Asian Studies. The journal originally developed as an effort to showcase, connect, and enrich young scholars studying issues related to Asia at UC Berkeley. Now in its fourth year, the journal continues to provide UC Berkeley undergraduate and graduate students with a means to present their original work in the field of Asian Studies while developing their writing and research abilities.

In this edition, Marisa Mito examines the qualities of both the ideal Indian woman represented by Sita and a number of transgressive females in Indian epics. Maya Agarwal compares the Valmiki Ramayana and the Tulsi RamcaritManas, following with a discussion about how each one deals with the concept of Lokasamgraha (or social service). Pisacha Wichianchan analyzes the building of the Bakun Dam in Sarawak, Malaysia to argue that the Malaysian government takes special pains to ignore the desires of its citizens. Hoo Ri Kim assesses conflict management tools used between South and North Korea from the end of the Korean War to the present day. Yuma Kuwata shares with us a policy recommendation for the U.S. government in response to Japan’s possible nuclear energy reforms in the wake of the 3/11 disaster and the crisis at Fukushima Daiichi.

Together these works keep with the journal’s goal of creating space for cross-disciplinary dialogue on Asia and Asian issues. We would like to thank our supporters for their kind assistance throughout the publication of this edition, and hope that valuable contributions persist in future editions.

-The Editorial Commission
DEFIANT WIVES: READING TRANSGRESSION MARRIAGE IN THE HINDU TRADITION

Marisa Mito

ABSTRACT

Sītā, of Vālmīki’s Rāmāyaṇa, is widely identified as the ideal woman of the ancient Hindu tradition. Among her many lauded qualities are her chastity, fidelity, self-sacrifice, and submissiveness. It is clear enough what purpose these traits serve—the happiness of her husband, and the success of his endeavors. But what should be made of the many other transgressive females, who are instead defined by their sexuality, independence, selfishness, and aggression? Given that feminine propriety serves to reinforce patriarchy, it seems logical that feminine transgression would be a means of undermining or inverting it. That being said, we must not lose sight of the greater socio-religious context that rules the epic. Myths functioned as tools of social order-making, and thus all characters—ideal or otherwise—play a moralizing role. In this essay, I analyze the expectations in ancient Hindu society of femininity, as embodied by Sītā, and the several moments when she does not meet them. I then analyze, in relation to Sītā, a series of female humans, rākṣasis, and goddesses from the Rāmāyaṇa and Vyāsa’s Mahābhārata who instead embody transgression. In some cases, the acts of feminine transgression serve to juxtapose the comportment established by Sītā, only further elevating her idealized status. In other, more counterintuitive instances, feminine transgression is but a temporary means to further ensure patriarchal ends. While from a feminist perspective, one might be inclined to interpret acts of fidelity and self-sacrifice as oppressive, and acts of transgression as radical or progressive, a historically contextualized look reveals that all are, in the end, means to conserve the order-making of ancient Hindu society. In my conclusion, however, I attempt to situate Sītā in the academic, political, and popular spheres of contemporary Hindu society, and raise questions as to the fate of her status as ideal.

INTRODUCTION

Epic mythology throughout the world has functioned as a purveyor of morality, cultural practices, and social roles. Historical contemporaries looked up to mythic epics for guidance on how to best act in their daily lives and modern scholars continue to look back to them in an effort to understand the conditions of such distant people. To facilitate the edification of an epic’s audience, characters are often summarized in idealized absolutes, and such is the case with the heroine Sītā of Vālmīki’s epic poem the Rāmāyaṇa. Sītā set the standard by which all females were judged, and served as “a point of reference around which gender constructions were articulated in Indian civilization through the centuries.” Just the same, the Rāmāyaṇa and its “sister epic” Vyāsa’s Mahābhārata are filled with markedly deviant females, such as Kaikeyī and Śūrpanākhā in the former, and Draupadī, Hidimbā, and Gaṅgā in the latter. Beginning with an analysis of Sītā’s character, we can then use her as a model against whom we can compare the characters of the deviant group. Through comparison, we will explore how each female, whether traditional or transgressive, ultimately serves to reinforce patriarchal attitudes toward the proper conduct of women in ancient Hindu society.

Originally an oral Sanskrit composition, the Rāmāyaṇa of Vālmīki that we have today is a narrative poem that totals nearly 25,000 verses, divided into seven kāndas or books. Goldman and Sutherland

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1  Reba Som, “Chitrangada, not Sita: Jawaharlal Nehru’s Model for Gender Equation,” in Gender and Nation, ed. N. Balakrishnan et al. (New Delhi: Nehru Memorial Museum and Library, 2001), 357.
Goldman locate its composition as occurring sometime between 1000 and 500 BCE, but tradition would “date the epic many hundreds of thousands of years before the modern era.” This traditional dating grants the Rāmāyaṇa a greater “antiquarian authority” of sorts, through which it maintains much of its socioreligious command. The Mahābhārata, though a later text, has likewise “played a fundamental role as sacred scripture” in defining the Hindu world.” Its date of finalized composition lies between 300 and 450 CE, and its length approaches a colossal 160,500 lines of verse, divided into eighteen parva or books.

The Rāmāyaṇa and Mahābhārata comprise the two most celebrated and influential poems of the Hindu tradition, and as previously mentioned, both epics have been viewed as authoritative sources for constructing gender roles and relations in ancient Hindu society. The characters of the Rāmāyaṇa serve as “monovalent examples of idealized positive and negative role models in Hindu society” (84), and the Mahābhārata was “intended to serve as a comprehensive, Brāhma-inspired basis for living a good life in a good society in a good polity” (54). Bearing in mind that “[t]hese epics were composed and transmitted by males who were expressing male concerns and fears,” it is not unreasonable to interpret the “good society” as a patriarchal one, which necessitates a division of idealized gendered realms and responsibilities.

But what, exactly, defines this binary of “ideals” that the epic tradition so strongly upholds? Essentially, where the idealized man, as depicted by the Rāmāyaṇa’s Rāma, is one who is “totally devoted to duty, despite personal hardship,” and the idealized wife, as depicted by Sītā, “is totally devoted to her lord and master.”

SĪTĀ

It can be argued that the character of Sītā is destined to embody this ideal. Unlike most humans, she was born of one of the purest possible human births: rather than emerging from the tainted orifice that the female womb was believed to be, Sītā was born of the earth itself. As Sītā’s purity comes to be viewed more specifically as chastity, the issue of sexual faithfulness and demureness will cause much controversy and strife throughout the epic. Sītā’s chastity is again and again challenged—though always proven to endure—and her fidelity is just one of the many ways in which she is supremely and ceaselessly devoted to her husband Rāma. Furthermore, every wifely duty, fidelity or otherwise, is envisioned as fostering the well being of her husband and the success of his endeavors. Altekar, citing the Śanti Parv (book XII) of the Mahābhārata, states that it is the wife’s obligation to “try her utmost to promote her husband’s happiness,” and Gandhi, speaking specifically of Sītā, associates her “self-sacrifice…suffering, chastity, and…moral power” with the ability “to inspire men with higher notions.” It is through Sītā’s “worth, devotion, and love, all of which [develop her] into a self-sacrificing, submissive and pious creature,” that the power of authority and action can rest safely with her husband Rāma.

Although Sutherland notes moments in the Rāmāyaṇa during which Sītā does seem to act with aggression or selfishness, they ultimately conclude with a return to the championing of traditional gender roles and the according, proper conduct. For example, Sītā only quarrels with Rāma over following him to the forest because of her intention to serve him; she only accuses Lakṣmana of being attracted to her so as to reinforce the importance of wifely chastity; and after demanding possession of the golden deer and suffering its consequences, she immediately calls herself “mūḍha, foolish or infatuated” and acknowledges that indeed “she must have deserved” all her suffering. Furthermore, while many have chosen to read Sītā’s unanticipated return to the earth in the Uttara Kāṇḍa (book VII) as the ultimate, aggressive rejection of Rāma and his cruel behavior toward her, such an empowered interpretation would undermine the patriarchal expectations the

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3 ibid.
5 ibid.
7 ibid., 77.
entire epic otherwise promotes.\textsuperscript{13} It is therefore of far more value to the ancient social order to interpret the ending differently.

Rāma’s primary role is to serve as king of Ayodhya, and although his assembly welcomes Sītā’s return from exile shouting “Splendid, Sītā!” Rāma continues to be “fearful of the malicious rumors among the people,” who constitute the actual masses of his kingdom.\textsuperscript{14} While Rāma is willing to take Sītā back given she once more prove her chastity, he nonetheless stands by his prior abandonment of her despite “[knowing her] to be innocent.”\textsuperscript{15} Thus it is no wonder that Sītā’s reaction is to leave him: Rāma has managed to rule a kingdom without a wife for this long, and if Sītā’s presence persists in prompting the kingdom to question Rāma’s moral authority, then perhaps it is best that she leave after all. In doing so, she will simultaneously free herself from the accusations she does not deserve to suffer, can return to the purity from whence she originally came and ultimately belongs, and represent willing self-sacrifice as a necessary aspect of the feminine condition. This decision also sets up the opportunity for Rāma to prove his love for Sītā one last time, particularly as a love that continues long after her withdrawal from the world. While there is question as to whether what is now identified as the Appendix was included in the original composition, it states that “Rāma was profoundly heartbroken” and “overcome by rage and grief” at the loss of his wife.\textsuperscript{16} This demonstrates the depth and endurance of his love, which Altekar upholds, noting that after Sītā’s death, Rāma always “performed his sacrifices with an image of [her] by his side. He did not deem it necessary to marry a second time in order to have a living wife with him.”\textsuperscript{17} Most importantly, though, this situation leads the god Bramhā to tell Rāma, “You must not torment yourself.”\textsuperscript{18} This ending demonstrates Rāma’s capacity to experience and uphold faithful love, while simultaneously emphasizing that he will not mourn at the expense of his greater duties—especially because he is king. Sītā is thus more than just a role model of ideal wifely behavior in the Hindu tradition. Her actions, and even her absence, also help shape the circumstances that create Rāma’s ideal behavior as man, husband, and king in the Hindu tradition.

DRAUPADĪ

While in some ways Draupadī can be seen as Sītā’s heroine counterpart in the Mahābhārata, the two wives are different in many ways. Perhaps the most obvious distinction is that Draupadī does not occupy the normative position of wife of one—and only one—husband. According to Altekar, while polygyny, the form of polygamy in which one man marries multiple wives, “prevailed in the rich and ruling sections of society,” polyandry, the form in which one woman marries multiple husbands, “was practically unknown.”\textsuperscript{19} It is only natural, then, that Draupadī’s transgressive polyandrous marriage to the five Pāṇḍava brothers did not go unchallenged: her father is “dismayed” at the proposal and “regards it as improper.”\textsuperscript{20} Kuntī, the Pāṇḍava brothers’ mother, is also initially “pained to find that her well-meant direction to her sons [to] evenly divide what they…obtained should result in a polyandrous marriage,” revealing that women were opposed to polyandry as well.\textsuperscript{21}

The best in-text justification given for this otherwise unorthodox practice relies upon the belief that words spoken cannot and must not be taken back, or else they would be a “breach of dharma.”\textsuperscript{22} This tenet is applied both to Kuntī’s resolute instruction to share what she assumed were simply alms, and to the myth that in a previous incarnation, Draupadī prayed aloud for a husband five successive times, and thus effectively once for each Pāṇḍava brother.\textsuperscript{23} Nevertheless, such justifications failed to actually pacify many readers, and Altekar states that later writers “were so much upset by Draupadī’s polyandry that they refused to believe in it,” choosing instead to view the marriage as

\textsuperscript{13} Sutherland, “Sītā and Draupadī,” 77.
\textsuperscript{15} Ibid., 710, Sarga 88: 3.
\textsuperscript{16} Ibid., 712, Appendix 1. No. 13: 2, 3.
\textsuperscript{17} Altekar, The Position of Women, 111.
\textsuperscript{18} Prasad, Rāmāyaṇa, 712, Appendix 1, No. 13: 12.
\textsuperscript{19} Altekar, The Position of Women, 112.
\textsuperscript{21} Altekar, The Position of Women in Hindu Civilization, 113.
\textsuperscript{22} Smith, Mahābhārata, 72, Book I: 182.5.
\textsuperscript{23} Altekar, The Position of Women in Hindu Civilization, 113.
But what is it that makes polyandry so offensive? It is true that the *Mahābhārata* does not depict the dynamics of this marriage as one of five husbands confidently and wholly in charge of their wife, and perhaps this conjured fear of polyandry becoming a vehicle for female dominance, or at least equality. The text is littered with moments in which Draupādi vocalizes, rather than internalizes, her suffering; and, instead of simply accepting victimization, as would Sītā, Draupādi fully expects her husbands to come to her defense and aid. It is important, however, to recognize the gendered difference between service and defense in marriage, for it is here that the argument against polyandry as a vehicle for feminine dominance falls flat.

Wives are expected to attend to their husband’s daily needs, but this service is not what Draupādi demands—in most cases, she asks for nothing more than protection from sexual assault. Furthermore, in conversation with Vāsudeva Kṛṣṇa’s wife Satyabhāmā, Draupādi makes it clear that she does still “[wait] dutifully on her five husbands,” and “[b]efore Yudhiṣṭhira’s downfall she was responsible for the running of the whole imperial household.”

Despite polyandry, Draupādi maintains her wifely duties, and performs them not for one man but five. And yet her five husbands continuously fail to uphold *rakṣana*, their own duties as protective husbands, and risk the possibility of her, and subsequently their own, dishonor. We can thus interpret the inclusion of polyandrous marriage in the *Mahābhārata* as neither a championing of nor a warning against the practice, but as a device ultimately meant to bring our attention back to male duty and authority.

KAIKEYĪ

Returning to the *Rāmāyaṇa*, such cannot be said of Kaikeyī, second wife of King Daśaratha, for her aggression is seen as coming solely from a place of evil. “The golden Kaikeyī,” as Vālmīki ironically calls her, “is simply an evil woman, blinded by her ambition to the cruelty of her acts.” Where wives are meant to practice selflessness in deference to the ambitions of their husbands, Kaikeyī, in conspiracy with her evil maid Mantharā, is encouraged to focus exclusively on her own well-being. Mantharā says, “Something…threatens to ruin you…and you must act swiftly, for your own good.” That Kaikeyī did not resist Mantharā’s words has been interpreted to mean that she could not: Kaikeyī must have been inherently evil in order to manipulate King Daśaratha into banishing Rāma—his legal successor and first son of his first wife Kausalyā—and transferring the right to rule to her own son Bhārata. Pollock notes that “Vālmīki, it appears, meant Kaikeyī to serve largely as a negative exemplar” and “as an illustration of what happens when a woman seeks to act autonomously: she destroys the foundation of her life, her husband.”

The dynamic between Kausalyā and Kaikeyī reflects a larger archetype that pervades the Hindu tradition as a whole. Kausalyā, as the first and traditionally older wife, “is good, righteous—dharmaic, and suffers from the absence of her husband’s attention and love.” Kaikeyī, the second, younger wife, is “attractive, sexually appealing,…the most beloved”—thereby the most influential and the most dangerous. It is only with the influence of Kaikeyī’s “intoxicating…beauty” and sexuality—or more accurately the untimely and “ill-befitting” lack thereof, for she threatens King Daśaratha with sexual abstinence—that Kaikeyī is able to manipulate her husband in a brief moment of vulnerability.

Kaikeyī’s sexual teasing literally throws Daśaratha into a “mad passion” leading him to “hopelessly” say what would otherwise be utter nonsense: “I and my people, we all bow to your will.” Compared to the perfection that is the relationship between Rāma and Sītā, that between Daśaratha and Kaikeyī demonstrates a complete role reversal.

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24 Ibid., 113-4.

of the idealized husband-and-wife power structure. In this case, woman dominates—both sexually and politically—over man. Kaikeyī thus serves as a horrific warning against feminine sexuality, and its potential to wield dangerous power if not painstakingly micromanaged.

ŚŪRPANĀKHĀ AND HIḌIMBĀ

Feminine sexuality is precisely what leads to the attempted transgressive union between Śūrpaṇakhā and Rāma later in the Rāmāyaṇa, and to the actually transgressive marriage between Hiḍimbā and the Pandava brother Bhīma in the Mahābhārata. Both Śūrpaṇakhā and Hiḍimbā are members of the rākṣasa race of demons, who traditionally plague and often violently thwart efforts towards dharma and peace in the Hindu tradition. Second to violence, though, Pollock says, “[t]he feature of rākṣasa otherness that…most decidedly excludes them from the human universe…is their intemperate and aggressive sexuality.”

The extent to which rākṣasas concern themselves with their sexuality is in and of itself utterly opposed to the dharmic codes of righteousness: Pollock cites the Rāmāyaṇa, noting that “the whole care of the rākṣasas is, we are told, ‘to master the sports of lovemaking.’” When these rākṣasic desires are aimed towards members of the human race—especially on the part of female rākṣasas, called rākṣasis—this sexual force becomes all the more problematic.

As previously discussed, we can look to Sītā as a role model of positive behavior, and to Kaikeyī as the opposite. The sexuality of rākṣasis, however, seems to function in another realm altogether, far surpassing that of Kaikeyī’s, both in the strength of its lust, and in its potential for destruction. While for Kaikeyī, sexuality is but a means to a political end, for Śūrpaṇakhā—who proclaims to Rāma, “I am prepared to defy [all my people],”—violence is the means to an ultimately sexual end. Most appropriately, violence is served as the repercussion for such unwarranted sexuality—taking orders from Rāma, Lakṣmana mutilates Śūrpaṇakhā by slicing off her nose and ears, a traditional means of humiliating punishment for women who have transgressed sexual or marital norms.

Contextually, this violent reaction makes perfect sense, for Rāma is simply trying to preserve dharma. Pollock says, “it is Rāma’s duty as king to exact punishment in general, and specifically punishment for infringement of the sexual code”—but how does one reconcile this expectation with Bhīma’s actual marriage to the rākṣasi Hiḍimbā? Much is revealed when we take a deeper look at the differences between Rāma and Śūrpaṇakhā’s relationship, and Bhīma and Hiḍimbā’s. Firstly, “[i]t is a nearly invariable motif in Sanskrit literature that female rākṣasas assume forms of stunning beauty to seduce men.” Hiḍimbā utilizes this method to appear “in the form of a beautiful girl,” and though this does not initially work with Bhīma, it certainly does not work against her. On the other hand, though Śūrpaṇakhā is capable of a transfiguration, she decides for whatever reason against doing so. Śūrpaṇakhā appears “ill mannered, repellent,” “misshapen and potbellied,” with “beady” eyes, “copper” hair, and a voice that “struck terror.” The humor of this “old hag,” notes Pollock, and it functions to make Rāma’s rejection of Śūrpaṇakhā all the easier, and Lakṣmana’s disfigurement of her face all the more palatable.

In addition to these superficial distinctions between Śūrpaṇakhā and Hiḍimbā, there are more substantial ones as well. While Śūrpaṇakhā says to Rāma, “I am prepared to defy [all my people],” Hiḍimbā, like the idealized human wife, is willing to make the much greater sacrifice of actually killing her own rākṣasa family in order to be with Bhīma. Furthermore, it is evident that Śūrpaṇakhā is concerned with only her own happiness—“free of any rival,” she says, “I shall live happily with

34 Ibid.
36 Pollock, “Rākṣasas and Others,” 79.
37 Ibid., 78.
38 Smith, Mahābhārata, 62, Book I: 139.
40 Ibid., Sarga 16: 8.
41 Pollock, “Rākṣasas and Others,” 78.
43 Smith, Mahābhārata, 62, Book I: 142.
you.” In human marriages, however, the husband’s happiness is what should always come first, and were Rāma to marry Śūrpaṇakhā, perhaps he would have had to yield to her rākṣasi ways. With Hiḍimbā, though, Yudhīśṭhīra ensures that Bhīma will maintain his humanity by making it a condition of their marriage that Bhīma “return to his family each night.” Furthermore, Hiḍimbā ends up actively “[assisting] the Pāṇḍavas” in the most ideal of ways: she births a supremely powerful son named Ghaṭotkaca, assumes full responsibility of raising him, and above all, he eventually returns to sacrifice his life for Arjuna’s. Perhaps a final reason that Bhīma and Hiḍimbā’s transgressive marriage is condoned is that it did not last long: immediately after the birth of Ghaṭotkaca, “Hiḍimbā told Bhīma that their time together had run out.”

This can be interpreted as her acknowledging the nature of their marriage as too transgressive to be allowed to endure—especially now that it has served the function of producing warrior offspring. Thus we see that, compared to Śūrpaṇakhā, only goodness and humanly feminine submission come from Hiḍimbā.

GAṅGĀ

It is interesting to note that we do not witness nearly the amount of goodness toward the husband—and none of the submission—when it comes to marriages between men and goddesses. Harman notes that it is rare to begin with and, given the custom of hypergamy, the term for a man “marrying down,” it is easy to see how marriage between a man and goddess could pose quite the challenge to patriarchy. The marriage between the goddess Gaṅgā and King Śaṃtanu in the Mahābhārata deals with this issue in a very revealing way. Gaṅgā has disguised herself as a human woman without name, which places her in both a vulnerable and suspicious position, for she has no patriline to legitimize her. It is markedly transgressive to see this “woman” acting with defiance, independence, and control of her husband Śaṃtanu who, most perplexingly, is a king who can trace his authority back for generations.

Nonetheless, she commands him to never question her actions, lest he be willing to be abandoned by her, and the action she subsequently takes is the murder of the first seven heirs to his kingdom. There are indeed many parallels between this situation and that between Kaikeyī and King Daśaratha, but unlike Kaikeyī, Gaṅgā is never condemned for her behavior, and this rests entirely in her divine nature. Harman explains that “sacred marriage has much to do with organizing devotees’ perceptions of the relationships [they] might have with their deities,” and where mortal marriages function to reinforce a hierarchy based on gender, sacred marriages reinforce a hierarchy based on order of being. Because the audience of this tale is fully aware that this “supremely beautiful woman blazing with beauty” is in fact a goddess, her otherwise transgressive behavior is accepted as in line with her divinity, and the larger forces of divine will.

Preceding the marriage, Gaṅgā had been divinely appointed to take on human form and act as the human birth mother of the eight heavenly Vasus cursed to painful mortal births, the eighth of whom was additionally cursed to suffer through a mortal life. Gaṅgā goes on to wed King Śaṃtanu, and their children are incarnations of the eight Vasus. She immediately drowns the first seven children in order to return those Vasus to the pleasures of heaven as quickly as possible, but just after the eighth birth Śaṃtanu confronts Gaṅgā, who then leaves him to return to her proper place in the heavens. It is this specific, divine order making behind the unconfronted murders of Śaṃtanu’s first seven sons, rather than feminine evil, that takes precedence in this myth. Following Harman’s suggestion about the purpose of sacred marriage, perhaps what devotees are to take from this legend is that, when circumstances seem unfair or devastatingly cruel, there could, for all one knows, actually be a divinity at work. Gaṅgā’s disregard for any of the traits that define an ideal wife is justified in that she exists not to serve a mortal husband—a being beneath her—but to serve the greater concern that is divine order-making.

44 Pollock, Rāmāyaṇa: Aranṇa Kāṇḍa, 123, Sarga 16: 16.
45 Smith, Mahābhārata, 62, Book I: 143.
46 Ibid.
47 Smith, Mahābhārata, 62, Book I: 143.36.
49 Ibid., 3.
50 Smith, Mahābhārata, 30, Book I: 92.26.
CONCLUSION

These are but a few of the many instances of transgressive marriage that vividly color the Hindu epic tradition. While it is nearly impossible to define this lot of women, rākṣasis, and goddesses by any singular characteristic—the nature of transgression is to extend beyond set standards—what we can take away is a unified sense of what these unique females were not, and thus what the “ideal” woman was desired to be. Like Sītā, she was not self-concerned but self-sacrificing; not aggressive but submissive; not demonic but pious; not fickle but devoted.

However, it is impossible to limit a discussion of Sītā and gender norms to the past tense of ancient Hindu society. Altekar says “[t]here is no doubt that the average Hindu wife” throughout the centuries “lived[d] up to the ideal. Hundreds and thousands […] have followed similar courses [to Sītā’s], but they were too humble in society to be known to history or tradition.” Even today, in a poll conducted some 2,000 years after the Rāmāyaṇa was composed, “an overwhelming percentage” of “one thousand young Indian men and women [still chose] Sītā for their ideal female role model.”

Indeed, Sītā continues to be a key topic in debate in contemporary gender politics. “In popular perception” Sītā’s offer to undergo agnipariksa, or “trial by fire,” is steadfastly maintained “as an act of defiance that challenges her husband’s aspersions,” where her confidence in purity is something to be lauded. Many feminist scholars, though, instead view agnipariksa “as an act of surrender to the whims of an unreasonable husband,” finding issue with the questioning of her purity to begin with. With a different lens, a growing group today sees Sītā not as ideally virtuous, but unideally weak: she is more restrained than sensual; unassertive, instead of ambitious; silently suffering, not forthright; and ultimately bound, with little independence.

This latter, mostly academic, interpretation is distinctly at conflict with popular gender norms, which continue to in many ways align with the ancient ideal. Not surprisingly, “[p]olitically inspired attempts to make [Sītā] lose the very qualities that make her [Sītā]”—such as replacing “defiance” with “surrender”—“are resented or simply dismissed” by society at large. For those concerned with women’s liberation movements in Hindu societies, Kishwar asks the important question, “Do we disown tradition and position ourselves outside it, or do we accept it as our own, in the way we accept our gene stock?”

Sunder Rajan, too, criticizes the practice of academic imposition for political ends. She argues that, especially if “‘elite’ intellectuals” lack “personal religious conviction”, they should abandon altogether the “use of religious symbols in social movements for change.”

While it is clear what role Sītā and her transgressive counterparts played in constructing ancient Hindu gender norms, what will be the role of these females in modern times? Goldman and Sutherland Goldman note that “the influence of the Rāmāyaṇa on the hearts and minds of the Indian people—far from waning with time—has grown both more powerful and more apparent in recent years,” and indeed an “almost staggering profusion of Rāmāyaṇa versions in the high literary, folk, and—more recently—popular genres” continues to be produced. Thus we see that, even as secular scholars and activists move away from reinterpreting Sītā’s identity for social movements, there is still an active space for reinterpretation within Hindu society. Voiced by the everyday storyteller, only time will tell whether the continual rebirths of Sītā, and the traits that define her as ideal, yield preservation or change.

54 Ibid.
55 Ibid.
57 Goldman and Sutherland Goldman, Rāmāyaṇa, 92.
58 Ibid., 90.
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TWO VERSIONS OF THE RAMAYANA AND THE CONCEPT OF LOKASAMGRAHA

Maya Agarwal

ABSTRACT

This paper explores the concept of Social Service or Lokasamgraha in two major literary works relating to Lord Rama, the Valmiki Ramayana and the Tulsi RamcharitManas. Maharshi Valmiki composed the Ramayana in Sanskrit more than two thousand years ago, while Saint Tulsidas wrote his RamcharitManas in Avadhi, a dialect of Hindi, in the 16th century. While both writers focus primarily on the story of Rama and his worldly experiences as a human incarnation of Lord Vishnu, they also identify various subtexts that provide key markers to the milieu and context in which they lived. One of these subtexts is the concept of Social Welfare or Lokasamgraha, a term found originally in the Mahabharata, and specifically in the Bhagavad Gita. Both writers intertwine social ideas with the legend of Rama as they weave their Ramkatha tapestry. However, Tulsi emphasizes Lokasamgraha-like concepts much more than Valmiki in his rendering of the Rama story. This paper advances several hypotheses relevant to this difference in perspective between the two authors, and suggests that the two renditions provide not just interesting versions of the Ramkatha, but also kaleidoscopic insights into the extant social fabric that differentially influenced the mindset of Valmiki and Tulsi as they narrated the Rama story.

TWO VERSIONS OF THE RAMAYANA AND THE SOCIAL WELFARE CONCEPT OF LOKASAMGRAHA

The concept of Lokasamgraha or Social Welfare carries immense Vedantic reasoning in its support. The Vedas originally refer to Social Welfare (Rigveda 10.63.12) with the implied injunction:

Sarve bhavantu sukhinaha
May all be happy.

Subsequently, the Mahabharata and, specifically, the Bhagavad Gita introduced the term Lokasamgraha to refer to social cohesion or, more broadly, Social Welfare. Since this concept is so crucial to understanding Indian literature from an early time, a logical question is whether, and more importantly, how it is incorporated in the other great epic, the Ramayana of Valmiki, and by extension, in other important renditions of the story of Rama, or the Ramkatha, such as the RamcharitManas of Tulisidas. An allied question is what the Ramkatha (the story of Rama in its various forms) have to say about the behavior of a Karma-yogi involved in the practice of Lokasamgraha.

The story of Rama, in its numerous versions, has a consistent subtext on the idea of Social Service. This paper comparatively studies the concept of Lokasamgraha or Social Service in two versions of Ramkatha, namely Valmiki Ramayana and Tulsi RamcharitManas (or Manas). While the concept of Lokasamgraha appears only superficially in the Valmiki Ramayana, it is pervasive in the guise of allied variants like Jagmangal in the Tulsi version of the Ramayana. Drawing inspiration from Satya P. Agarwal’s – himself a University of California, Berkeley Ph.D. from 1957 – extensive writings on Lokasamgraha pertaining to the Gita, I will argue this hypothesis in the context of Ramkatha by showing that there are sections in the Tulsi RamcharitManas where Jagmangal is referred to in its various guises, but the corresponding idea of the Valmiki version does not similarly stress social values to the same degree. I will further suggest that Tulsi’s references

2 Rigveda 10.63.12.
to Loksasmgraha have a possibly deeper intent, namely, to identify the role of Social Service in achieving the purpose of life from the perspective of Indian philosophy. In the Valmiki text, the language on the social welfare idea is either watered down relatively to the Ramcharit-Manas or entirely absent. Furthermore, the link to the human mind and achievement of purpose of life are conspicuously absent in the Valmiki text. I hypothesize that the deeper links of Lokasamgraha with the purpose of life are explored comparatively more in the Manas because of the different time period when it was written as compared to the older Valmiki text. I will also conclude by suggesting hypotheses for the significant disparity in emphasis on social themes between the older Valmiki Ramayana and the relatively more recent Tulsi RamcharitManas.

In a major piece of literary research, Agarwal identified ten key words or phrases in the Bhagavad Gita and the Tulsi RamcharitManas (henceforth, Manas) which incorporate the Lokasamgraha theme of the “Good of All.” Since the Manas was originally written in a Hindi dialect, Tulsi used a simpler Hindi word, “mangal,” which means “good” or “welfare” to denote the concept of social benefit. In order to universalize the concept for the larger good, he prefixed it to create the words, “jag-mangal” or “sakal-mangal,” which mean “universal welfare” or “universal good” or “good of all.” Each of the ten Lokasamgraha-related ideas of the Manas (where the jagmangal concept is introduced by Tulsi) and the corresponding sections or ideas in the Valmiki Ramayana (or, Ramayana, for short) are investigated in this paper. For only four of those ideas is there a corresponding reference to that Lokasamgraha concept in the Valmiki text, and there is an apparent absence of the remaining six ideas in the Ramayana. I now proceed to identify and discuss each of the ten social service ideas of the Manas and the Valmiki Ramayana, starting with the four common Jagmangal ideas of the two texts.

SARVABHUTAHITAM

The most prominent overlapping section of the Manas and the Valmiki Ramayana is the concept of “sarvab hutahitam” or “welfare of all beings.” According to Agarwal, this expression from the Bhagavad Gita has been translated by Tulsi in a variety of ways, including sarva-hit, sarva-sreyaskari, sakal-hit, sakal-mangal, sab kanha hit, sakal-sukh and others. However, Agarwal points out that by far the most widely-used expression for the Lokasamgraha concept of sarvabhutahitam in the Manas is sakal mangal, which is the exact counterpart to sarvabhu tahitam. Manas contains several references to sakal mangal, or simply mangal, especially in the “Balakanda” and “Sundarkanda.” For example, in the “Balakanda,” a popular prayer for Bhagavan Rama is:

Mangal bhavan amangal hari
That is, Rama is the abode of well-being, and He removes all non-mangal or “miseries.”

Judging from the context, this could be interpreted as saying that Bhagavan Rama is the abode of lokasamgraha, and also Sevat sulabh sakal sukh dayak
That is, God is attainable by those who serve mankind.

In “Sundarkanda,” Tulsi says:

Jasu sakal mangal maya kiti
And

Sakal sumangal dayak
Raghunayak gun gan
That is, Bhagavan Rama’s glory brings about sakal mangal and those who narrate the virtues of Rama, that is, the devotees of Rama are immersed in sakal mangal. This idea appears in three separate sections of the Valmiki Ramayana, in “Balakanda,” “Aranyakanda,” and “Kishkindhakanda.” For example, in “Balakanda,” Valmiki says:

5  Agarwal 27.
6  Specifically shlokas 5.25 and 12.4.
7  Agarwal 29.
8  Agarwal 113-114.
Ma nishada pratishtham tvamagamah shashvatih samaah
Yat kraunchmithunadekamavadhih kamamohitam

Literally, O hunter, since you have killed two mating birds, you will be deprived of peace of mind forever. By interpretation, individuals who hurt those who have not harmed anyone, will never attain peace of mind.

While the references to sarvabhutahitam are numerous in both texts, Manas and Valmiki Ramayana, it is clear that the kind of emphasis and variety accorded to this concept in Manas is missing from the Ramayana. This is noticeable both by the difference in the number of instances where the sarvabhutahitam concept appears in the two texts, as well as by the tone and subtext accompanying the reference to this idea. For example, while the Manas makes comprehensive use of sarvabhutahitam to refer both to Bhagavan Rama as well to those who, immersed in his bhakti (or devotion), wholeheartedly espouse the “welfare of all,” Valmiki Ramayana is more nuanced. The Ramayana employs more indirect linguistic techniques to perhaps water down the sarvabhutahitam concept for the devotees as compared to the Manas; for example, in the above reference from the Ramayana, Valmiki condemns those who criticize the followers of sarvabhutahitam, while not positively affirming the actual bhaktas who espouse this path of the welfare of all. By this approach, Valmiki reveals an approach to sarvabhutahitam which is not quite as emphatic as that of the Manas.

LOKASAMGRAHA

The second instance of overlap between Manas and Valmiki Ramayana is with reference to Lokasamgraha or “good of all.” Manas contains several “practically synonymous” expressions like jagmangal, jagat-hit, sansar-hit, vishva-upkar, sakal-lok-hit, and others.9 The word jagmangal occurs six times in the Manas.10 The most well-known of these is in “Balkanda:”

Ram katha jag-mangal karni

That is, Tulsi declares himself to be writing the Ramkatha for the purpose of jagmangal, or good of humanity. Again in “Ayodhyakanda,” Guru Vasistha declared:

Ram janan jagmangal hetu

That is, Bhagavan Ram has appeared as an avatara, or incarnation, upon the earth with the express purpose of jagmangal or universal social welfare. Finally, in “Uttarakanda:”

Parhit saris dharam nahn bhai

That is, there is no duty as great as helping others.

Valmiki Ramayana is very emphatic on this idea of the welfare of all. For example, in “Uttarakanda:”11

Lokapeedakaram karma na kartavyam vichakshanaih

That is, never do anything which can cause harm to the world or its inhabitants. Again, in “Ayodhyakanda,”12 Valmiki says:

Asmasu Manasaapyesha naahitam kinchidaacharyata

That is, we should never even think about doing anything but Lokasamgraha.

All of these specific examples from the two texts serve to illustrate that the concept of universal social welfare infuses, if not pervades, both texts of Ramkatha. The difference in tone between the two texts again becomes quite obvious, even though in numerical terms, the frequency of occurrence of the Lokasamgraha reference is quite comparable between them. For example, as for the sarvabhutahitam variant of the previous section of this paper, the above examples point out once again the use of the “double-negative” linguistic technique by Valmiki Ramayana that indicates a somewhat milder emphasis to Lokasamgraha than for the Manas. The latter text is categorical in its

9  Agarwal 29.
10  Agarwal 127.
12  Gita Press, volume 1, page 422, verse 13.
message that the story of Rama has the clear subtext that Lokasamgraha underpins the purpose of life. Indeed, Tulsi declares himself to be writing the Manas for the cause of Lokasamgraha, thus blending the message of the story of Rama with the act of writing about it as a shining example of linguistic synthesis, namely, espousing the cause in the process of writing about it. By contrast, Valmiki Ramayana is more dispassionate about Lokasamgraha than the Manas, and appears to push the case in an impersonal manner that fails to drive home Lokasamgraha as a central theme of the epic.

**AASURI SAMPAT**

A third instance of the overlap of Lokasamgraha concepts in the two texts is with reference to the idea of *asuri sampat* or “succumbing to the forces of evil” or those forces which will do harm to the world.\(^\text{13}\) The specific idea being presented here by both Ramkatha authors is that there are forces in the world who want to pursue the path of social harm. Both authors refer to such individuals as evil-doers.\(^\text{14}\) The special terminology used in Manas to refer to the epoch when such tendencies are prominent is called Kaliyuga, where society is in the grip of evil-doers who are committed to act against Lokasamgraha. The “Uttarakanda” section of Manas contains gripping verses relating to this idea of Kaliyuga and what it entails. Correspondingly, Valmiki Ramayana’s “Uttarakanda” is also replete with oblique references to this idea of Kaliyuga (since the term “Kaliyuga” is not actually used), or time period dominated by evil-doers. For example, Tulsi proclaims in “Uttarakanda” that “the most dangerous outcome of kumati or tarnasika buddhi or “a mind focused on committing evil” is evident in Kaliyuga (Agarwal, 163, para 11.30):

\[\text{Tamas bahut rajogun thora} \\
\text{Kali prabhav virdh chahun ora}\]

That is, “Kaliyuga’s problems arise because of the preponderance of *tamasika buddhi* and the net result of this behavior is universal conflict.”\(^\text{15}\)

A similar view is expressed by Valmiki in “Uttarakanda.” For example, in reference to the evil deeds of Ravana, Valmiki says:

\[\text{Nidrabhibhute tu taka kumbhkarne dashaananah} \\
\text{Devarshiyakshagandharvan sanjaghne hi nirankushah}\]

That is, when Kumbhakarna was overcome with sleep,\(^\text{16}\) the ten-headed Ravana took over, plundering and tormenting the good people of the world.\(^\text{17}\)

Both Tulsi and Valmiki utilize the concept of *asuri sampat* as the opening for ushering the arrival of *daivi sampat* or divine acts to counterbalance the evil, and perform Lokasamgraha to restore humanity to its natural equilibrium. There is, however, one very important difference between the two texts with reference to *asuri sampat*, namely, that Manas attempts to analyze the link between *asuri sampat* and the meaning and purpose of life, while the Valmiki Ramayana remains superficial in its treatment of this concept. Thus, Manas clearly refers to the causal basis for *asuri sampat* as a problem with the human mind and its inability to adequately control one of its four elements, *ahamkara* or ego. Only when the ego is suppressed during a process of mind control, can the other three elements of the human mind, namely, *chitta*, *manas*, and *buddhi* achieve a higher degree of weightage in human decision making. This type of deeper analysis is entirely missing from the relevant sections of the Valmiki Ramayana dealing with *asuri sampat*. One reason why Tulsi’s Manas makes a bigger point of this causal analysis could be that it was written in a time period when some of these ideas had already crystallized in the Indian psyche and were thus much more palatable to the society and to the reading audience than they would have been during the time when the Valmiki Ramayana was composed. According to Radhakrishnan and Moore (Sourcebook of Indian Philosophy), the Brahma Sutras which comprise some of the core ideas of the meaning and purpose of life were only produced either contemporaneously or later than the Ramayana, thus it is reasonable

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\(^{13}\) Agarwal 27.
\(^{14}\) Agarwal 155.
\(^{16}\) After having committed his “evil” work
\(^{17}\) Interpreted from Gita Press Hindi translation, Volume 2, Uttarkand, page 632, verse 8.
that Valmiki did not (or indeed, could not) delve into deeper philosophical links of *asuri sampat* to the extent that Tulsi, writing more than a millennium later, was able to do.\textsuperscript{18} Alternatively, one could hypothesize that Tulsi’s subtle references to Indian philosophical ideas were a form of “passive resistance” to the colonial rule of the undemocratic, autocratic alien rulers, who represented a religion different from his own and had taken hold of political power in North India.\textsuperscript{19} For example, there is a section in the *Manas* where Tulsi refers to “Rama-nama” or uttering the name of Rama as a prime source of solace at a moment of “sankat” or difficulty, referring to social turmoil.\textsuperscript{20} Tulsi is probably providing a veiled reference to helplessness and despair experienced under the difficult circumstances of the time when the Indian peninsula was buffeted by strife and turbulence with the ascendance of the Mughals to the throne in the northern region. Indeed, this argument could be extended to propose that the very act of composing the *Manas* was itself a form of “Rama-nama” or an attempt by the composer to achieve mental composure by seeking divine guidance and blessings through his religiously-inspired writing (a form of “bhakti”). By contrast, Valmiki during his time faced no such social or political circumstances and thus was not propelled to explore deeper links of his Rama story to the underlying tenets of Indian philosophy.

**DAIVI SAMPAT**

The fourth instance of overlapping ideas relating to a Lokasamgraha concept in the two texts is with reference to the idea of *daivi sampat* or “promotion of virtues.”\textsuperscript{21} According to *Manas*, virtue-promoting individuals will proliferate in a society where *dharma* or the whole gamut of socially cohesive actions is the law of the land as in “Ram rajya” or the rule of Bhagavan Ram. Philosophically, this is the opposite of Kaliyuga and it finds prominence in both texts of *Ramkatha*. For example, in “Uttarakand,” both Tulsi and Valmiki have emphasized the linkage between Lokasamgraha and the rule of law:

\begin{center}
\begin{tabular}{l}
Chariu charan dharma jag mahin
Puri raha sapnehun agh nahnin...
Ram bhagati rat nar aru nari
Sakal param gati ke adhikari...
Sab udar sab par upkari
\end{tabular}
\end{center}

That is, “people in Ram rajya did not commit sin because they were guided by truth and purity. Their bhakti was not self-centered, rather was motivated by compassion and sharing. Since they helped one another, there was no doubt about their attaining the highest state of liberation.”\textsuperscript{22}

The corresponding sentiment of the linkage between social welfare and the rule of law as in *Ram rajya* is also pervasive in Valmiki *Ramayana*. A specific example from the “Uttarkanda” identifies the general good health of all members of society in *Ram rajya*:

\begin{center}
Jeernanaamapi sattvaanam mrityurnaayati raghava\textsuperscript{23}
\end{center}

That is, even aged creatures did not die.\textsuperscript{24} This could be interpreted as suggesting that social welfare, good health of all and the rule of *dharma* or right conduct go together as in *Ram rajya*.

Once again we find that the two texts of the story of Rama are similar when looked at from a superficial lens of identifying instances of linkage between *dharma* and law. The difference between the two texts, however, becomes clearer when we dig deeper into the subtle linkages which Tulsi draws between *daivi sampat* and achieving the purpose of life, a linkage which is conspicuously absent in the Valmiki *Ramayana*. Thus, the above quote from Tulsi’s “Uttarakanda” clearly suggests that those who perform Lokasamgraha-type actions by virtue of their *daivi sampat* can achieve the goal of liberation. This critical concept of the link between *daivi sampat* and transformation of the

\begin{itemize}
\item \textsuperscript{18} Interpreted from Gita Press Hindi translation, Volume 2, Uttarkand, page 632, verse 8.
\item \textsuperscript{19} Although this region was not called North India at that time. In any case the reference is to the northern part of the South Asian peninsula.
\item \textsuperscript{20} Interpreted from Gita Press Hindi translation, Volume 2, Uttarkand, page 632, verse 8.
\item \textsuperscript{21} Agarwal 27.
\item \textsuperscript{22} Agarwal, 175, para 12.30.
\item \textsuperscript{23} Gita Press, Uttarkand, volume 2, 713, verse 19.
\item \textsuperscript{24} Translated by Professor Robert Goldman of the University of California, Berkeley.
\end{itemize}
human mind is fundamental to all three major philosophical texts in Indian philosophy, namely, the *Upanishads*, the *Bhagavad Gita* and the *Brahma Sutras*, together known as the prasthana traya. Another implication of this type of textual analysis in Tulsi *Manas* is that it points to the achievability of salvation, or *moksha*, before human death. By bringing out this crucial idea in the *Manas*, via the concept of Lokasamgraha, Tulsi was able to leverage ideas like *daivi sampat* to provide traction for emerging views on the achievement of *moksha*-while-living\(^\text{25}\), as opposed to nirvana or *moksha*-after-death or the transmigration of the “soul” which had been emphasized by Indian philosophers in the time period between the composition of the *Rāmāyana* and the *Manas*.

Besides the instances of overlap between the two *Ramkatha* texts with respect to Lokasamgraha, there are several nuances relating to this general idea, which appear in *Manas* but not in Valmiki *Rāmāyana*. Agarwal has identified six of these instances.

**AVIBHAKTAM VIBHAKTESHU**

The first instance of social welfare evident in the *Manas* is that pertaining to “seeing unity in the midst of diversity.” Another way of explaining this concept is to refer to “broad-based dharma” which gives people the freedom to practice dharma in any way they please without pressure or duress from any quarter.\(^\text{26}\) The implication of this idea is that it reduces the prospect of conflict between individuals since it calls for tolerance of all approaches to dharma. Tulsi, in “Uttarakanda,”\(^\text{27}\) of the *Manas* says:

*Kehi san karahi virodh*

That is, “because of the unifying vision (of dharma), with whom can a *bhakta* (or devotee) have any conflict?”\(^\text{28}\)

Besides this, the following five instances of the use of variants in *Manas* have no corresponding reference in the Valmiki *Ramayana*. These instances are as follows:

1. **Matkarma** (Lokasamgraha as Divine work)

   This expression appears repeatedly in the *Manas*, especially in “Balahkanda,” “Kishkindhakanda,” “Sundarakanda,” and “Lankakanda” in the guise of the allied concept of Ram-kaj or God’s work.\(^\text{29}\) For example, in “Ayodhyaakanda,” Tulsi says:

   *Vishva bharan poshan kar joi*

   That is, God protects and nourishes the entire universe.

2. **Yogaruddha vritti** (Lokasamgraha seen as saintly work)

   Tulsi uses the word “sant-lakshana” in *Manas* to express this idea of saintly involvement in Lokasamgraha as a “beacon” for others.\(^\text{30}\) For example, in “Ayodhyakanda:”

   *Sab ke Priya sab ke hitkari... Je harshahin par sampati kekhi... Jati-panti...taji...tumahi ur lai.*

   That is, “saints or godly men do good to all, and are loved by all. They rejoice when others prosper.” They do not discriminate among people.\(^\text{31}\)

3. **Desh-kala-patra** (Lokasamgraha concept is relative with respect to time, place and recipient)

   Tulsi’s “Ayodhyaakanda” provides an example of this Lokasamgraha idea:

   *Desh kal lakhi samay samaju...*

   That is, Bhagavan Rama’s words “aimed to achieve good of all, in a manner which took into account considerations of time, place, occasion, and society.”\(^\text{32}\)

4. **Nirmamo niramkarah** (Lokasamgraha involves abandoning mineness and egotism)

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25 An idea which may have found its origins in the concept of *jivan mukti* in the *Bhagavad Gita*.
26 Agarwal 31, para. 3.2.
27 Canto VIII.
28 Agarwal 28.
27 Maya Agarwal
29 Agarwal 57.
30 Agarwal 28.
31 Agarwal 86.
32 Agarwal 104.
“Manas” features this important idea in both the “Uttarakanda” and “Lankakanda.” For example, in “Lankakanda,” Tulsi says:

Main aru mor mudhta tyagu mahamoh nishi sutat jagu

That is, those who exhibit the arrogance of I and mine are living in a state of extreme darkness.

5. Samadristi (Lokasamgraha involves even-mindedness of vision)

Tulsi discusses this Lokasamgraha variant in “Kishkindhakanda” and links non-discrimination with social service. For example:

Main sevak sachrachar
Rup swami bhagwant

That is, we should serve the world in the spirit of non-discrimination to all.

All of these references serve to substantiate the hypothesis that the Tulsi Manas is much more emphatic than the Valmiki Ramayana in its stress on the concept of Lokasamgraha and its variants, both with respect to the quantity as well as quality. From the perspective of quantity, I have pointed out instances where the idea of Lokasamgraha appears in various sections of Manas but is correspondingly absent in that section of the Ramayana. From the perspective of quality, I have stressed that Manas is not only more categorical in its endorsement of the Lokasamgraha idea, but also that Tulsi makes a further bold leap, consistent with extant Indian philosophy, that there is a strong link between Lokasamgraha and the achievement of the purpose of life. This latter sentiment is conspicuously absent in the Valmiki Ramayana.

FURTHER HYPOTHESES FOR THE DISTINCTION IN EMPHASIS ON LOKASAMGRAHA AND ITS VARIANTS BETWEEN MANAS AND VALMIKI RAMAYANA

Based on extensive discussion with a scholar of Indian philosophy, Dr. Agarwal, I have three hypotheses that partly serve to explain the discrepancy in emphasis between the Manas and Valmiki Ramayana on the issue of Lokasamgraha. First, the time periods in which the two texts were written hugely influenced the content of the two classics with respect to Lokasamgraha. Valmiki wrote his book about three thousand years ago when the Lokasamgraha concept was just being developed in the Mahabharata. On the other hand, Tulsi wrote the Manas in the 16th century and was able to borrow heavily from the established canonical Indian literature like the Bhagavad Gita which stressed the Lokasamgraha idea forcefully. As a rejoinder, one could argue that the Mahabharata was presumably written earlier than the Ramayana, hence Valmiki probably did have access to the Gita and the Mahabharata at the time of his writing. Certainly the Vedas preceded Valmiki’s era, thus the quote “sarve bhavantu sukhinaha” and similar ideas were already known by the time of Valmiki. Under this scenario, one counterargument could be that, while Valmiki may have been theoretically familiar with the concepts of the Gita, the Mahabharata or the Vedas or other ancient texts, he did not necessarily see the concept of Lokasamgraha as a core idea of Indian philosophy. In any case, regardless of the timing of various texts of Indian literature and philosophy, and regardless of Valmiki’s familiarity with various essential concepts of these texts, he did not see fit to use it as a basic subtext of his own Ramayana.

Secondly, the period of the 16th century was a historically turbulent time in Indian history. There was extensive interfaith strife, both within Hinduism as well as between religious groups. This led Tulsi to incorporate Lokasamgraha concepts in his rendering of Ramkatha in order to address issues of social harmony. On the other hand, Valmiki’s time period around 1000 BCE was qualitatively very different since the idea of religion and particularly the notion of multiple religions was nonexistent, thus the issue of interfaith harmony was not very pertinent. Furthermore, as argued in this paper, perhaps Tulsi’s references to the deeper association of Lokasamgraha with the core of Indian philosophy were a way to introduce readers to the basic ideas

33 Agarwal 29.
34 Agarwal 139.
35 Agarwal 29.
36 Agarwal 149-150.
of Hinduism by way of referring to Lokasamgraha. His motivation to do so may have been triggered by a desire to passively resist alien rule in Northern India. In other words, Tulsi may have been the harbinger of non-violent resistance to foreign domination in India, although the region did not yet form an identity associated with this term. Contrast this with Valmiki during whose time period, the concept of an entity like India was even more nebulous, if not entirely premature. A fortiori, xenophobia or its weaker cousin, resistance to foreign domination, was not applicable to the epoch. Indeed, it was the Aryans whose “foreign” culture had taken hold in South Asia by the time of Valmiki, thus making him and his ilk part of the “ruling” class rather than the dominated, subject class as was the case with Tulsi.

Finally, Tulsi’s rendition of Rama, the hero of the epic, depicts him as an *avatara*, or incarnation of God, while Valmiki primarily refers to Rama as a human hero or ideal human being. This is not to say that Valmiki’s poem regards Rama as a mere human hero. The divinity of Rama is essential to his work and is explicitly conveyed in the first and last books. Goldman notes, however, “for Valmiki it is most important that, in order not to violate Lord Brahma’s boon to Ravana, Rama is not supposed to be fully aware of his own divinity until he has accomplished his avataric mission.” Thus, even though Valmiki knows Rama as an *avatara*, he utilizes the protagonist pervasively as a human hero throughout the text. He refers to Rama-as-*avatara*, while not using the actual term *avatara*, mostly at the beginning and ending sections of the *Ramayana*, for example, in the “Yuddhakanda” and “Balakanda,” while focusing largely on the Rama-as-human aspect of Rama in the main body of the epic.

This difference in concept between Valmiki and Tulsi relating, respectively, to the explicit versus predominantly implicit acknowledgement of the divinity of Rama results in a vastly different mix of attributes associated with the hero between the two texts. In the *Manas*, Rama, by virtue of his exalted status and link to divinity, is essentially a god-man. In this garb, his abilities and prowess can transcend the mundane limitations of the human species. Thus he is shown as being capable of superhuman acts of virtue including welfare of “all,” which referred to *trailoka* or the three worlds, a geographical idea that conceptually went beyond the concerns of the citzenry of Ayodhya or of the region in which he governed. By contrast, in Valmiki *Ramayana*, the hero, being human and, for the most part, a mere mortal, is capable of a more limited, circumscribed set of accomplishments and potentialities. He thus adheres to a narrower concept of Lokasamgraha that is not as far-reaching as the welfare of “all” since that would be inconsistent with the physical and intellectual endowments of the *purushottam*, the super-human. Rama is seen largely confined to the welfare of his subjects in his kingdom of Ayodhya, rather than in the more expansive “world” of a larger section of humanity. Thus, while Rama in the *Ramayana* may have ushered the idea of social welfare in his *Rama rajya* (the era of perfect social well-being), nevertheless the references to this aspect of *Rama rajya* are firstly, in reference largely to his own kingdom, and secondly, not a predominant element of Valmiki’s poetry relating to Rama’s governance, as narrated in “Yuddhakanda.” Overall, the crucial difference in pervasively, as well as explicitly, stated attributes of Rama, the major protagonist, creates a significant split in emphasis on social values in the two texts: the *Ramayana*’s Rama is simply not explicitly empowered, or concerned with Lokasamgraha, in large parts of the *Ramayana* to the extent of his namesake in the Tulsi *Manas*.

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40 Richman 6.
41 Email from Robert Goldman to Maya Agarwal, March 7, 2014
42 Verse 105.
43 Verse 18, where he claims Rama to be as powerful as the omnipotent Lord Vishnu himself.
44 Agarwal 229.
45 The stories of Ahilya and Shabari are probably exceptions to this general hypothesis.
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THE DAMNED POLITICS OF SARAWAK: RETHINKING THE BAKUN MEGAPROJECT IN MALAYSIA

Pisacha Wichianchan

ABSTRACT

Large dam projects have historically been linked with the aspiration to overcome challenges associated with rapidly growing demands for energy. Although many national leaders equate large dam construction with ingenuity, modern research reveals that the impacts of large dams are more harmful than beneficial. Despite this fact, the governments of many developing countries still continue to construct large dams in the name of public welfare. The Bakun Dam in Sarawak, Malaysia, is a prime example of such projects in which the government alleged its construction as benefiting the people. However, when further investigated, one finds that the motivations behind the Bakun Dam construction project were far removed from the promotion of public welfare. Even though the Malaysian government purportedly built the Bakun Dam in the name of the people, the reality is the construction of the dam, which started in 1994 and completed in 2011, contradicted public opinion and was highly susceptible to government corruption.

INTRODUCTION

Geographically the Bakun Dam is located at the Balui River in...
Sarawak, a Malaysian state on the island of Borneo. Under the former Prime Minister Mahathir Mohamad, the Malaysian government first proposed the Bakun Dam project in 1986. Mahathir and his administration argued that the dam would serve two purposes: to meet the nation’s growing demands for energy and to increase the national income by selling extra electricity to nearby countries. However, the project was shelved in 1990 due to a drastic decrease in energy demand that resulted from the 1985 national recession. Still led by Mahathir, the Malaysian government revived the project in 1993. The following year, the government awarded the construction contract to a private company known as Ekran Berhad. Deforestation and resettlement of the indigenous population subsequently took place. Although the High Court of Sabah and Sarawak ruled that the removal of the indigenous people was unlawful, the higher Court of Appeal overturned the decision and thus the project continued. The Malaysian government eventually halted the project again in 1997 due to the Asian Financial Crisis. In a campaign for the Malaysian General Election of 1999, Mahathir and his ruling party revealed their plan to revive the Bakun Dam project once again. In 2000, Mahathir and his party revived the project for the third time. Upon its operational date in 2011, the Bakun Dam became the world’s tallest concrete-face, rock-filled dam. However, contrary to the promise made by the Malaysian government, the Bakun Dam has underperformed considerably in terms of delivering benefits to the people. In fact, the Bakun Dam has contradicted the will of the people and was heavily associated with corruption.

AGAINST PUBLIC OPINION

I. Denial of Indigenous Rights

3 Siang, Lim Kit. “Call on Mahathir to Clarify the Revival of the Bakun Hydro-electric.” February 1, 2000.
4 Ibid., 1.

The most immediate and visible effect of the Bakun Dam construction was the marginalization of the indigenous people who lived in Bakun. In order to construct the Bakun Dam, the government of Malaysia forced about 10,000 indigenous people to relocate to the town of Kampung Sungai Asap in the late 1990s. The resettlement proved to be extremely difficult for the indigenous people for various reasons. Upon resettling in Asap, the government imposed a housing fee on the indigenous people, thereby leaving many families in debt. Their resettlement became even more difficult when the indigenous people discovered that Asap lacked fertile farmlands and fisheries that they once had and relied on for survival in Bakun. Due to its rocky and sloped terrain, much of Asap’s land was unsuitable to their way of life. Furthermore, the government had promised each indigenous family ten acres of farmland near their new home in Asap but provided only three acres when they arrived. To make matters worse, the plots were several hours away from Asap and many indigenous people lacked the appropriate means of transport such as public transportation or motor vehicles. In short, the Malaysian government officials refused to recognize the land rights of the indigenous people in Bakun and robbed them of their means of survival. In the act of forcibly removing the indigenous people from their land, government officials implied that their personal agenda was more important than the well-being of the indigenous people.

Over a decade since the forced resettlement, the indigenous people displaced by the project still struggle to survive, partly due to lack of legal identity and representation. According to the official web portal of the National Registration Department of Malaysia, MyKad is the mandatory national identification card for Malaysian citizens of age twelve and over. In his interview with National Geographic, Pana Erang, the chief of the Penan tribe, expressed his concern about the future of his tribesmen, “Many [indigenous people] do not possess a MyKad because of government policies making it difficult for them to

5 “Bakun Dam.” International Rivers. No date.
7 Ibid. 5.
8 “Identity Card.” National Registration Department of Malaysia. October 24, 2013

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prove citizenship. As a result, they cannot vote and would be unlikely to find employment if they were forced out of their ancestral homes into towns and cities.\textsuperscript{9} Despite being born and raised in the country, most indigenous people cannot attain citizenship in Malaysia due to unfair government policies that have relegated them to the fringe of society. Already rendered homeless, the government’s refusal to grant the indigenous people their rights to citizenship also left them voiceless and jobless. In other words, the Malaysian government systematically excluded the indigenous population from rights (e.g. housing, democratic participation, and employment) that are common to members of society and which are key to social integration. In forcibly removing the indigenous people from Bakun, the government officials of Malaysia effectively advanced their political agenda while undermining the living standards of an already vulnerable population.

II. Environmental Issue

In addition to denying indigenous rights, the Bakun Dam construction resulted in public concern about the environment. First, the government of Malaysia ordered the deforestation of 69,640 hectares of Sarawak’s primary rainforest, approximately the size of Singapore. One of the oldest and most diverse ecosystems in the world, Sarawak’s rainforest lost over 2,000 species and over fifty cubic meters of biomass due to the construction of the Bakun Dam began. Furthermore, water impoundment from the Bakun Dam resulted in greenhouse-warming effects and regional climatic changes in the local area due to the decomposition of biological matter.\textsuperscript{10} As one might expect, civil society actors rose up to oppose the Bakun Dam construction project. Over forty Malaysian civil society groups, including the World Wildlife Fund For Nature (WWF) Malaysia and the Environmental Protection Society of Malaysia (EPSM), joined together in the Coalition of Concerned NGOs on Bakun. According to Asia Times, the Coalition of Concerned NGOs on Bakun demanded that the government of Malaysia release all studies on the Bakun Dam. In response to the demand, the government simply gave feeble verbal assurance that the Bakun Dam project was environmentally friendly without providing any tangible evidence.\textsuperscript{11} The request made by the Coalition of Concerned NGOs on Bakun suggested that the public was overwhelmingly concerned about government activities in regards to the Bakun Dam construction. However, instead of responding in a manner that aligns with the will of the people, the government refused to disclose any information on the construction of the Bakun Dam, much less halt the project for environmental reasons. Moreover, the government’s refusal to provide transparency indicates that the government understood the detrimental effects of the Bakun Dam construction but chose to keep silent in order to minimize further public resistance.

Other times, government authorities explicitly spurned those who criticized the Bakun Dam project. For example, Mahathir Mohamad, the former prime minister of Malaysia, stated during his visit to the Bakun Dam construction site in Sarawak, “Malaysia wants to develop and I say to the so-called environmentalists: Mind your own business.”\textsuperscript{12} Mahathir’s warning served a two-fold purpose: to denounce the will of the people as treacherous and to push forward his own agenda. In his warning, Mahathir likened the environmentalists to enemies of the nation while claiming national development as the intention behind the action of his government. Mahathir thereby cleverly legitimized his continued effort to construct the Bakun Dam. Unlike an open government in which heeds the concerns of its people, the government of Malaysia advanced forward in their political agenda without taking public opinion into consideration.

III. Government’s Sanction of Violence

Not only did the government dismiss the concerns of the people, they also abused their power by suppressing open opposition to the Bakun Dam project. In some cases, the state responded to people’s

\textsuperscript{9} Ibid., 6.
\textsuperscript{10} Keong, Choy Yee. “Sustainable Development: An Institutional Enclave (With Special Reference to the Bakun Dam-Induced Development Strategy in Malaysia).” \textit{Journal of Economic Issues}. 2005.
protest through coercive power. One study reported the government’s sanction of armed forces: “in April 1996, protestors gathered at the Ekran Berhad office in Kuala Lumpur to deliver a memorandum condemning the Bakun project. Police used tear gas and batons to disperse the crowd. Police forces also used highhanded tactics to foil protest at the dam site.”\textsuperscript{13} Ekran Berhad was the company that the government contracted for the construction of the Bakun Dam.\textsuperscript{14} The protest against the Bakun Dam project at the company office signifies that the project affected the public in some serious and harmful ways. Instead of listening to the concern of the people, the Malaysian government responded to the peaceful assembly in a harsh manner. The government even manipulated the legal system in order to defend its own interests. Under the law, the government of Malaysia may ban a gathering and call for armed forces at its sole discretion. Using the Police Act, which states that all mass assemblies in Malaysia must require police permits from the government,\textsuperscript{15} the government of Malaysia did indeed outlaw the protest against the Bakun Dam project and called in police forces in the name of maintaining public order. Another study revealed that the government had successfully detained protestors in open opposition to the Bakun Dam project in the past. The report explains that “at least two NGO activists were arrested and detained under ‘Operation Lallang’, using the Internal Security Act (ISA), which allows detention without trial, for their anti-Bakun Dam activities earlier.”\textsuperscript{16} Operation Lallang refers to an event on October 27, 1987 in which the Malaysian police arrested 106 persons under ISA in order to prevent a race riot that was going to take place in response to the ruling government’s unfair treatments towards the opposition Democratic Action Party (DAP).\textsuperscript{17} Yet again, the government of Malaysia responded to the peaceful assembly in a manner inconsistent with the will of the people. The government maintained its draconian law, ISA, in order to push forward its political agenda without considering what the people wanted or needed. Similar to the Police Act, ISA restricts the freedom of assembly and democratic participation among Malaysian citizens. In addition, the rule deprives citizen of liberty without appropriate legal procedures and safeguards. Unlike a democratic government that listens to the voice of the people, the government of Malaysia did not treat the consent of the governed as the basis of its legal authority and legitimacy. Instead, the government of Malaysia abused its authority to suppress public opposition to the Bakun Dam project.

**“MONUMENT OF CORRUPTION”**

I. Failure to Deliver as Promised

Interestingly, the Bakun Dam failed to serve its stated purposes. The government of Malaysia claims that the purpose of the Bakun Dam was to improve public welfare, despite the many negative consequences of the dam. According to the official website of the Sarawak Corridor of Renewable Energy (SCORE), the current overseer of the Bakun Dam, the dam was supposed “to address the persistent socio-economic inequality constructively and productively, to improve the standard and sustainability of quality of life, and to move the economy up the value chain.”\textsuperscript{18} As addressed earlier, the government not only failed to improve the first two mentioned factors but also actually worsened the “persistent socio-economic inequality” and the “quality of life.” The third factor, the economy, is to be explored here.

Mahathir argued that the government constructed the Bakun Dam in order to meet the national economy’s growing demands for energy and to make profit by selling extra electricity to nearby countries. Although “the Bakun Dam now generates 2,400 megawatts, tripling Sarawak’s electricity production,”\textsuperscript{19} the state of Sarawak lacks the means to transfer the electrical energy to other parts of the country, much less outside of the country. As stated in *The Governance of Energy Megaprojects*, “Malaysian planners initially supported SCORE

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\textsuperscript{13} Ibid., 1.
\textsuperscript{14} Ibid., 1.
\textsuperscript{17} Siang, Lim Kat. “1987 Ops Lallang and Chinese Primary School Crisis.” *Homepage for Lim Kit Siang*. April 27, 2007.
\textsuperscript{18} “What is SCORE?” *Sarawak SCORE*. No date.
on the grounds that it would supply most of its electricity to Peninsular Malaysia, home to a majority of the country’s urban centers, via an undersea cable.”

However, the organization of International Rivers exposed the government’s failure to carry out the plan: “this plan was cancelled due to cost and feasibility concerns. The electricity generated by the dam is not needed within Sarawak.”

The government of Malaysia garnered some public support on the construction of the Bakun Dam by proposing the plan to improve the nation’s economy; however, the government broke its promise at very end. Malaysia was neither able to obtain the energy its growing economy needed nor sell its excess electricity to other nations. As an outcome, the Bakun Dam did not benefit the economy but rather put the country in further debt, which resulted from the project expenditure. Although the Bakun Dam did not fulfill any of its stated purposes, the government continued to support the project. One finds that the true motivations for the project lie far away from the well-being of the people.

II. Political Corruption

While most local people bore the burdens of the Bakun Dam construction, the ruling authority reaped the profits of the venture despite of the dam’s failure to serve its stated purpose. First and foremost, the Bakun Dam project was meant to influence the Malaysian General Election of 1999. Lim Kit Siang, the leader of the opposition political party called Democratic Action Party (DAP), argued that Mahathir and his ruling party of the Barisan Nasional revived the Bakan Dam construction project during an election campaign in order to win votes by appearing to create jobs and bring money into the economy.

After the Asian Financial Crisis in 1997, Malaysian citizens felt disillusioned by the anti-democratic rule of the government. Therefore, Mahathir and the Barisan Nasional sought ways to secure their seats in the government. In reviving the Bakun Dam project that had already failed twice in the past due to monetary shortcomings, Mahathir and the Barisan Nasional thought that its revival would raise confidence in job prospects among Malaysian citizens, thus increasing his party’s approval rating. In favor of maintaining their authoritarian rule, Mahathir and the Barisan Nasional used the Bakun Dam construction project as a tool to secure their seats in the government.

III. Cronyism

Unsurprisingly, the planning and implementation of the Bakun Dam suffered from cronyism, a common form of corruption among the government officials in Malaysia. The aforementioned demand for the disclosure of information on the construction of the Bakun Dam was not met largely because the government had close ties to those in charge of environmental assessment. This was evident in the government’s appointment of leaders on the environmental board. In 1995, the Sarawak government appointed its Chief Minister, who allegedly had direct financial interest in the Bakun Dam project, as the head the Sarawak Natural Resources and Environment Board. The Sarawak Natural Resources and Environment Board was responsible for Environmental Impact Assessment (EIA), a study that predicts the likely environmental consequences of a proposed development project. Appointing the Chief Minister of Sarawak to the Sarawak Natural Resources and Environment Board was problematic, because the same person then occupied two different positions (one of which is supposed to oversee another). In other words, appointing the Chief Minister of Sarawak to lead the environmental board allowed the government to have unlimited power over the construction of the Bakun Dam. Furthermore, the public could not engage in the EIA process. A researcher on the Bakun Dam comments on why this is harmful to society: “since the Sarawak EIA Guidelines do not allow public participation in the EIA process (unless the project proponents desire), there was no public input in the seventeen EIA studies.”

Once again, the government was able to push forward its agenda without heeding the concern of the people. In essence, the government of Sarawak did not derive its political power from the consent of the governed but rather through soft

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20 Ibid., 1.
21 Ibid., 5.
22 Ibid., 3.
24 “What is EIA?” Natural Resources and Environment Board Sarawak. No date.
25 Ibid., 23.
authoritarian practices.

Along with political cronyism, the Bakun Dam project suffered from financial corruption. The ruling party of Malaysia awarded privatized construction contracts to companies closest to the government. During the second revival of the Bakun Dam construction, the Sarawak Chief Minister offered privatized contracts to companies such as Ekran Berhad Pacific Chemicals. A researcher reveals that “the two sons of Sarawak’s Chief Minister used to hold more than four million shares in Ekran Berhad, as well as 17% of the shares of Pacific Chemicals, which has the contract for the current Stage I catchment logging, valued at 62 million USD.” The Bakun Dam project was not tendered publicly but instead awarded to companies with close links to the ruling government by contract. Without a public tender, government officials were allowed to select companies based on connections rather than merits. In fact, the Sarawak government did exactly that. In choosing which company to construct the Bakun Dam, the world’s second largest dam, the Sarawak government awarded the contract to Ekran Berhad although the company had never built a dam before. When Ekran Berhad halted the Bakun Dam project after the Asian Financial Crisis of 1997, the government paid the company 253 million USD as a compensation for the work already done. The fact that the Sarawak government hired an inexperienced company to work on such an enormous and costly project suggested that the government did not care much about the quality of the result. Instead, government officials were more interested in personal gains.

CONCLUSION

The Malaysian government claims to have built the Bakun Dam in the name of public welfare; however, the dam neither improved the living conditions of the people nor the economy. In fact, the Bakun Dam caused 10,000 indigenous people to lose their home and livelihood as well as destroyed the environment. On the other hand, government officials benefited from corruption as they used the Bakun Dam as a political tool to secure their seats in the government and to award their cronies. Dubbed as one of the world’s “monuments of corruption,” the Bakun Dam symbolized Malaysia’s lack of liberal democracy. On one hand, Malaysia had made some significant progress towards liberal democracy since the Bakun Dam project was initiated: civil society grew and Mahathir stepped down from his position as the prime minister after 22 years in office. On the other hand, however, the Malaysian government is currently initiating more and more projects like the Bakun Dam, specifically in the state of Sarawak. If the current trend continues and the process remains unmonitored, it won’t be long before Malaysia reverts to full-blown authoritarianism.

26 Ibid., 1.
27 Ibid., 23.
28 Ibid., 1.
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AN ASSESSMENT OF THE CONFLICT MANAGEMENT TOOLS OF THE KOREAN CONFLICT: FROM THE ARMISTICE AGREEMENT TO THE KAESONG INDUSTRIAL COMPLEX

Hoo Ri Kim

ABSTRACT

There have been numerous efforts to mitigate the conflict between South Korea and North Korea since the end of the Korean War in 1953. This paper presents an assessment of the different conflict management tools used for the conflict between South and North Korea, such as the Korean Armistice Agreement as well as unconventional (and more recent) non-military conflict management efforts such as the Kaesong Industrial Complex, the Mount Kumgang Tourist Region, and family reunions. The paper argues that while these conflict management tools have prevented another outbreak of war and have created more opportunities for bilateral cooperation, they have only had limited success in managing the conflict and keeping the quality of peace since they have not prevented military aggression by North Korea. The paper also suggests that there are lessons to be learned from the conflict management efforts such as the design of a peace agreement and the conception of creative solutions for conflict management.

Note from the Editors: This paper uses different spellings for Mount Kumgang, an important location in North Korea. The author’s sources Romanize this spelling in multiple different ways. In order to preserve these differences, the editors have chosen to keep the author’s original, source-based Romanization choices intact.

INTRODUCTION

Under the framework of the Korean Armistice Agreement, the Korean peninsula has entered its 61st year in a ceasefire since the end of the Korean War. While the beginning of the conflict between South and North Korea can be traced back to the Korean War, the “conflict” between the two rivals has continued over the years in different forms. Both countries’ changing leadership and evolving policies have affected the dynamics of the precarious bilateral relationship. Furthermore, there have been numerous conflict management tools implemented to mitigate the ongoing tensions between the two countries after the war. Prospects of resolving the conflict aside, I will assess the extent to which various conflict management tools have succeeded in mitigating the tensions between the two countries.

In the following sections, I will present the background to the Korean War and then introduce the various conflict management tools, including the Korean Armistice Agreement as well as more recent tools focused on non-military aspects of the interstate relations. The next section will assess the success of these conflict management tools. The penultimate section will provide some policy recommendations for future conflicts drawing from the lessons of the conflict management efforts in the aftermath of the Korean War, followed by my conclusion.

BACKGROUND TO THE KOREAN WAR AND THE ONGOING CONFLICT

The Korean War was an internationalized interstate war fought from 1950 to 1953 between the Republic of Korea (South Korea) and the Democratic People’s Republic of Korea (North Korea). The conflict became internationalized with the participation of countries such as the Soviet Union, China as well as the United Nations allied force.
led by the United States.\textsuperscript{1} The primary issue at stake for the Korean War was the reunification of the peninsula that was divided after the end of the Second World War. A power vacuum was created in the Korean peninsula after Japan, which had been occupying Korea, was defeated in the Second World War. Korea was then divided and temporarily policed by the United States and the Soviet Union.\textsuperscript{2} Hence, the Korean War broke out in an attempt to reunify the divided nation; North Korea launched an attack on the South across the border with the extensive support of the Soviet Union. The United Nations command, led by the United States, came to the aid of South Korea immediately and China, an ally of North Korea, also entered the war in October 1950. After approximately one year of fighting, the conflict was largely contained around the 38\textsuperscript{th} parallel when truce talks began in July 1951 and a cease-fire was implemented on 27 July 1953.\textsuperscript{3}

However, the conflict between the two countries did not come to a definite end with the armistice agreement. The Korean peninsula has now been under an armistice for more than 60 years and the conflict has continued and evolved beyond the Korean War. There have been multiple incidents of North Korean military aggression, especially involving its nuclear weapons development program. North Korean troops also sunk a South Korean navy ship in the disputed maritime border in 2010.\textsuperscript{4} Although there has not been another outbreak of war or conventional warfare, it is difficult to say that the conflict has ended given continued military aggression and heightened tensions.

Given the ongoing nature of the conflict, there have been many conflict management efforts, both directly between the two Koreas and with the involvement of the international community. While many different countries such as the United States, China and Russia remain involved in the management of the conflict, this paper will focus on the specific set of conflict management tools directly involving both South and North Korea.

**DEFINITION AND ASSESSMENT OF SUCCESS**

In an effort to manage the tensions between the two countries, there have been many attempts to mitigate the conflict. The Korean Armistice Agreement, which was signed immediately after the Korean War, was the first of many attempts to manage the Korean conflict, all of which resulted in varying levels of success.

While the issue of reunification of the Korean peninsula has not been resolved, it is too hasty to call all of the conflict management efforts unsuccessful. The two Koreas have been in “conflict” in some form or another for the last sixty years. These long-lasting tensions between the two countries have resulted in an “enduring rivalry” or an “intractable conflict,”\textsuperscript{5} making a resolution or definite end to the conflict unforeseeable in the near future. Therefore, given the context of the conflict, we should focus on conflict management for the purpose of our analysis rather than being fixated on conflict resolution as a desirable outcome for any conflict.

Therefore, the definition of success of conflict management I employ for this analysis focuses on conflict management as an end goal rather than conflict resolution. Conflict management is successful when a conflict is “frozen through negotiations or durable ceasefires, for example, as a best among bad alternatives,” according to the Washington Institute of Peace.\textsuperscript{6} This is supported by Blum who suggests that in conflicts that we cannot foresee a resolution soon, we should focus on the long – or longer – term management of the conflict through different approaches that encourage mutual commitment.\textsuperscript{7}

I find that the conflict management tools have only been successful inasmuch as to contribute to preventing another war between the two countries and to address different aspects of the conflict management such as culture and engagement of the public. Moreover, the

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\textsuperscript{5} Blum, Islands of Agreement: Managing Enduring Armed Rivalries. (Cambridge, Mass.: Harvard University Press, 2007.)

\textsuperscript{6} Blum, *Islands of Agreement: Managing Enduring Armed Rivalries.*

\textsuperscript{7} Blum, *Islands of Agreement: Managing Enduring Armed Rivalries.*
conflict management tools have not had far-reaching political effects in affecting the North Korea’s commitment to peace and have not been successful in preventing smaller scale conflicts. Therefore, I acknowledge that there is much room for improvement since there have been smaller conflicts that cannot be ignored.

**THE KOREAN ARMISTICE AGREEMENT**

The most important conflict management tool in aftermath of the Korean War was the Korean Armistice Agreement. Although then-South Korean President Syngman Rhee was opposed to the negotiations and wanted to continue military operations to reunite the country, the Armistice Agreement was signed in 1953 after two years of negotiations. The Armistice Agreement had five Articles with 63 clauses in total, and each Article addressed important issues in the aftermath of the conflict. These included maintaining the 38th parallel which divided the two countries as well as the creation of the demilitarized zone (Article 1), provisions regarding the ceasefire and armistice (Article 2), the return of prisoners of war (Article 3), recommendations for governments for future peace talks (Article 4) and miscellaneous clauses (Article 5) that addressed amendments, the duration of the agreement and the time that the agreement goes into effect. The Agreement was signed in hope for the prevention of another outbreak of war as well as eventual continuation of peaceful negotiations to solve the “Korean problem.”

According to the definition of success that I propose, the Korean Armistice Agreement was a successful conflict management tool since it has prevented the outbreak of another war since the end of the Korean War. The Articles of the treaty have been kept as promised, the demilitarized zone is maintained between the two countries and the ceasefire has not been broken until now which are all evidence for the effective management of conflict. The Agreement included extensive Articles with specific clauses addressing multiple issues after the war such as the creation of the demilitarized zone as well as the return of prisoners of war, for example. The demilitarized zone between the two countries, furthermore, has always been well respected.

However, although there has not been another outbreak of war, it is more important to recognize that the quality of peace between the two countries has been cold rather than warm. The situation cannot be described as entirely “peaceful.” The recent North Korean aggression such as its continuing missile tests and the Cheonan sinking could be seen as a result of the shortcomings of the agreement. While Fortna (2003) provides valid points about peace agreement design and its durability, I think her definition of peace as the absence of war is too simplistic and that it is important to acknowledge the quality of peace between the two countries.

**THE “ISLANDS OF AGREEMENT” IN THE KOREAN CONFLICT**

Moreover, there are more recent efforts of conflict management that pertain to the cooperation of the two countries through non-military means, including the Kaesong Industrial Complex, the Mount Kumgang Tourist Region and family reunions. These can be called “islands of agreement” for the Korean conflict that are “potential workable, creative tools for management” of the conflict that are not limited to reducing military tensions but extend to other aspects of the bilateral relationship, such as culture and trade. Similarly, they can also contribute to the influence of “soft power,” which is defined as a type of power in international relations that is exerted by attraction. Hence, islands of agreement are attractive conflict management tools address-
ing the non-military, economic and cultural aspects of the inter-Korean conflict for the two Koreas to gain non-military influence over the other.

These islands of agreement were mostly brought about as a result of the “Sunshine Policy” and the “Engagement Policy” that were spearheaded by President Kim Dae-jung and President Roh Moo-hyun during their consecutive presidential terms from 1998 to 2008. These extended conflict management tools, under the framework of the ongoing ceasefire, are particularly interesting for my analysis because they focus on non-military aspects of the relationship between the two countries. The Sunshine Policy and Engagement Policy aimed to mitigate the North Korean security problem by addressing non-military aspects such as North Korea’s economic issues and increasing the costs for North Korean aggression. In other words, these conflict management tools aimed to deter North Korea from engaging in military conflict by increasing the cost of conflict through creating economic interests in areas which could have otherwise become war zones, like the Kaesong Complex.

Furthermore, they created alternative options for mutual gain by both countries in the conflict; South Korea hoped that North Korea would come to the bargaining table if it benefited from the tangible economic assets and cultural exchange created through these conflict management tools. Moreover, it was also hoped that all of these tools would create spillover effects, moving from small scale changes to mitigate the larger political problem in maintaining peace and alleviate the tensions between the two countries. While these have not had far-reaching effects on the larger political conflict, they have been successful in fostering economic cooperation, cultural exchange as well as creating new values for the populations of the two countries, which could be interpreted as a gradual shift in interstate relations.

The Kaesong Industrial Complex

The Kaesong Industrial Complex is an industrial complex located in Kaesong, North Korea, with input from both South and North Korea. The project not only produces economic output but is also an important initiative to promote reconciliation and peace in the Korean peninsula. This is achieved through cooperation by creating economic benefit and by providing a cooperative workplace for employees from both countries. The construction of the industrial complex started in 2003 and many small to medium Korean businesses have moved into the complex to set up their manufacturing plants. South Korea provides the facilities and material and all the labor is provided by North Korea.

The Kaesong Industrial Complex is the most successful of the more recent conflict management tools. The Complex has created an island of agreement focusing on the economic aspect of the interstate relations. It has increased the cost of potential conflict by the creation of physical, destructible infrastructure, significant economic output, and a cooperative working environment for North Korean workers—all of which depend on the maintenance of peace between the Koreas. The Complex, which will cover a total area of 65.7 km², has over 100 South Korean manufacturers and hires more than 48,000 North Korean workers. The economic impact of the industrial complex is known to be significant, especially to North Korea, as the output and productivity of the complex is increasing; the output from the complex was estimated at a total of $1.4 billion in 2011. The complex increases the cost of conflict by increasing the tangible economic costs in case of conflict and the complex stops running. Moreover, South and North Korean employees work together in peaceful coexistence, and there is a sense of community in the work environment.

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15 Song, Kaesŏng kongdan hwalsŏnghwa rŭl wihan chŏngch’aek kwaje [In Korean, Study on policies for vitalization of Kaesong industrial complex]. (Seoul: Korea Small Business Institute, 2011)
16 Lim, Kaesong Industrial Complex: history, pending issues, and outlook; Song, Kaesŏng kongdan hwalsŏnghwa rŭl wihan chŏngch’aek kwaje [In Korean, Study on policies for vitalization of Kaesong industrial complex]. (Seoul, Korea: Haenam Pub. Co., 2007.)
18 Song, Kaesŏng kongdan hwalsŏnghwa rŭl wihan chŏngch’aek kwaje [In Korean, Study on policies for vitalization of Kaesong industrial complex].
19 Song, Kaesŏng kongdan hwalsŏnghwa rŭl wihan chŏngch’aek kwaje [In Korean, Study on policies for vitalization of Kaesong industrial complex].
20 Lim, Kaesong Industrial Complex: history, pending issues, and outlook.
to say that Kaesong is what post-reunification Korea could look like, it is certainly created for the greater goal of peaceful coexistence, mutual cooperation, and commitment. These economic incentives also help North Koreans gain an understanding of South Korean capitalism and democratic values, to bridge the cultural and ideological gap.  

However, it is unsure whether the Kaesong Complex has been successful in actually raising the cost of conflict for North Korea and whether its desired spillover effects were created for managing the general conflict between the two countries. In the recent crisis following North Korea’s satellite launch, the Kaesong Complex was temporarily closed down due to refusal from North Korea to grant South Korean workers entry into the Complex.  

Although the Complex was reopened after negotiations, the fact that North Korea closed the Complex without hesitation shows that it is still doubtful as to whether it will affect North Korean policies in the future.

**Mount Kumgang Tourist Region**

The Mount Kumgang Tourist Region was established in 2002 for South Korean tourists to visit the scenic mountains in North Korea, close to the border of South Korea. Tourism has been considered a low-politics activity that does not involve sensitive military issues but still brings interaction between North and South Korea. The tourism scheme was established in the hopes of mitigating the relations between the two countries as a person-to-person diplomatic activity between South and North Korea and to allow people to understand each other’s culture.

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since the effect was not as significant as expected.

More importantly, the tourism region closed in 2008 when a South Korean tourist was shot by a North Korean soldier and when the subsequent refusal by North Korea to cooperate on the investigation of the case heightened tensions between the two countries. This suggests that the tourism region was not very significant for North Korea to grant any further investigation to South Korea. Hence, although the Mount Kumgang tourism might have created a feeling of goodwill and cultural understanding in the short run, the incident by which the scheme ended in 2008 minimized the positive effects prior to it.

**Family Reunions**

Lastly, family reunions have been successful in conflict management in that they have demonstrated the willingness for both sides to cooperate on one of the most fundamental human rights issues. Family reunions between Korean family members who were separated during the war were initiated in the 1980s, and were resumed from 2000. The family reunions give the chance for civilians who have been divided as a result of the conflict to meet each other, regardless of the political tensions between the two countries. The family reunions are a conflict management tool since they bring about reconciliation and cooperation between the governments. It is important because it is a basic human rights issue that needs to be addressed before any other larger scale political issues are addressed.

The numbers related to family reunions support that they have been quite successful in encouraging cooperation between the two countries. Reunited families are increasing in numbers and the temporary reunions are becoming better institutionalized. Before 2000, the reunions were sporadic efforts and only happened through third party countries, whereas after 2000 the meetings were formalized and through direct bilateral cooperation, largely by the efforts of the South Korean administration. There have been 17 exchange visits of families for over 15,000 divided family members, 7 video conference reunions for over 3,500 people as well as multiple letter exchanges and confirmations of whether inquired family members are alive or dead across the border. This can be interpreted as signs of cooperation between two countries. However, North Korea refused to grant the planned family reunion in September 2013. The cancellation was announced without any prior notice and stirred bitter criticism from South Korea. Although the family reunions resumed in February 2014, it is doubtful whether the North Korean government will refrain from abruptly changing its policy towards the reunions again in the future. Likewise, some of these tools that were hoped to mitigate the relations have not really been successful in directly influencing the top-level decisions of the North Korean government, and the feasibility of these tools is vulnerable to changes in the inter-Korean relationship. However, their desired spillover effects for the larger conflict have not been significant. They have been largely unsuccessful in bringing about significant change in the North Korean government’s attitudes towards responsible conflict management; there have been recent incidents of military aggression by North Korea and the family reunions were stalled due to the larger political tensions. Therefore, although they have been successful in managing the conflict on some level, they need to be strengthened in order heighten the costs of North Korean military action.

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32 Choi, Nambuk tonghap kwajong eso kiobin kwaisan kajok kyoryu ui yokhal [In Korean, The Role of Corporations and Family Reunions in the Korean Reintegration Process].

33 Choi, Nambuk tonghap kwajong eso kiobin kwaisan kajok kyoryu ui yokhal [In Korean, The Role of Corporations and Family Reunions in the Korean Reintegration Process].


RECOMMENDATIONS FOR FUTURE CONFLICTS

Nevertheless, there are some important lessons learned from the conflict management efforts to mitigate the longstanding conflict between South Korea and North Korea. First, the longer and more detailed the agreement is, the longer the peace will be. The Korean Armistice Agreement, which was the most important conflict management tool resulting from the Korean War that provides the framework for peace between the two countries, has 5 parts with 63 clauses in total. Each provision addresses central issues that should be addressed in the aftermath of the conflict such as the immediate call for a ceasefire and returning prisoners of war. This supports Fortna’s assertion that peace agreements are more durable when they are longer in length and more detailed.37

Second, if a conflict involves a border dispute, the creation of a demilitarized zone should be considered for successful conflict management. An important provision of the agreement that accounts for its success is the creation of the demilitarized zone. Fortna38 shows that demilitarized zones are an effective tool for lasting peace through analyzing multiple conflicts and the durability of the demilitarized zone created in the aftermath of the Korean War supports this conclusion.

Third, long, ongoing conflicts should shift away from conflict resolution to focus on longer term conflict management. The “islands of agreement” in the Korean case address different aspects of the broader relations between the two parties at conflict, as suggested by Blum39 and have created mechanisms for mutual commitment and benefit. They are alternatives for mutual gain40 that address the interests of both parties rather than trying to compromise on their very different positions on the longstanding question of reunification, for example. In a similar prolonged conflict, the parties should realize the need for more creative, partial solutions should be invented to address other, non-military aspects of the relations between countries, such as economic cooperation and addressing historical, societal issues. The islands of agreement in this case, including family reunions, attempt to discourage military conflict by altering the cost of conflict through addressing other, economic and cultural, aspects of the interstate relationship. They encouraged mutual commitment and generated economic and cultural ties between the two countries to an extent.

Lastly, conflict management should also address different actors at different levels of the conflict. While the military tools and sanctions target the government and its policies, the islands of agreement – although initiated by the government – address the broader populations. They have had some success in that they are changing the perspectives about the other party in the conflict and increasing cross-cultural understanding between cultures from the lowest level. While it is difficult to say that the desired spillover effects are prevalent as of now, it may require more time for them to affect the broader issues.

CONCLUSION

With complex origins and continuous developments in the relationship between the two countries, the conflict between South and North Korea has continued for more than sixty years. All in all, the conflict management tools including the Korean Armistice Agreement and the islands of agreement such as the Kaesong Industrial Complex, the Mount Kumgang Tourist Region and the family reunions in the 21st century have only had limited success in the long term conflict management to prevent another outbreak of war.

Despite the shift of focus to economic and cultural aspects of the inter-Korean relationship, it is unclear how successful they have been in preventing recurring incidents of North Korean aggression such as its weapons tests and the Cheonan sinking. The more recent tools were also unsuccessful in bringing about the desired spillover effects from the smaller scale economic and cultural benefits of the individual to the management of the larger political conflict at the state level.
level; however, it may be too soon to conclude that the desired spill-over effects from these islands of agreement are not demonstrated yet. More importantly, the lessons learned from the Korean conflict should be taken into consideration for the management of other conflicts as well.

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Yuma Kuwata

INTRODUCTION

On April 11, 2013, Deputy Secretary of Energy, Daniel Poneman, gave what could be taken as a sign of US concern regarding Japan’s plan for handling separated plutonium towards the vice-chairman of Japan Atomic Energy Commission, Dr. Tatsujiro Suzuki, [Japan Atomic Energy Commission, 2013]. Then, on July 1st, Secretary of Energy Ernest Moniz repeated to the vice-minister of Foreign Affairs, Shunichi Suzuki, US concerns and asked that Japan continue its nuclear fuel cycle policy without properly dealing with the surplus plutonium issue [Higuchi, 2013]. Although Japan’s initial plan to burn separated plutonium using a Fast Reactor has been significantly delayed, Japan had a plan to stably reduce their plutonium stock through their “PTP” in order to keep their promise to not withhold any surplus plutonium [Japan Atomic Energy Commission, 2003]. However, due to the March 2011 Fukushima Daichi nuclear power plant disaster (also called in the popular press the “Fukushima Disaster”), Japan declared their intent to reformulate their nuclear fuel cycle policy from scratch. Even two years after the disaster, separated plutonium sent from Europe to Japan continued to accumulate and reformulation of fuel cycle policy has been delayed by political turmoil. Finally in mid-July, Japanese politics stabilized as the Liberal Democratic Party (LDP) won the majority seat in both the Lower and Upper house of the parliament and now Japan has firm political foundation to formulate their long term nuclear policy.

The LDP announced their intent to formulate their “Basic Energy Project” within 2013 [Nikkei, 2013], thus there is a high possibility that these few months would see a major turning point in Japan’s nuclear fuel cycle policy. Japan is not only a major player in international nuclear energy community but Japan is also one of the few countries given the right to reprocess nuclear fuel that originated in the US. A major change in Japan’s nuclear policy has the possibility of affecting the nuclear energy policy of the US in the region. It is therefore essential to create possible scenarios Japan can take for their nuclear fuel cycle policy, analyze possible US concerns, and formulate a possible policy recommendation for the US government to mitigate those concerns.

The first chapter of this paper analyzes both Pre-Fukushima nuclear fuel cycle policy and the current situation of nuclear fuel cycle policy. The second chapter of this paper examines US nuclear energy policy towards Japan and defines what the US government would want from Japan’ fuel cycle policy. The third chapter explains the four scenarios created; a 0% scenario, a 15%A scenario, a 15%B scenario, and a 25% scenario. The fourth chapter analyzes the importance of nuclear power in the energy security of Japan in each scenario, while the fifth chapter analyzes the spent fuel disposition method in each scenario. Chapter six examines the ability to reduce plutonium stock. Chapter seven summarizes the previous three chapters and gives recommendation to the US government if Japan chooses to take any of the four scenarios.

This paper found that under the 0% and 15%A scenarios, Japan would not require reprocessing capability and they will not be able to reduce their plutonium stock if they choose to reprocess their spent fuel. Meanwhile under the 15%B and 25% scenarios Japan can consider reprocessing as a key component of their nuclear energy policy and would have the capability of reducing their plutonium stock. Thus this paper recommends that the US consider taking away their 30 year

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1 Plu-Thermal Program
advance consent for reprocessing right away if Japan chooses to take the 0% or 15%A paths.

DEFINING THE SCOPE OF THE RESEARCH

This research puts its focus on analyzing whether Japan is able to minimize safeguard concerns in the back end of the nuclear fuel cycle in each of the four scenarios. The time period of the scenarios is from 2013 to 2050. The year 2050 is chosen since it is considered a milestone year for several nuclear fuel cycle projects such as the start of the commercialization of the Fast Breeder Reactor (FBR), the operation of second reprocessing facility, and the decommission of most of the currently operating reactors.

I. ANALYSIS OF CURRENT SITUATION

a. Pre-Fukushima Plan

Japan envisioned a major plan to significantly enlarge their nuclear power capability right before the Fukushima Disaster. The Agency for Natural Resources and Energy presented the Nuclear Nation Project [原子力立国計画] (NNP) in 2006 and the Kan cabinet strongly endorsed its plan right until the disaster [Advisory Committee on Energy and Natural Resources, 2006]. The NNP planned to increase nuclear power plant electricity generation capacity from 48GW to 68GW by 2030. Thus meaning Japan would continue to construct larger capacity reactors while lengthening the reactor operating life.

The NNP designated the completion of the nuclear fuel cycle as the priority for ensuring the stability of energy security of Japan. Setting the reprocessing capability is the most crucial step in the cycle, yet the Rokkasho Reprocessing Plant (RRP) plan suffered multiple setbacks. After nearly 20 setbacks, the RRP, a reprocessing plant capable of reprocessing 800mTHM of spent fuel annually, was expected to be operational in 2013, with the MOX fabrication facility following by 2015 [Japan Nuclear Fuel Limited, 2013]. To fill in the gap while the RRP was being constructed, some of the spent fuel was sent to France and the UK for reprocessing. The Pre-Fukushima plan also included a drive to increase reprocessing capacity to 1200mTHM by LWR and FBR fuel reprocessing capability in 2050, which is when the first commercial FBR would be built. The original plan intended to burn the separated plutonium at the Monju prototype reactor and an experimental reactor that was planned to be built in 2025 [MEXT, Research and Development Agency, Nuclear Energy Office, 2012]. However due to major delay of the FBR, Japan promised to burn its separated plutonium under the “Plu-Thermal Program” (PTP). Under the PTP, a licensed LWR inserts MOX fuel and LEU into the reactor to burn plutonium and generate electricity. The Japanese government was initially reluctant to burn MOX fuel in LWRs [Endo, 2010] but they accepted the idea to mitigate US concerns. To keep to their policy of no surplus plutonium, the Federation of Electric Power Companies of Japan presented its plan to burn 6,000kg of separated fissile plutonium per year by utilizing 18 reactors for the PTP.2 The PTP will be gradually downsized as the nuclear reactor fleet is replaced by commercial FBRs starting in 2050 and have full transition to FBR by 2150 [Japan Atomic Energy Commission, Next Generation Nuclear Energy System R&D Branch, 2011].

b. Current Chaos

As grand as the long-term nuclear fuel cycle policy might be, the grand scheme is now being completely reformulated due to the effect of the Fukushima Disaster. In response to the failure of government agencies in handling the Fukushima reactors, the government reorganized all the nuclear energy related agencies to create one independent regulatory organization, the Nuclear Regulatory Authority (NRA). The NRA enforces new stricter and more robust regulation on the reactors and has the authority to shut down the reactors that don’t meet the new safety standards. The new regulations include: a 40 year operation regulation,3 active fault line regulation, and filter equipped ventilation regulation [Nikkei, 2013]. These new regulations have forced electric

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2  6,000 kg includes MOX licensed reactors in reactor number 5 and 6 at Fukushima Daiichi Nuclear Power Plant. [The Federation of Electric Power Companies of Japan, 2010]

3 All reactors will be shut down after they reach 40 years of operation under this rule. Reactor must pass strict test to operate for a longer period.
companies to invest on equipment and reinforcements which has made electric companies hesitant to restart reactors with over 30 operating years. Thus there are wide speculations that out of 50 reactors shut down for inspections, several reactors will be shut down permanently without ever coming back online again.

Although most of the reactors being shut down means there is no increase in spent fuel stock, it also means Japan currently cannot burn MOX fuels that are in stock. As the reactors including MOX burnable reactors are shut down, Japan is unable to burn the separated plutonium from Europe. There are now doubts about Japan’s capability to follow through on their no surplus plutonium policy.

The problem not only exists at the nuclear power plants themselves but also in politics. Prime Minister Kan’s cabinet, whose administration promoted NNP, changed its policy 180 degrees and declared a zero nuclear/pro-renewable energy policy right after the disaster. The preceding Noda cabinet followed suit with a zero nuclear policy, but also declared its intent to continue its reprocessing policy [Mainichi, 2013]. The confusion and inconsistency in the Kan and Noda cabinets is partly due to the Democratic Party’s inexperience in formulating and implementing policy as a majority party. The political chaos left a two-year gap in Japan’s nuclear fuel cycle policy. The Liberal Democratic Party (LDP) returned to power last December and gained full control of the Parliament on July. Political analysts believed that a long-term policy would finally be formulated. However, the LDP has announced its intent to hold back from clarifying how much of Japan’s electricity would be reliant upon nuclear energy [Nikkei, 2013]. As the LDP is a pro-nuclear party, there are speculations that nuclear fuel cycle policy would be continued. However, in the current situation where public sentiments are sensitive toward nuclear issues, nuclear energy policy 10 or 30 years from today is unpredictable.

II. DEFINING THE POLICY GOAL OF THE US

Through analyzing the 1988 US-Japan Nuclear Cooperation Agreement (NCA) and the current trend of US nuclear energy policy, this paper was able to define what the US government expects from the Japanese nuclear energy policy. The US expects that Japanese nuclear policy will show that Japan requires reprocessing capability for its energy security and that it has a plan to adequately burn separated plutonium.

Japan’s inability to follow through on the “no-surplus plutonium” promise made the US government anxious. Japan’s nuclear fuel cycle policy is deeply integrated into US-Japan relations, changes to which have the possibility of affecting US nuclear energy relations in the region. The US-Japan Nuclear Cooperation Agreement (NCA) of 1988 is part of the foundation of Japan’s nuclear fuel cycle policy. The 1988 NCA is unique in a sense as it is one of the few NCA in which the US allows the partner country to reprocess US origin fuel with 30 year advance consent [Kerr Nikitin, 2012].

Until 1988 Japan required continuous permission from the US if they wanted to reprocess the bulk of its spent fuel, but the 1988 US-Japan Nuclear Cooperation Agreement (NCA) provided 30 year advance consent for the reprocessing of US origin fuel.4 As the majority of nuclear fuel used in Japan is of US origin, getting advance consent from the US is a major factor in assuring stable nuclear fuel cycle policy. Japan explained to the US that completing the nuclear fuel cycle was crucial for Japan’s energy security since it could reduce its energy dependence on other states and reprocessing could dramatically reduce the volume of nuclear waste. However, as stated earlier, recent increases of the separated plutonium stock and an unclear nuclear fuel cycle policy have raised the concern of the US. Issues with the completion of the Rokkasho reprocessing plant [Nikkei, 2013] and MOX fuel fabrication have fueled US concern further and raised doubt about Japan’s ability to keep its promise.

Inconsistency between Japan’s promises to the international community and its ability to carry out its promises affect US nuclear energy policy towards other nations. The US recently signed what is called a “Gold Standard NCA” with the UAE and Taiwan. In a “Gold Standard,” the partner country pledges to not enrich uranium or reprocess plutonium in exchange for US nuclear energy technology and equipment [Yee, 2012]. There is even a push inside the State Depart-

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4 The facilities that can be used to reprocess US origin fuel are listed in Annex 1 and 4 of the Implementing Agreement of US-Japan NCA [US Department of Energy, 1988].

5 In 2010, 73% of imported Uranium was mined, enriched, or fabricated in the US [Ministry of Education, Culture, Sports, Science and Technology, 2011].
ment to extend the Gold Standard to other states to avoid discrimination. Furthermore, the US is currently in negotiation with the Republic of Korea (ROK) over a new NCA. The ROK is demanding the same privilege as Japan both for energy security and national pride reasons. Japan’s divergence from its original policy while maintaining 30 year advance consent reprocessing rights may lead to criticism toward the US’s discriminative nuclear energy policy and damage the norm of international nuclear nonproliferation. Therefore, to ensure the integrity of the US’s international energy security policy, no matter what nuclear fuel cycle policy Japan decides to choose, the US must make sure whether Japan actually requires reprocessing capability and that they are able to solve the excess separated plutonium stock problem. If there is any doubt that Japan’s new long term plan cannot fulfill either of the requirements, the US should consider taking away its 30 year advance consent agreement from the US-Japan NCA in 2018.

III. EXPLANATION OF FOUR SCENARIOS

This research paper created four scenarios towards Japan’s long term nuclear energy policy based on the scenarios that Japan Atomic Energy Commission (JAEC) made on June 21st 2012 [Japan Atomic Energy Commission, 2012]. The original JAEC report presented three possible scenarios that Japan can choose from:

- 0% Scenario - Bring the total electricity generation capacity of nuclear power plants to 0% of the entire electricity generation capacity by 2030.
- 15% Scenario - Bring the electricity generation capacity of nuclear power plants to 15% of the entire electricity generation capacity by 2030.
- 20 - 25% Scenario - Maintain the current level of nuclear power plant capacity.

The JAEC scenarios presented nuclear fuel cycle policy for each of the three scenarios. The JAEC report is useful since it allows one to conceptualize the status of Japan’s nuclear power in 2030. However, on the 15% scenario, the JAEC report was not clear on whether to maintain the 15% capacity or further decrease its presence after 2030.

Thus, using JAEC’s report as a base, this paper creates four scenarios:

- 0% Scenario - Maintain usual operation of nuclear reactors until 2030 and shutting down all operable reactors at 2030. All spent fuel will be stored until direct disposal site is found, and RRP will be decommissioned. Plutonium that is already separated will be burned under the current PTP.
- 15%A Scenario - Similar to the 15% scenario in the JAEC report, this scenario will reduce its nuclear energy dependence to 15% (equivalent to 20GW) by 2030. However this scenario will continue to reduce the number of operable reactors until it gets to zero in 2050. No new reactor will ever be built and all the reactors that are currently operational will be decommissioned as soon as they reach 40 years of operation. This scenario will have the option of both reprocessing and direct disposal of spent fuel, and the separated plutonium will be burned under the current PTP.
- 15%B Scenario - Similar to the 15% scenario in the JAEC report, Japan will reduce its nuclear capacity to 15% (20 GW) by 2030. After 2030, this scenario will maintain 20GW capacity through replacing decommissioned reactors with 1500 MW reactors. However, the construction of new reactors will be terminated until 2030. This scenario will have the option of both reprocessing and direct disposal, and the separated plutonium will be burned under the current PTP.
- 25% Scenario - This scenario will bring the nuclear capacity to 25% (equivalent to 40GW) by 2030 and maintain that level until 2050. All the 14 reactor construction projects will continue as planned and on schedule. After 2030, reactors decommissioned will be replaced by 1500MW reactors to maintain 40GW capacity. This scenario will reprocess all the spent fuel and the separated plutonium would be burned under the current PTP.

a. Data sources and assumptions.

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6 Replacement of old reactors with large scale 1500MW reactors was suggested in the Nuclear Nation Project [Advisory Committee on Energy and Natural Resources, 2006].
This paper’s main data sources are as follows:

- Data regarding reactor construction projects, reactor capacity, and reactor age was retrieved from 2009 White Paper on Japan’s Atomic Energy [Japan Atomic Energy Commission, 2009].
- Information and forecasts regarding the schedule of restarting currently shut down reactors were retrieved from a June 20th 2013 Nikkei Newspaper article [Nikkei, 2013].
- Data regarding the stockpiled spent fuel is retrieved from the spent fuel management report from the Nuclear Policy Office under the Cabinet’s Office [Nuclear Policy Office, Cabinet’s Office, 2012].
- Data regarding the separated plutonium stock was retrieved from the plutonium management report from the Nuclear Policy Office under the Cabinet’s Office [Nuclear Policy Office, Cabinet’s Office, 2012].

The assumptions of the four scenarios are as follows:

- Every reactor will be shut down when they reach reactor age of 40.
- The reactors operate at 75% capacity all throughout the year and produce 16.67 tons of spent fuel per 1GW annually.
- Spent fuel has 0.65% fissionable plutonium.
- Only in Scenario III will all the reactors currently being planned be built on schedule.
- After 2030, Scenario IIB and Scenario III will maintain the electricity generation capacity at 20GW and 40GW and replace the decommissioned reactor with a 1500MW reactor mentioned as being next generation LWR.
- RRP will be reprocessing its full capacity until Rokkasho’s decommission in 2050. This also assumes that Rokkasho will operate from 2014 with reprocessing capacity of 80mTHM/yr and then increase to 320 in 2015, 480 in 2016, 640 in 2017 and 800 after 2018.
- The Intermediate Storage Site in Mutsu will be operational by 2013.
- The MOX fuel fabrication facility will be operational in 2015.
- MOX usable LWR reactors will only be limited to the reactors designated under the PTP by the Federation of Electric Power Companies of Japan in 2010.
- MOX fuel that was used will not be reprocessed again to fabricate fuel.
- MOX-LWR reactors require 0.8kg of plutonium per MW to operate 75% capacity a year.
- All the operable reactors will be online in the near term and none of the reactors will be shut down with the NRA’s new regulation except by the 40 year rule. Other rules such as fault line and anti-tsunami measures are still under discussion.
- None of the reactors at Fukushima Daiichi will come back online.
- Reactors that are over 30 years old as of 2013 will not be operating. This is due to electric companies being hesitant to invest in additional safety equipment and safety renovations.
- The model does not include the plutonium consumption by the Fast Reactors.
- Electricity demand will be constant throughout 2050.
- No unexpected accident will occur from 2013 to 2050.

It should be noted that the models made from these scenarios might be slightly higher than what might actually happen in real life.

IV. ENERGY SECURITY

One of the factors that encouraged the US to give its Japan 30-year advance consent to reprocess US origin fuel is Japan’s great dependence on nuclear power for energy security. Before the Fukushima disaster, nuclear power consisted about 30% of the entire electricity generation capacity and there was even a plan to bring the percentage to 50%. At this capacity, it is fair to say that nuclear power is essential to Japan’s stability and the attainment of reprocessing capability can be justified. That also means if the scenario’s model show that nuclear power has little effect on Japan’s energy security, attainment of reprocessing capability cannot be justified.
The 0% scenario assumes that all the reactors that are able to come back online will restart after their inspection by the NRA. All 33 operable reactors will restart on 2016 and reactors will start decommissioning from 2024. Then all 20 reactors will be shut down in 2030. This scenario might be too abrupt to implement in a real world situation but this scenario is set in this way to assess the maximum amount of spent fuel produced if Japan were actually to reduce nuclear power usage to zero by 2030.

Japan will be able to claim nuclear energy as their essential energy source in 2018 which is the renegotiation period for US-Japan NCA. However, Japan will no longer be able to justify the claim that nuclear power and reprocessing capability is a necessity for the stability of Japan.
15%A Scenario

This scenario will follow the same trend as the 0% scenario until 2030 and then gradually decommission reactors as they reach operating year 40. This is essentially a long-term fade out scenario, which would be more acceptable for electric companies and industries if Japan was to eliminate nuclear power. Japan would be able to claim nuclear power as the foundation of their energy security in 2030 as 15% would still be as or more significant than oil, hydro or renewable electricity generation [Agency for Natural Resources and Energy of Japan, 2011]. However, as this is a fade out scenario, that claim will weaken year by year as the number of operating reactors and total generation capacity reaches zero in 2050.

15%B Scenario

Unlike the 0% and 15%A Scenarios, the 15%B scenario will maintain 20GW capacity after 2030. As stated earlier, 15% of the entire electricity generation capacity can still be considered a significant energy source. Therefore, although the significance of nuclear power will decrease to a level similar to that of the 1980s, since there are quite a few numbers of reactors operating until 2050, nuclear power can be considered vital for the energy security of Japan.
25% Scenario

Unlike other scenarios, this scenario continues the construction of planned reactors, most notably the Full-MOX capable Ohma reactor, as other reactors come back online. Nuclear power capacity will not be as immense as the pre-Fukushima capacity of 49 GW but it is nonetheless a significant and irreplaceable energy source of Japan.

The 15%A, 15%B, and 25% scenarios can consider nuclear power as vital energy source of Japan, and we can expect strong resistance from Japan if the US were to unilaterally take reprocessing rights away. Graph 3 shows the comparison between the generation capacity of four scenarios and the ROK.

ROK capacity will surpass the 0% and 15% scenarios by 2022 and expand to more than twice the size of three scenarios by 2030. The 25% scenario would be almost equivalent to ROK’s nuclear capacity in 2030. The ROK is demanding for the same reprocessing right from the US like Japan but the US was hesitant to grant them the right in recent negotiations due to the fragile situation in the Korean Peninsula. In any scenario, but especially in the 0% and the 15% scenarios, if US maintain a status quo in the reprocessing right agreement, it would show great inconsistency and discrimination in US international nuclear energy policy and it would give other countries such as the ROK and new nuclear states incentive to demand similar rights.

V. SPENT FUEL DISPOSITION

Analysis of spent fuel disposition of each scenario allows us to determine whether the reprocessing option for Japan’s nuclear policy is justifiable. Analysis shows that withholding the reprocessing option for 0% and 15%A scenario is unjustifiable, in the 15%B scenario it is justifiable to an extent, and in the 25% scenario justifiable.
The 0% scenario renounces the reprocessing option plan and chooses to directly dispose both stored spent fuel (Graph 6) and newly produced spent fuel (Graph 5). The total stockpile of spent fuel will stabilize as all the reactors shut down after 2030. The current storage capacity of spent fuel is 23,660 mTHM, including the Rokkasho storage facility, and the stockpile will reach its maximum capacity by 2024. This may tempt Japan to choose the reprocessing option to decrease their stock. However, an intermediate storage facility in Mutsu is expected to be operational by October 2013. This will add 3,000 tons to the total storage capacity and additional construction will add another 2,000 tons, bringing the total storage capacity to 28,660 mTHM [Recyclable-Fuel storage Company]. This storage capacity will be more than enough to store every single spent fuel item produced. Furthermore, the Nuclear Waste Management Organization of Japan (NUMO) has announced its plan to find a final repository near the year 2028, by 2040 at the latest [Nuclear Waste Management Organization of Japan, 2010]. People are skeptical that NUMO will be able to find a final repository site as planned, but an early selection will definitely decrease the temptation to reprocess spent fuel.

15%A Scenario

JAEC’s 15% scenario will have both a reprocessing and direct disposal option. Spent fuel that is over the capacity of the RRP will be stored awaiting reprocessing or direct disposal. As can be seen from Graph 5, the annual production of spent fuel is well below the maximum reprocessing capacity of 800 mTHM. Even if the RRP was to operate at 75% of its maximum capacity, stockpiled spent fuel can be significantly reduced each year. Graph 6 shows that if the RRP continues to reprocess at maximum capacity each year, all the stocked spent fuel can be reprocessed by 2048. The relative fast pace of reduction compared to the 15%B scenario is due to the decreasing number of nuclear reactors producing spent fuel.
For the 15%A scenario, reprocessing can be an attractive option to mitigate the spent fuel storage problem. However, even if the 15%A scenario were to directly dispose every spent fuel item, Graph 7 shows that the accumulative stock will not even reach the maximum storage capacity. The maximum amount of spent fuel that can be accumulated in this scenario is 26,256 mTHM while maximum storage capacity is 28,660 mTHM including the Mutsu intermediate storage facility. Furthermore, if the NUMO is able to find a final repository between 2028 and 2050, the spent fuel storage problem will be of little concern for Japan. In fact, they would not need to reprocess at all.

15%B Scenario

The 15%B scenario, like the 15%A, will have both the reprocessing and the direct disposal option. This scenario will produce roughly 40% of Rokkasho’s reprocessing capacity each year (Graph 5). Thus surplus reprocessing capacity can be used to decrease the spent fuel stockpile. The 15%B scenario will reach the maximum storage capacity by 2045 if the choice is made not to reprocess. This can justify Japan’s decision to reprocess its fuel. However, if the NUMO does find a direct disposal site 15 years after their initial plan, it would be difficult to justify reprocessing since a storage problem would not be their immediate concern. Furthermore constructing another 5,000 mTHM storage facility would be more feasible in this scenario than in 25% scenario as lower spent fuel production rate will allow them to postpone storage problem for another 15 years.

25% Scenario

The JAEC recommends full reprocessing in the 25% scenario. Under this scenario, the entire nuclear power fleet would be producing spent fuel equivalent to around 80% of Rokkasho’s annual reprocessing capacity each year (Graph 5). Graph 6 may show stockpile of spent fuel decreasing gradually, but this is under the assumption that the RRP operating at 100% of its capacity all throughout the facility’s operation period. This is highly unlikely in a real world situation as facility may break down or go in maintenance periods, thus an 80% to 70% annual operation rate might be a more realistic number. The amount of spent fuel stock will most likely stabilize in this scenario and the new intermediate storage site will make the stockpile problem not be an immediate concern.

Direct disposal would be less optimal in this scenario since the annual production rate of spent fuel will fill up the intermediate storage site within seven years. This is troublesome if there is even a slight delay in final repository site selection.

The 0% and 15%A scenarios have little or no benefit in reprocessing fuel as intermediate storage is capable of storing all the spent fuel that will ever be produced. The 15%B and 25% scenarios can justify the reprocessing option as these scenarios constantly produce spent
fuel. However, since the spent fuel production rate is relatively low in 15%B scenario, it is possible to have a direct disposal as an option as well.

VI. PLUTONIUM

One of the greatest concerns of the US in Japan’s nuclear fuel cycle policy is Japan’s capability to burn the separated plutonium as they promised. This is in accordance with JAEC’s “no surplus plutonium policy,” presented in its 2010 plan to burn separated plutonium in their reactor. The PTP is currently under reformation but the 2010 PTP designated LWRs will continue to burn plutonium as they come back online.
0% Scenario

The 0% scenario will only burn plutonium that has already been separated by reprocessing facility in Europe. As can be seen from Graph 8, the 0% scenario will have no problem in burning the separated fissile plutonium. The 32.5 tons of already separated fissile plutonium will all be burned by 2026.\(^7\) However it must be remembered that all operable MOX licensed reactors must come back online for this to happen. Thus decommissioning all of the reactors immediately like some political parties are demanding goes against their international promise.

15%A Scenario

Under the current PTP, the stock of separated fissile plutonium will increase continuously. Full reprocessing under the 15%A scenario leads to the accumulation of separated fissile plutonium since the annual fissile plutonium separation capacity far exceeds the annual burning capability of the 15% scenario as shown in Graph 9. The original PTP planned to burn around 6,000 kg of separated fissile plutonium a year, but the expected decommission of the Ohi reactors 1 and 2, and Fukushima Daiichi reactor 3 and 4, and the cancellation of the Ohma reactor brought the burning capability to half. The increase in fissile plutonium stock will stop after 2048 but that is due to the fact that the RRP will be finished reprocessing all of the stored spent fuel in 2048 (Graph 10). Furthermore, by 2048, there is only one reactor burning MOX fuel, therefore Japan will be left with 145,623 kg of separated fissile plutonium in the end.

\(^7\) 4 years before Japan decommissions all of its reactors.

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The maximum amount of separated fissile plutonium that Japan can burn under the current PTP is 52,400kg. Japan already has 32,557kg of separated fissile plutonium; thus if Japan were to burn all the separated plutonium, the total amount of fissile plutonium that can be separated at the RRP must be under 19,843kg. If Japan were to strictly abide by the “no surplus plutonium policy,” the annual operation rate of RRP will be significantly lower than if Japan were to reprocess only the amount of spent fuel that they produce each year (Graph 11).

In that case, the separated fissile plutonium flow would be similar if they chose the direct disposal option. Furthermore, unlike the 15%B or 25% scenarios, the 15%A scenario will gradually decrease the number of reactors. By 2033, Japan will not even have enough reactors to convert to MOX burnable reactors. Therefore, regardless if Japan decides to expand its PTP in 15%A scenario, the majority of separated plutonium must be burnt by 2038.

15%B Scenario

The 15%B scenario will follow the same path as 15%A in the full reprocessing case. The 15%B scenario uses the same reactors that are designated under the PTP as 15%A scenario, thus nine MOX li-
licensed reactors will gradually be decommissioned as they reach the reactor age of 40. Like the 15%A scenario, Japan will not be able to keep its “no surplus plutonium” promise unless the amount reprocessed is similar to that of the “Best Case Under Current Plu-Thermal Program” in Graph 12. However, the difference between the 15%A scenario and the 15%B scenario is that the 15%B scenario allows greater flexibility in its PTP. The 15%B scenario maintains around 14 reactors, though with the intent to replace old reactors with 1500MW reactors. These reactors can be designed in a way or converted in a way that allows them to burn MOX fuel. From separated fissile plutonium stockpile standpoint, reprocessing is a feasible option only if PTP is greatly expanded.

25% Scenario

The 25% scenario will increase plutonium storage levels but the rate of increase is slower than the 15% scenarios. This may seem counter-intuitive as the 25% scenario significantly produces more spent fuel than other scenarios and it utilizes mostly the same reactors in PTP in other scenarios to burn MOX fuel. Annual production of spent fuel in this case barely affects the fissile plutonium stock since the amount of stockpiled spent fuel is so massive that it would take more than a decade to clear the stock up and adjust the RRP operation rate to the annual spent fuel production rate. The construction of the Ohma reactor is the explanation of slower plutonium build up. The Ohma reactor is the first Full MOX capable reactor to be built in Japan and it alone is capable of burning 1,100 kg of fissile plutonium a year. The Ohma reactor is the cornerstone of the PTP but the 25% scenario still requires MOX burning capability equivalent to at least one Ohma reactor to smoothly implement full reprocessing policy.

Expansion of the PTP can be done fairly easily as the 25% scenario maintains a fairly large number of reactors and continues to construct new reactors which can be used to burn MOX fuel. Furthermore, as the 25% scenario is the only scenario which actively pursues a fast reactor program, surplus separated plutonium stock can be adjusted through the utilization of the Monju FBR or the demonstration FBR reactor that is planned to be built in 2025.

The 0% and the 15%A scenarios are incapable of sustainably diminishing newly reprocessed separated fissile plutonium. The expansion of the PTP is difficult in these two scenarios as the majority of current reactors will be decommissioned by early 2030s. Thus reprocessing of spent fuel to make MOX fuel is unfeasible in these scenarios. The 15%B and 25% scenarios, on the other hand, will have an increase in separated plutonium stock if they choose to reprocess all of its fuel. However, these scenarios have the capability of adjusting the stock size through expanding the PTP or utilizing a fast reactor program.

VII. POLICY RECOMMENDATION

In order to justify US policy allowing Japan to reprocess US origin fuel with 30 year advance consent, Japan must be able to show that reprocessing is essential for their energy security and Japan can stably implement the “no surplus plutonium” policy.

It is obvious that the 0% scenario does not require reprocessing capability for their energy security. As this scenario would voluntarily decommission the RRP, it can be expected that Japan will let go of their 30 year advance consent reprocessing right with relative ease. The 0% scenario will have no problem with clearing the separated fissile plutonium stock as PTP has more than enough capacity to burn 32,557kg of already separated plutonium. If Japan chooses the 0% scenario within the next few years, it would be optimal for the US to revoke Japan’s 30 year advance consent right at the 2018 US-Japan NCA renewal negotiation.

Although nuclear power can be considered a significant energy source for Japan until 2035 in the 15%A scenario, its significance will steadily decline. Furthermore, Japan will not need to reprocess its fuel as its total storage capacity will exceed the total amount of spent fuel stored and produced. Japan will not be able to sustainably burn separated plutonium and it would be difficult for them to increase the plutonium burning capability as no reactor would be constructed to replace it.
decommissioned reactors. Thus it is also recommended that the US not grant Japan 30 year advance consent at 2018 NCA renewal negotiation if Japan decides to pursue the 15%A scenario.

The difference in the 15%B scenario is subtle as one can claim that reprocessing capability is necessary but the another can claim it as unnecessary. Japan’s energy security will be dependent on nuclear energy all throughout the first half of the 21st century and the spent fuel stock would exceed the storage capacity without reprocessing. However, since the rate of increase of spent fuel stock is relatively slow, Japan does have the flexibility to pursue direct disposal. But if they were to ask for 30 year advance consent in the 2018 negotiation, readjustment of its plutonium burning plan must be a prior condition.

Difficulty in implementing policies either in the 15%A or the 15%B scenarios is that it is difficult to distinguish whether Japan is taking the 15%A or 15%B route until 2030. Both scenarios take the same path for a decade and a half then their path will start to diverge. Unless Japan clearly declares that they will pursue 15%A or 15%B, there is no way of predicting how nuclear energy policy will play out in 2050. Japan can for instance declare to take a “15%” scenario and maintain the reprocessing right for another 30 year but actually pursue a policy which does not require reprocessing capability. It is recommended that, if Japan declares to pursue the 15%A or 15%B or “15% by 2030,” the US shorten the advance consent period to 15 years so US would have the flexibility to adjust to Japan’s future policy.

The 25% scenario on the other hand has shown that nuclear energy is a vital energy source for the energy security of Japan and reprocessing capability is crucial to ameliorate the spent fuel problem. Although Japan will not be able to burn separated fissile plutonium sufficiently under the current PTP, sufficient number of reactors and a fast reactor program allows flexibility in the annual fissile plutonium burning capability. Giving Japan another 30 year advance consent is justifiable under the 25% scenario, but they must set the reformulation of the PTP and correcting long term plutonium consumption plan as the premise of the renewal of US-Japan NCA.

Even though the pro-nuclear Liberal Democratic Party (LDP) has gained control of the Diet, long term nuclear fuel cycle policy is far from certain. Political analysts are speculating that eliminating nuclear power is unlikely with the LDP in power and Japan will most likely pursue the 15%B or the 25% scenario. However, recent poll shows that 60.9% of the population is in favor of downsizing or eliminating the nuclear reactor fleet while 36% are for maintaining or pursuing increases [Jiji Press, 2013]. Implementation of new reactor regulations and the reorganization of the JAEA may have great impact on long term nuclear fuel cycle policy. There may also be pressure from the private sector and foreign ministry to maintain reprocessing capability. This writer personally believes that 15%B would be the most likely scenario, but with the current controversy over nuclear energy any of the four scenarios are certainly possible. Thus it is crucial for the US government to continuously demand clarification from the Japanese government regarding their long term nuclear fuel cycle policy. If Japan fails to clarify by the 2018 NCA renewal negotiations, setting a provisional agreement for a limited timeframe is also an option.
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