Paññāsāstra
Academic Research

1
Number

Paññāsāstra

Academic Research

Number 1

Paññāsāstra Institute of Academic
Research and Development Publications

July 2019

Paññāsāstra Institute of Academic Research and Development (PIARD) Publications

TABLE OF CONTENTS

EDITOR'S NOTE

Paññāsāstra Institute of Academic Research and Development (PIARD) is a research department of Paññāsāstra University of Cambodia (PUC). Paññāsāstra Academic Research (PAR) is a bi-annual publication in the English language with an Editorial Board and double blind peer-reviewers. PAR is published by the Paññāsāstra University Press (PUC Press) on a wide range of areas, fields, and topics. Article contributors are local and international professional and academic researchers and scholars. The purpose of PAR is to assist researchers to publish their professional, academic, and scholarly research-works, and disseminate them to the local and international academic community and general public to promote scholarship and new knowledge, new thinking, and new theory under the philosophy of change, innovation, and transformation.

This first number of Paññāsāstra Academic Research (PAR) brings in various researched articles on topics covering the Buddha's leadership, spiritual leadership theory, strategic action and implementation of STEM education, privatization of Cambodia's bank, enhancement of Cambodia's marine biodiversity, gender studies, and Southeast Asian bamboo and bronze musical instruments. I would like to take this opportunity to thank all our article contributors for sharing their research, findings, views, and knowledge with our PAR's readers.

PAR is available in printed and electronic forms. PIARD welcomes your articles for future publishing consideration. If interested, please send your article to the mailing and/or email address below. I hope you enjoy reading the copy you now have in your hands. Thank you

Phnom Penh, July 1, 2019
Sam-Ang Sam, Ph.D.
Editor-in-Chief

The Buddha's Leadership and Decision-Making Principles and Related Cases

Venerable Kou Sopheap

Faculty of Arts, Letters, and Humanities
Paññāsāstra University of Cambodia

Abstract

This article is based on a secondary review of literature pertaining to the Buddha's principles and practices of leadership and decision-making as they relate to the management of the monastic community during his 45 years of teaching. The main source of knowledge is the *Tripitaka*, a comprehensive collection of the Buddha's guidelines for monk discipline, discourses on Buddhist wisdom, and his higher teachings on the workings of the mind. Additional, relevant sources from recognized Buddhist scholars were consulted to suggest a model of the Buddha's preferred leadership style and describe his management structure and procedures for decision-making within the monastic community. In addition, eight cases of decision-making are analyzed to draw out key lessons. The literature review emphasizes the importance of situation analysis, participation, principles, timing, prudent risk-taking, and influence on decision-making that results in good solutions to problems. Additional research is recommended to assess the relevance of the Buddha's principles and practices in modern day management of monastic communities and to inform contemporary leadership theory, particularly the emerging paradigm of spiritual leadership.

Keywords: Buddha, Buddhism, decision-making, leadership

The Buddha's Leadership and Decision-Making Principles
and Related Cases

Introduction

One of the most important and indispensable qualities of a leader is the ability to make the right decision, at the right time, in the right place, and with the right people. A leader's decision-making shapes the life of an organization. Information, cooperation, and reflection are keys to decision-making; however, good qualities of heart such as loving-kindness, compassion, and wisdom are needed to check whether a decision is good or bad. Spiritual leadership is increasingly popular among leadership theories. Fry (2003, p. 694) defines spiritual leadership as "comprising the values, attitudes, and behaviors that are necessary to intrinsically motivate one's self and others so that they have a sense of spiritual survival through calling and membership." Two thousand five hundred (2,500) years ago, the Buddha founded what is now known as Buddhism and his teaching remains to this day. His worldly knowledge and spirituality made him a successful spiritual leader, with millions of people the world over accepting his teachings as life principles. How he dealt with problems and led his monastic community and lay people contain valuable lessons. The study of his teachings will provide an opportunity to understand his approach to leadership.

It is believed that the Buddha was born in the year 623 B.C.E. in Nepal (Nārada, 1998). His original name was Sidhattha (Rahula, 1959), the Crown Prince in Devadaha, a kingdom in ancient India. After becoming enlightened at age 35, he spent 45 years teaching his message of peace and happiness to thousands of people (Ambedkar, 1957) and left behind a religion that is considered one of the major religions in the world today. Through hard work and perseverance in countless lives, the Buddha continuously accumulated virtues until he was able to discover the path to enlightenment (Kol, 2015). He became the Buddha through his own diligent effort. He was like any other monk, walking barefoot, begging for food every morning, and eating only breakfast and lunch. Nevertheless, he worked tirelessly from the early morning to the late night to teach all kinds of creatures from beggars to kings and from humans to gods. He was not alone in this noble mission; a monastic community was set up to support him in propagating

his teaching. In his mission, the Buddha faced many challenges. No matter how hard his job was, he succeeded in bringing his message to thousands of people.

Buddhism has evolved and survived and integrated into a variety of situations, cultures, regimes, and countries. His teaching remains today and he is well remembered and followed by millions of people around the world. Most parts of Asia, including Cambodia, China, Japan, Korea, Laos, Myanmar, Sri Lanka, Thailand, and Vietnam accept Buddhism as their religion (Rahula, 1959). Over time, the number of Buddhists has grown in North America and Europe (Keown, 1996).

Methodology

This article is based on a rigorous review of selected volumes of the *Tripitaka,* the collection of the Buddha's teachings. The *Tripitaka* is the main source of information to trace the Buddha's biography, his teachings, and his preferred leadership and decision-making styles. In particular, 110 volumes of *Tripitaka* were translated and printed in the Khmer language by the Buddhist Institute, a project that took 39 years to complete (*Tripitaka* 1, 2497 B.E./1954 C.E.). For purposes of this review, only those volumes of the *Tripitaka* that are most relevant to the Buddha's leadership and decision-making have been considered. This source helps the reader to discover the Buddha's attitudes and views on how he made decisions in various situations. The lessons in the *Tripitaka* were originally transmitted orally and passed through generations before being codified in written form (The Buddhist Society, 2017). The readings from the *Tripitaka* have been supplemented with additional writings of recognized Buddhist scholars, making it possible to find some common grounds of the Buddha's leadership practices and decision-making processes. In addition to the review of the Buddha's principles of leadership and decision-making, specific cases have been drawn from the *Tripitaka* to illuminate how these principles were applied in practice.

The Buddha's Preferred Leadership Style

The Buddha's teachings on leadership were most often conveyed through stories he told or through discussions with kings, ministers, and his own monastic community (*Tripitaka* 42, 2498 B.E./1955 C.E.). In these stories, he raised his previous lives as examples for kings or leaders who

practiced principles of good leadership. The Buddha described three leadership styles: authoritarian (*Attādhipateyya*), democratic (*Lokādhipateyya*), and *dhammic (Dhammādhippateyya)* (*Tripitaka* 41, 2496 B.E./1953 C.E.). These leadership styles are illustrated in Figure 1.

Authoritarian leadership can be seen in the *Jātaka* stories (stories of previous lives of the Buddha). The authoritarian leadership style can be either positive or negative, depending on the intent of the leader towards his people. The Buddha in his previous lives as a *Bodhisattva* used to be in the position of authoritarian leadership. Democratic leadership is well known and widely practiced in various parts of the world. It is about liberty, individual freedom, justice, and the power of the majority. However, *dhammic* leadership might be new among modern leadership theories. It refers to the process of leading according to the laws of righteousness.

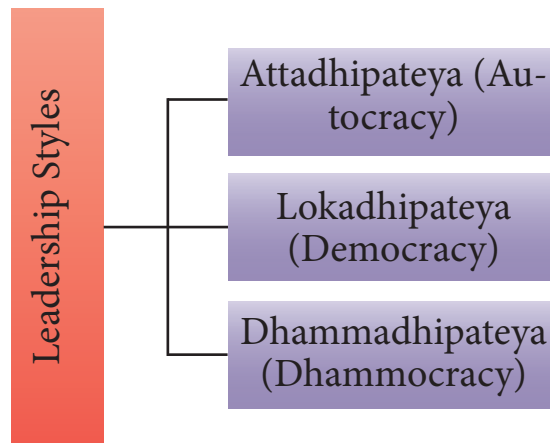Figure 1. *Leadership styles described by the Buddha*

According to the *dhammic* leadership style, majority decision-making does not always guarantee just and righteous acts. A decision may be based on collective hatred toward a minority group in which harmful acts can result from that decision. This third leadership style is based on the law of righteousness, or the law of nature, and was praised by the Buddha.

The Righteous Ruler (*Dhammika Rāja*)

To lead a nation to peace and prosperity, the king, according to Buddhism, needs to be a *Dhammika Rāja*, meaning righteous king or ruler (*Tripitaka* 42, 2498 B.E./1953 C.E.). Many times, the Bodhisattava, the Buddha-to-be or the future Buddha, was born as a *Dhammika Rāja (Tripitaka 62, 2503 B.E./1960 C.E.)* where he himself practiced the *dhamma* and led his entire kingdom to do so.

Dhamma, which is the core value of great leadership mentioned by the Buddha, refers to the practice of the five precepts, ten wholesome actions, and ten regal qualities. The five precepts are not to kill, not to steal, not to engage in sexual misconduct, not to lie, and not to take intoxicants. The ten wholesome (good) actions are an expansion of the five precepts and are divided into three categories: (1) bodily actions (abstaining from killing, stealing, sexual misconduct), (2) verbal actions (abstaining from lying, harsh speech, malicious speech, and meaningless speech) and (3) mental actions (abstaining from coveting, ill-will, and wrong views). The *Dhammika Rāja* himself practiced the higher, eight precepts (in addition to the five precepts, not to eat in the afternoon, not to sing or use make up, and not to sleep in a luxurious bed). Furthermore, in many places, the ten regal qualities were raised and praised by the Buddha. He guaranteed that if a king or ruler follows the ten regal qualities, the kingdom would be peaceful and prosperous and the people virtuous. The term "king" here refers to whoever is in the position of leadership, such as head of state, president, or prime minister. He pointed out the ten qualities of righteous leaders, which are frequently seen in his storytelling: generosity, morality, austerity, patience, non-violence, absence of anger, sacrifice, honesty, gentleness, and adhering to the law (*Tripitaka* 61, 2503 B.E./1960 C.E.).

Key *Dhammas* (Principles) for Making Good Decisions

The principles behind decision-making in Buddhism can be found in various places in *Tripitaka*. The descriptions below are examples of some principles for making the right decisions as taught by the Buddha.

Avoid the Four Biases. To choose someone to hold any position in the monastic community, the Buddha advised monks to be free from four

biases such as those based on greed, hatred, fear, and ignorance (*Tripitaka* 10, 2501 B.E./1958 C.E.). The Buddha pointed out the dangers of being biased as it brings about chaos in the community and condemns the decision maker to hell. The one who is in a position of decision-making must be fair.

Four Sublime States of Mind. The four sublime states of mind (*Tripitaka* 42, 2498 B.E./1955 C.E., *Tripitaka* 19, 2503 B.E./1960 C.E.) are considered core principles for living a good life. They are loving-kindness, compassion, sympathetic joy, and equanimity. The Buddha encouraged monks to cultivate boundless love and compassion toward all beings without discrimination. The four qualities are considered as the home of the heart where practitioners can live happily for themselves and provide benefits to others. This practice is for everyone especially a person in the position of making decisions. The Buddha recommended to monks and lay people to always develop these four positive states, which result in harmony and happiness within oneself and the community. Figure 2 illustrates the Four Sublime States of Mind.
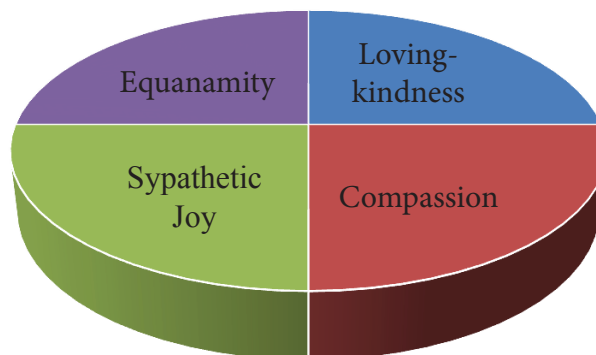
Figure 2. *The four sublime states of mind*

Compassion and wisdom are at the center of the Buddha's leadership approach. Leaders need to be both compassionate and smart. He told a previous life story about a hermit who was very compassionate to a snake, and brought the snake to sleep with him (Ghosananda, 1992). As a result, the snake bit him and he died because of his blind compassion. In this case, the Buddha advises the caregiver to be smart in offering a hand to help.

The Middle Path. The most advocated and well-known philosophy of the Buddha is the middle path, which he discovered during his struggle for enlightenment. The middle path is the only path to perfect freedom (*Tripitaka* 6, 2499 B.E./1956 C.E.). It consists of eight factors, which are collectively called the noble eightfold path, as illustrated in Figure 3:

Wisdom (*Paññā*)	1. Right Understanding (*Sammā ditthi*) 2. Right Thought (*Sammā sankappa*)
Morality (*Sīla*)	3. Right Speech (*Sammā vaca*), 4. Right Action (*Sammā kammanta*) 5. Right Livelihood (*Sammā ajiva*)
Meditation (*Samādhi*)	6. Right Effort (*Sammā vayama*) 7. Right Mindfulness (*Sammā sati*) 8. Right Concentration (*Sammā samādhi*)

Figure 3. *The Noble Eightfold Path*

The noble eightfold path can be categorized into three main factors: *Paññā* (wisdom), *Sīla* (Morality), and *Samādhi* (Meditation), which together serve as the motto for Buddhism.

To fully understand the nature of existence, *Paññā*, referring to wisdom, is the process of analyzing all phenomena, which could lead to enlightenment (*Tripitaka* 6, 2499 B.E./1956 C.E.). Meditation is the foundation of wisdom (*Tripitaka* 16, 2502 B.E./1959 C.E.) because when the mind is calm and stable, the analytical process is improved. Right understanding (*Sammā ditthi*) and right thought (*Sammā sankappa*) are considered as *Paññā* (Wisdom).

Sīla simply means having high moral codes of conduct which is not harmful to others as well as one's self (Buddhaghosa, 2010). The minimum conduct is to practice the five precepts: abstaining from killing, abstaining from stealing, abstaining from engaging in sexual misconduct, not lying, and not using intoxicants (*Tripitaka* 44, 2496 B.E./1953 C.E.). Right speech (*Sammā vaca*), right action (*Sammā kammanta*), and right livelihood (*Sammā ajiva*) are in the category of *Sīla* (Morality). Learning to speak what is good, act what is beneficial, and live a harmless life are the foundation of peace and harmony.

Practicing moral codes of conduct helps stabilize social harmony;

however, it does not guarantee a peaceful mental state. Therefore, the final step to have a peaceful life is meditation (*Samādhi*), which is a technique for training the mind (Buddhaghosa, 2010). The mind needs proper training to have better concentration and focus, which bring about the power to manage one's emotion for improved self-management. Right effort (*Sammā vayama*), right mindfulness (*Sammā sati*), and right concentration (*Sammā samādhi*) are classified into *Samādhi* (Meditation).

The Seven Principles of Unbreakable Community

Once upon a time, King Āchātasattu (the most powerful King of ancient India) wanted to invade the nearby small but powerful kingdom called Vajji. Many times, he failed to do so. The King was furious and sent two chief officers for advice from the Buddha. The two officers directly asked the Buddha how to invade Vajji successfully. The Buddha did not reply directly to the question "how" instead, he spoke with his personal assistant, Ānanda, about the seven principles of the unbreakable nation (*Tripitaka* 47, 2498 B.E./1955 C.E.). The seven principles are: regular meeting, acting on agreement, respecting the law, seeking advice from the elders, not abusing the weak, honoring the wise, and respecting spiritual places.

The first principle of regular meetings is the prerequisite for understanding, agreement, and unity. The meetings need to include everyone. Second, agreement must be the result of all parties' involvement. Third, participants must always obey the rules and regulations and never erase or add rules to benefit oneself. Fourth, one must respect and consult with the elders, who have more experience in managing the nation. The fifth is to never abuse the weak, such as women and children. The sixth is to be surrounded by virtuous people, such as monks or other spiritual teachers, who can teach people to be better citizens. The seventh is to pay homage and tribute to the shrines of the nation. The Buddha stated that as long as the Vajjian kings practice the seven or at least one of the seven, King Āchātasattu will never invade this kingdom. The Buddha raises similar principles for the monastic community. He ensures the continuity and the growth of the monastic community as long as it continues to practice these principles.

The Monastic Community and Its Decision-Making Process

For the greater good of people and the continuity of his teaching, the Buddha needed support groups that clearly understood his teaching. That is why he decided to set up a monastic community that devotedly practiced his teaching. The monastic community was formed by the Buddha to assist him in propagating Buddhism. However, the monastic community was not entirely under his management. The decisions in monastic communities must be made with the participation of all members of the community.

Monastic Order and Its Purposes. The Buddha started his first teachings with his five assistants (*Tripitaka* 6, 2499 B.E./1956 C.E.), who later received direct ordination from him and accompanied him to spread the teachings. With the support of the monastic community, the numbers of people who were willing to follow the Buddha grew substantially. At first, the Buddha alone was responsible for ordaining new monks, teaching them and setting rules. Later he found that he could not do it all alone, so he delegated power to senior monks who were then obligated to train and take care of the newly ordained (*Tripitaka* 6, 2499 B.E/1956 C.E.). Figure 4 illustrates the Buddha's organization of his monastic community.
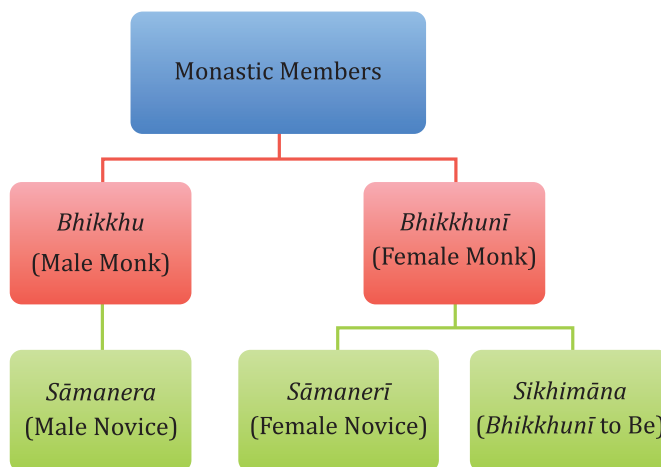

Figure 4. *Organization of the monastic community*

There were two types of monastic community: *Bhikkhu Sangha* (male monastic community) and *Bhikkhunī Sangha* (female monastic community). Both were connected, but resided separately. *Bhikkhu Sangha* was divided into two levels: *Bhikkhu* (higher ordination) and *Sāmanera* (male novice).

The novice (*Sāmanera*) level is for young boys who are willing to leave household life to be a monk. After ordination, he is required to be under the supervision of a teacher (*Tripitaka* 6, 2499 B.E./1956 C.E.). There are fewer rules and regulations for a novice than a *Bhikkhu.* The novice can become a *Bhikkhu* when they reach 20 years old (*Tripitaka* 4, 2496 B.E./1953 C.E.). As a *Bhikkhu,* he becomes a fully integrated member of the monastic community (*Tripitaka* 1, 2497 B.E./1954 C.E.). The *Bhikkhu* is obligated to abide by more rules and regulations, and to participate in the decision-making process of the monastic community. Their voices must be heard and considered.

Bhikkhunī Sangha was divided into three levels: *Bhikkhunī* (Female ordination), *Samanerī* (Female novice), and *Sikhamāna* (Female novice preparing to be *Bhikkhunī*) (*Tripitaka* 7, 2500 B.E./1957 C.E.); (*Tripitaka* 10, 2501 B.E./1958 C.E.). To be a *Bhikkhunī* (Female monk), she needs to receive double ordinations: one from *Bhikkhunī Sangha* and another from *Bhikkhu Sangha* (*Tripitaka* 10, 2501 B.E./1958 C.E.). Like *Sāmanera* (Male novice), *Samanerī* (Female novice) receives ordination from a senior female monk (*Bhikkhunī*). When she wants to be ordained as *Bhikkhunī*, she needs to go through a preparation course for six years.

Monastic Structure in Buddha's Time. Once upon a time, two intelligent young men from rich families abandoned their families and became monks through listening to the teachings of the Buddha (*Tripitaka* 52, 2500 B.E./1957 C.E.). Seeing great potential in the two young monks (*Sāriputta* and *Moggalāna*), the Buddha appointed them as chief disciples—the right-hand and the left-hand chief disciples respectively. *Sāriputta* was a smart, fast, and critical thinker. Sometimes the Buddha allowed *Sāriputta* to give sermons instead of him. *Moggalāna*, on the other hand, was a specialist in superpowers. In some cases, *Moggalāna* performed supernatural acts to help some aggressive people suppress their negativity, so that they could learn from the Buddha. Over time, one by one, the Buddha publicly declared some more male and female monks and some other lay people to hold specialties in one particular area (*Tripitaka* 41, 2496 B.E./1953 C.E.). Those people were the main representatives of the Buddha in the process of spreading Buddhism. The Buddha's management structure, as seen in Figure 5, can be described as simple, without much hierarchy.
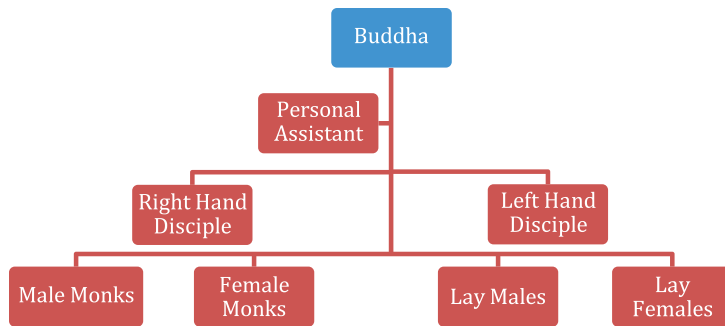
Figure 5. *The Buddha's leadership organization chart*

The organization chart of the Buddha is simple. The Buddha was at the top in the organization where he had power to set up rules and regulations and advise his people, both monastic community and lay people. To support him, he appointed 80 great *Bhikkhu*, 50 great *Bhikkhunī*, 39 male disciples and 30 female disciples to be experts in different areas based on individual qualities (*Tripitaka* 41, 2496 B.E./1953 C.E.).

Rules and Regulations in Monk Administration. Initially, there were fewer instructions about what to do and what not to do because monks were considered to be pure and committed to the teaching. Eventually, because serious mistakes were made by some careless members of the monastic community, the Buddha progressively added more rules and regulations to make sure that the community is a spiritually nurturing place (Samantapasadika, 2559 B.E./2016 C.E.).

These rules provided monks with a structure that best fits the practice of renunciation and the training of the mind, and encourages them to maintain perfect conduct while facing all kinds of situations. The *Vinaya* (rules) creates the best possible environment to train monks to reduce attachments. It helps monks to remain aware of their actions at all times, and to avoid any wrongdoing. It prevents monks from taking bad actions, and focuses on what is wholesome and beneficial. One is to keep oneself away from misbehavior that can be a barrier to spiritual practice.

The rules for male monks are numerous; the main precepts consist of 227 rules, which are called the *Pātimokkha* (*Buddhaghosa*, 1997 B.E./1454 C.E.). Rules vary from serious mistakes such as killing and stealing to minor

mistakes such as singing, making up, or wearing robes improperly. Those who neglect the *Vinaya* are subject to punishment, and are not welcome in the monastic community unless they confess their wrongdoings. The monk can confess the offences in front of an individual or group of monks based on the severity of the offense (*Tripitaka* 6, 2499 B.E./1956 C.E.). Additional rules existed for female monks to accommodate physiological differences between the *Bhikkhu* and *Bhikkhunī*.

The Monastic Decision-Making Process. Procedures were set up for the monastic community to reach agreement on decisions by the group (*Tripitaka* 6, 2499 B.E./1956 C.E.). Both *Bhikkhu* and *Bhikkhunī* were subject to the same decision-making processes. For the sake of simplicity, the following discussion refers to *Bhikkhu* only, but is intended to also incorporate *Bhikkhunī*.

No one has absolute power over decision-making. Every *Bhikkhu* in the temple must participate in the decision-making process. In case a monk is very sick, he may offer pre-agreement to the decision made by the monastic community. If any decision is made without the presence of even one monk, it is not valid. The Buddha addressed four types of decision-making processes, depending on the severity of the issue:

1. *Apalokanakamma:* a formal act of the community to inform all members about an issue.
2. *Ñattikamma:* a formal act of the community in which a decision is proposed to the community in the form of a motion that follows a set wording.
3. *Ñattidutiyakamma:* a formal act of the community in which a decision is proposed to the community in a motion and one announcment.
4. *Ñatticatutthakamma:* a formal act of the community in which a decision s proposed to the community in a motion and three announcments.

Minor matters such as saving the hair of a new novice, or dividing food, fruits, drinks, and cloth are to be announced to everyone in the temple to make sure that everyone knows what is going on inside the temple. A senior monk or representative monk is responsible for the announcement. For more serious issues such as a new appointment, higher ordination, or confession, there needs to be discussion before reaching agreement. One representative

informs the matter to the monk assembly and asks for agreement, one or three times, based on the weight of the issues. All decision-making in the monk community must be announced and agreed upon by all members of the monk community or the action is not valid.

Formal Acts of the Monk Assembly. Even though the teaching of the Buddha is based on love and compassion, legal rules and actions needed to be established to secure the harmony of the monastic community. The legal actions of the monk assembly to deal with disciplinary issues include (*Tripitaka* 9, 2501 B.E./1958 C.E.)

(a) *Tajjaniya-kamma* (Act of Rebuke)
(b) *Niyassa-kamma* (Act of Subordination)
(c) *Pabbãjaniya-kamma* (Act of Banishment)
(d) *Padisãrãniya-kamma* (Act of Reconciliation), and
   Ukkhepaniya-kamma (Act of Suspension)

Tajjaniya-kamma (Act of Rebuke) is the formal act of rebuke by the monastic community to a monk who creates conflicts and engages other *Bhikkhu* in conflict or criticizes the Buddha, *Dhamma*, or *Sangha*. The monastic community needs to remind him to confess his wrongdoings. If he does so, he is free. But if he refuses to confess an offense, the monastic community is in the position to enforce an act of rebuke. A *Bhikkhu* is stripped of some communal rights and, only when he completes a probation period, is he admitted to the monastic community again.

Niyasa-kamma (Act of Subordination) is a formal act of the monastic community to strip status from a monk who committed the same serious offense repeatedly, thus disturbing the monastic community, which has organized repeatedly to hear his confession and provide purification. To prevent him from making the same mistakes again and again, the monastic community gathers to strip his status as punishment. It reminds him not to commit that wrongdoing again. He is entitled to enjoy some rights in the monastic community, such as being a preceptor, holding seniority, and being appointed to a position of status in the temple.

Pabbãjaniya-kamma (Act of Banishment) is a formal act by the monastic community to banish a monk from the temple. This act is done for

monks who have committed many offenses and caused troubles in the village nearby the temple. His acts produce wrong view among lay people in the area where he stays. An act of banishment denies a *Bhikkhu* membership in a particular community until he mends his ways. To do this, all members of the monastic community in that area gather together, discuss, and announce the agreement. By agreement of the monastic community, the monk is dismissed from the community until he changes his behavior.

Padisãraniya-kamma (Act of Reconciliation) is a formal act of the monastic community to a *Bhikkhu* who has lowered the reputation of a householder, a man of faith, a believing disciple, or a supporter of the monk community. In this act, the monk is freed from his sin once he has confessed, and the monastic community observes, over time, that he does not repeat his wrongdoing.

Finally, *Ukkhepaniya-kamma* (Act of Suspension, which follows from not acknowledging a fault) is a formal act of the monastic community to a *Bhikkhu* who did not admit his offenses. The monastic community needs to remind him to confess. If he does not confess, he is in the position to be suspended from the monastic community.

To implement these formal acts, every member of monastic community must be in agreement. One representative announces the issue to the monk assembly, and asks for their ideas to solve the conflict. Then a proposed agreement is announced three times before reaching the final decision. When the announcements are completed, the agreement is official. The decision of the monastic community has power over any individual.

Seven Offences (*Apatti*). Different types of offenses were defined to prevent monks from engaging in inappropriate behavior. Those who want to be members of the monastic community need to diligently abide by the rules; otherwise, they can be dismissed or punished. The severity of an action determines the level of offense. The offenses were categorized under seven types (*Tripitaka* 12, 2504 B.E./1961 C.E.) depending on their nature:

1. *Pārājika*
2. *Sanghādisesa*
3. *Thullaccaya*

4. *Pācittiya*
5. *Padhidesanoya*
6. *Dukkata*
7. *Dubbhāsita*

Pārājika is considered to be a grave offense (*garukāpatti*), which is irreparable and requires leaving the Bhikkhuhood. For instance, having sex, stealing, killing a human being, and intentionally claiming attainments of stages of pure mental concentration that have not been achieved, were considered the most severe crimes for the monkhood (*Tripitaka* 13, 2501 B.E./1958 C.E.). Those who commit one of these acts will be dismissed from the monastic community. The second offense, *Sanghādisesa* (*Tripitaka* 3, 2498 B.E./1955 C.E.), is also considered a grave offense, but it is reparable. This offense, for *Bhikkhu*, is related to the relationship with woman, such as touching a woman or inviting her to engage in sexual misconduct. If a monk violated any precept, the offender would be required to go through probation where he undertakes certain difficult tasks (*Tripitaka* 9, 2501 B.E./1958 C.E.). After completing the requirement, he needs to ask permission from the monastic community to be a regular member again. The other five offences such as playfulness, destroying trees, or eating dinner are light and remediable (*Tripitaka* 12, 2504 B.E./1961 C.E.). The offender needs to confess the transgression to the monk assembly or another *Bhikkhu* (*Tripitaka* 6, 2499 B.E./1956 C.E.). After going through confession and penalty, the offender is free of the offense.

Four Issues to Be Solved. *Sāriputta* witnessed fighting in one religious group just after the demise of their master (*Tripitaka* 9, 2501 B.E./1958 C.E.). He approached the Buddha and asked him what causes the break-down of that religious group. The Buddha classified issues that need to be solved into four types based on the causes. As long as the monk community is able to deal with these issues, his teaching will go on. The four issues are: disputes, accusations, offenses, and duties.

The first type of issue involves disputes that originate from different interpretations of the teaching, and is considered the most serious issue of all. It may lead to different practices, which can break the unity of the group if the monk community does not have a proper procedure to deal with the issue. The second type of issue is accusation. One person may see another doing

something wrong. The accused person needs to reflect upon his behavior and, if he did wrong, he needs to confess. The third type of issue involves offense and requires a process of confession. The offense cannot be pardoned by the Buddha, but only by confessing to either an individual monk or the monastic community according to the severity of the offense. The last type of issue involves the duties of the monastic community, such as construction work, representing the community, temple development, and other group tasks that need to be done by the agreement of all members of the monastic community. The Buddha talked about these four types of conflicts, and later he mentioned seven ways to settle disputes.

To Deal with the Issues. In the *Cullavagga* (Book of Discipline), the presence of all members from all parties is required to resolve all four types of issues: disputes, accusations, offenses, and duties (*Tripitaka* 10, 2501 B.E./1958 C.E.). Consensus is required to reach an agreement. Everyone must be informed and heard. In some cases, disputes may be settled in accordance with the majority. However, all agreements must abide by the teaching. If an agreement goes against the teaching, it is not valid.

Seven Methods to Appease Conflicts. Seven methods are available to resolve issues that arise:

1. A verdict, in the presence of, may be given. This means that a formal act settling the issue must be carried out in the presence of all members of the monk community, in the presence of the individuals involved, and in the presence of the rules and regulations (*Dhamma* and *Vinaya*).

2. A verdict of mindfulness may be given. This is the verdict of innocence given in an accusation, based on the fact that the accused remembers fully that he did not commit the offense in question. This verdict can only apply to the *Bhikkhu* that is pure and without offense, in other words, an Arahant.

3. A verdict of past insanity may be given. This is another verdict of innocence given in response to an accusation, based on the fact that the accused was out of his mind when he committed the offense in question and so is absolved of any responsibility for it.

4. 'Acting in accordance with what is admitted' refers to the ordinary confession of offenses, where no formal interrogation is involved. The confession is valid only if in accord with the facts, e.g., a *Bhikkhu* actually commits a *pācittiya* offense and then confesses it as such, and not as a stronger or lesser offense. If he were to confess it as a *dukkata* or a *sanghādisesa*, that would be invalid.

5. 'Acting in accordance with the majority' refers to cases in which *Bhikkhu* are unable to settle a dispute unanimously, even after all the proper procedures are followed. In cases such as these, decisions can be made by majority vote.

6. 'Acting in accordance with the accuse further misconduct' refers to cases where a *Bhikkhu* admits to having committed the offense in question only after being formally interrogated about it. He is then to be reproved for his actions, made to remember the offense and to confess it, after which the community carries out a formal act of 'further misconduct' against him. This is an added punishment for being so uncooperative as to require the formal interrogation in the first place. If he abides by all these rules, and the community is satisfied that he has seen the error of his ways, they may rescind the act and restore him to his former status as a full-fledged *Bhikkhu*.

7. 'Covering over as with grass' refers to situations in which both sides of a dispute realize that, in the course of their dispute, they have done much that is unworthy of a contemplative. If they were to deal with one another for their offenses, the only result would be greater divisiveness. Thus, if both sides agree, all the *Bhikkhu* gather in one place. A motion is made to the entire group that this procedure will be followed. One member of each side then makes a formal motion to the members of his faction that he will make a confession for them. When both sides are ready, the representative of each side addresses the entire group and makes the blanket confession, using the form of a motion and one announcement.

The Bi-Weekly Meeting. To maintain the solidarity of the community of monks, the Buddha advised monks to meet every two weeks (*Tripitaka* 6, 2499 B.E./1956 C.E.) to discuss the rules and regulations by which they need to abide. The meeting must always take place in the same location so that everyone can easily remember. During the meeting, all major rules are raised

and each member of the monk community is asked to review his behavior to determine whether he has made any mistakes. The issues must be announced to every member of the monk community, and each member asked for their ideas and agreement.

The Buddha's Decision-Making Cases

The Buddha's mission brought about countless challenges. His spiritual wisdom along with his worldly knowledge could effectively solve almost all types of problems. The following section presents decision-making cases faced by the Buddha, and draws from them lessons about his approach to decision-making.

Case 1: *Bhikkhu* Dappa. Two monks got angry with another monk named Dappa, and asked a *Bhikkhunī* named Mettiya to accuse him of an ultimate offense, having sex (*Tripitaka* 2, 2498 B.E./1955 C.E.). She approached the Buddha and accused *Bhikkhu* Dappa. To solve this, the Buddha called both sides to present their case. Dappa was pure, and he realized that the Buddha already knew this. Even when the Buddha asked three times about the offense, he said only, "as Lord Buddha knows." The Buddha added that a wise man would either admit his guilt or assert his innocence. Then, Dappa proved to the Buddha that he was an Arahant, one who has eradicated all evil passion, and has never engaged in any such wrongdoing. The Buddha turned back to *Bhikkhunī* Mettiya and asked her about her fundamental purpose for doing this. She then admitted her lie, and the Buddha ordered her to be disrobed. In this case and many other others, when problems occurred, the Buddha called for both parties to present their case and discovered the cause of the problem. He then gave his judgment accordingly.

Case 2: A Pregnant *Bhikkhunī* (Female monk). There was a case of a female monk that was discovered to be pregnant (Sarada, 1993). The female monk was chased out by Devadatta, the Buddha's cousin, after finding she was pregnant. The *Bhikkhunī*, who was confident that she did not do anything wrong, went to the Buddha for help. The Buddha did not make a judgment himself; rather, he set up a committee, which consisted of a king, a pregnancy specialist, and a monk discipline specialist with a mission to discover the truth about the case. Later, the committee determined that that *Bhikkhunī* became pregnant before she was ordained and, therefore, she was not guilty of

an offense. She was allowed to remain in the monkhood, and the baby was delivered and adopted by the king. In this case, the decision of the committee is important even though the Buddha can discern the truth on his own. This case demonstrates the importance of participatory decision-making, which the Buddha valued in problem-solving. Proof from experts and common sense were used to find the truth.

The Buddha's decision-making process, as applied to this case, is illustrated in Figure 6.

Figure 6. *The Buddha's decision-making process*

Case 3: Kosampi Temple. A conflict occurred between two groups of monks (a disciplinary group and a preaching group) that stayed in the Ghositāram Temple in the Kosampi Kingdom in ancient India (*Tripitaka* 8, 2500 B.E./1957 C.E.). One famous preacher from the preaching group unintentionally left the toilet without cleaning it. The disciplinary monk accused him for this wrongdoing. The preacher asked whether it is wrong if he did it unintentionally. The disciplinary monk said if he did it unintentionally, no accusation could take place. However, the problem did not stop there. The disciplinary monk told his students that the preaching monk did not understand discipline. The story spread and the preacher monk heard about it, and accused the disciplinary monk of lying to him. The two groups gathered their supporters and fought over this small issue. The Buddha called for reconciliation but the two groups rejected it, telling the Buddha to rest and let them fight. Many times the Buddha failed to convince the two groups. The Buddha decided to leave the temple without telling anyone, and stay in the forest. Not seeing the Buddha for three months, the supporters of the two groups missed the Buddha, and felt exhausted from fighting unnecessarily. The lay people stopped supporting them, and the two groups had no food to eat and stopped fighting. Ānanda, the Buddha's personal assistant, approached the Buddha, and invited him back. When the Buddha arrived at the temple, the two groups kneeled down, and asked for his forgiveness. The Buddha advised them to

live together peacefully, and continue to diligently practice the teaching. In this case, the Buddha decided to take a break where he could relax, and the two groups eventually witnessed the consequences of their actions and had time to consider their mistakes. When the fight was at its peak, and he could not stop it, he took a break himself, waiting for both groups to realize their actions, at which point he intervened.

Case 4: The Rohini River. The Rohini River was considered the border between two kingdoms (Paramathajotika Atthakatha, 2056 B.E./1513 C.E.). Water was used for agriculture by people in both kingdoms. In the rainy season, people on both sides enjoyed plentiful water; but they had conflicts during the dry season. War almost occurred as the two kingdoms prepared their soldiers to fight. Both kingdoms claimed their legitimate right to the water. The Buddha decided to intervene in the conflict by teaching both sides to realize the value of life more than the value of water. He explained the destruction of war, and how to cope with the anger and hatred inside as they are the causes of war. Both sides agreed with the Buddha, stopped fighting, and started sharing the water. The decision to intervene in war is a serious decision where the Buddha could lose his life. However, he calculated the risk and measured his ability to convince both parties. The lesson is that taking prudent risks, and being brave enough to speak out is important in solving problems.

Case 5: Devadatta's Coup. When the Buddha stayed at Kosambi temple, Devadatta, the Buddha's cousin, wanted to take over the Buddha's leadership position in the monastic community (*Tripitaka* 11, 2501 B.E./1958 C.E.). Devadatta claimed that the Buddha was already old, and he wanted to help. However, the Buddha rejected his proposal, telling him that he was not qualified to lead the monastic community. With help from *Ajātasattu* (the most powerful king of Maghadha), Devadatta attempted to assassinate the Buddha; however, he failed to do so. Devadatta proposed to split the monastic community by establishing new rules that he thought were better than those of the Buddha. The Buddha rejected Devadatta's proposal, and pointed out the danger of the split. Due to Devadatta's misbehavior, the Buddha asked the monk community to carry out a formal act against Devadatta.

However, Devadatta did not pay attention, and proceeded to split the monk community. He took five hundred *Bhikkhu*, who were new to Buddhism,

to form a new monastic community. Seeing this split in the community, the Buddha sent *Sāriputta* and *Moggallāna*, his chief disciples, to Devadatta's camp to convince those monks to return. Seeing the two chief monks, Devadatta wrongly thought that the two chief disciples also believed in him, and allowed them to talk to the five hundred monks. The two chief monks were able to convince the five hundred monks to return to the Buddha. The main lesson from this story is the importance of unity among the community of followers.

Case 6: The King's Assassination. A political tragedy occurred in Maghadha, the most powerful kingdom in ancient India. Ajātasattu, the Crown Prince, killed his own father, a devoted follower of the Buddha, and seized the throne (*Tripitaka* 11, 2501 B.E./1958 C.E.). The Buddha observed the situation, refuse to take any action until Ajātasattu felt guilty, and was unable to cope with the stress. At that time, Ajātasattu went to the Buddha, who helped the new King, and made him his follower. The Buddha assessed the risk of taking action with a Crown Prince who had assassinated his father. He waited until the right time when the new King needed his help. This case demonstrates that the ability to analyze situations and take action at the right time is important for survival and growth.

Case 7: A Strong, Small Kingdom. The neighbor kingdom, Vesāli, was preparing to invade the kingdom of the Buddha's father, Kapilavatthu, over revenge (*Dhammapada*, 2552 B.E./2009 C.E.). The Buddha knew and understood that the invader King had a great respect in him. On the way to his father's kingdom, the Buddha sat in the hot sun under a leafless tree. The invader King saw the Buddha, and asked him why he sat in this place. The Buddha replied that it is acceptable for him to sit in the hot sun, but he does not want his relatives to be hot. The invader King understood the Buddha's meaning and retreated. The Buddha successfully stopped the invader King three times. The fourth time, the Buddha realized that he could not do anything more, and allowed the invasion to occur, as his relatives were paying back sins from their previous lives. As a result, almost everyone in the royal family was killed. The invader King was committing sin while the Buddha's relatives were paying back their sins. Out of his compassion to both sides, the Buddha tried his very best to stop the war; however, he could not stop the natural process. From this case, it can be learned that even the Buddha himself cannot solve all problems. If a situation is outside of one's control, it

may be best to let it happen.

Case 8: Who Will Take Over Buddha's Position? At the end of his life, at the age of 80, the Buddha became seriously ill, and decided to pass away. Ānanda, his personal assistant, asked the Buddha who would take over his position (*Tripitaka* 11, 2501 B.E./1958 C.E.). The Buddha did not appoint anyone. Instead, he declared that his teaching would be the guidance for Buddhism after his demise. The Buddha knew that no one could take over his job; so the better option is to rely on his teaching. It is an unusual decision not to appoint the next leader. However, his decision to put his teaching above all is a wise choice because only his words can represent his mind. The lesson is that, in leadership, principles are more important than the individual.

Conclusion

The Buddha's approaches to leadership practice and decision-making were initially developed 2,500 years ago in response to the Buddha's experiences as he developed the monastic community to propagate his teachings. Originally transmitted orally, they were later codified in written form in the *Tripitaka*. Central to the structures and procedures he created for monastic management were the concepts of simplicity, unity, moral discipline, and trust.

From the eight cases described, it is possible to extract a number of key lessons about the decision-making process of the Buddha:

1. Careful situation analysis must take place before decisions are made. All sides of a situation must be examined.
2. Participatory decision-making results in better conclusions. The support of followers can be mobilized to solve problems.
3. The timing of decisions is critical to their effectiveness.
4. There is value in prudent risk-taking.
5. It is important to prioritize attention on situations where one has control and influence.
6. Decision-making should be based on principles, rather than individual preferences.

Understanding the decision-making process in Buddhism might benefit individuals who are seeking new approaches to decision-making, especially in the context of the monastic community. Specifically, to what extent do current practices in the monastic community compare with the principles found in the Buddha's teachings? Which of the Buddha's principles and practices continue to be relevant in the modern world? The study of Buddha's decision-making can also contribute to the body of knowledge about leadership, in general, and especially, the emerging paradigm of spiritual leadership. Further study will help to understand more about his combination of common sense, and enlightened wisdom in tackling leadership problems.

References

Ambedkar, B. R. (1957). The *Buddha and his dhamma*. Mumbai: Siddhartha College Publications.

Barre Center for Buddhist Studies. (2005). *Tipitaka: The Pali Canon*. [On-line]. Available from: http://www.accesstoinsight.org/tipitaka/ [Accessed January 17, 2017].

Buddhaghosa. (1997). *Dhammapada*. (Tranissaro Bhikkhu, Trans.). (Original work published circa 500 C.E.) Available from: https://www.accesstoinsight.org/tipitaka/kn/dhp/dhp.intro.than.html [Accessed December 12, 2017].

_____. (2010). *Visuddhimaga*. (Ñáóamoli, Trans.) Kandy: Buddhist Publication Society. [Original work published circa 500 C.E.]

The Buddhist Society. (2017). *Scriptures and texts*. Available from: http://www.thebuddhistsociety.org/page/scriptures-texts. Accessed January 15, 2017.

Fry, L.W. (2003). Toward a theory of spiritual leadership. *The Leadership Quarterly*, *14*, 693-727.

Ghosananda (Maha). (1992). *Step by step*. Berkeley, CA: Parallax Press.

Harris, I. (2005). *Cambodian Buddhism: History and practice*. Honolulu, HI: University of Hawaii Press.

Keown, D. (1996). *Buddhism: A very short introduction*. New York: Oxford University Press.

Kol, P. (2015). *Bodhisattva's way*. Phnom Penh: Paññāsāstra University of Cambodia University Press.

Nārada. (1998). The *Buddha and his teachings*. Taiwan: The Corporate Body of the Buddhist Educational Foundation.

Paramathajotika Atthakatha. (2056 B.E). *Attaddandasutta*. Phnom Penh: Yong Sophat.

Rahula, W. S. (1959). *What the Buddha taught*. New York: Grove Press.

Sanghakammakatha: Part One. (2538 B.E.). Phnom Penh: Buddhist Institute.

Sarada, W. (1993). *Treasury of truth: Illustrated dhammapada*. Singapore: Buddha Dhamma Education Association, Inc.

Tripitaka 1: Vinaya (2497 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 2: Vinaya. (2498 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 3: Vinaya. (2597 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 4: Vinaya. (2496 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 6: Vinaya. (2499 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 7: Vinaya. (2500 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 8: Vinaya. (2500 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 9: Vinaya. (2501 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 10: Vinaya. (2501 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 11: Vinaya. (2501 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 12: Vinaya. (2504 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 13: Vinaya. (2501 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 16: Dighanikāya. (2502 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 19: Dighanikāya. (2503 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 40: Angguttaranikāya. (2496 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Instittue. (Original work published circa 300 B.C.E.).

Tripitaka 41: Angguttaranikāya. (2496 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Instittue. (Original work published circa 300 B.C.E.).

Tripataka 42: Anguttaranikāya. (2498 B.E.) (Buddhist Institute, Trans.) Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 44: Angguttaranikāya. (2496 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Instittue. (Original work published circa 300 B.C.E.).

Tripitaka 47: Angguttaranikāya. (2498 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Instittue. (Original work published circa 300 B.C.E.).

Tripitaka 52: Khuddakanikāya. (2500 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 61: Khuddakanikāya. (2503 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute. (Original work published circa 300 B.C.E.).

Tripitaka 62: Khuddakanikāya. (2503 B.E.). (Buddhist Institute, Trans.). Phnom Penh: Buddhist Institute.

A Review of Spiritual Leadership Theory

Venerable Penh Vibol

Faculty of Arts, Letters, and Humanities
Paññāsāstra University of Cambodia

Abstract

This article presents a summary review of contemporary leadership theories, with emphasis placed on the emerging leadership paradigm of spiritual leadership and its family of theories that includes servant leadership, emotional intelligence, social intelligence, leadership ethics, and Buddhist leadership. The literature review will form part of a theoretical framework for a study of the application of Buddhist leadership principles by lay Buddhists, working in leadership positions in Cambodia. It concludes that theories of spiritual leadership remain prescriptive, rather than descriptive, and that further research on the implementation of spiritual leadership in established or newly designed organizational cultures would be instructive.

Keywords: Buddhist leadership, emotional intelligence, leadership ethics, servant leadership, social intelligence, spiritual leadership

A Review of Spiritual Leadership Theory

Introduction

Spiritual leadership is a comparatively new area of research in the field of leadership studies. A great deal of research has been conducted on leadership for many years, with researchers working to find out who great leaders are and what great leaders should have and do. Daft (2008) studied the history of leadership theories in six approaches from the Great Man theory of leadership to a variety of trait, behavioral, contingency, influence, and relational theories. The study of leadership has created concepts such as democratic leaders, leader-member exchange, transactional leaders, transformational leaders, charismatic leaders, ethical leaders, servant leaders, authentic leaders, and now, spiritual leaders.

Methodology

This article reviews selected literature on contemporary leadership theories within the spiritual leadership paradigm, which has been offered as an explicit theory by Louis W. Fry and his colleagues (2003, 2005, 2009, 2016). Spiritual leadership began to take shape with the publication of Robert C. Greenleaf's (1970) theory of servant leadership. It has come to include explorations of the neuroscience of emotions, with applications for leadership (Goleman, 1995 and 2006; Goleman, Boyatzis, & McKee, (2002) and the topic of leadership ethics (Northouse, 2013). These theories can be described as prescriptive, as they do not describe leadership as it is frequently practiced, but instead consider how it might be practiced. It is asserted that they are relevant not only to religious institutions, but also to lay organizations. This article will serve, in part, as the basis for a study of the application of Buddhist principles among selected lay leaders in Cambodia. Therefore, this review concludes with reflections on Buddhist concepts of leadership (Gopalkrishna, 2006; Hanh, 2004; Heng, 1995; and Kol, 2008).

Components of Spiritual Leadership

As an area of study, spiritual leadership developed out of the spirituality at work studies. When the concept of servant leadership was introduced in

the 1970s, and transformational leadership in the 1990s, the idea of leaders caring about the lives of their followers took its conception. The first theorist who defined spiritual leadership was Fry. Fry defined spiritual leadership "as comprising the values, attitudes, and behaviors that are necessary to intrinsically motivate one's self and others so that they have a sense of spiritual survival through calling and membership" (2003, p. 711). Fry (2005) wrote that his impression of spiritual leadership started in 1999 after he taught a graduate course in ethics and leadership. After he was influenced by the spirituality at work literature, and Daft's (2008) text, *The Leadership Experience,* Fry stated that a theme that has three universal spiritual needs exists: that what is suggested for workplace spirituality is "an inner life that nourishes or is nourished by calling of self within the context of a community based on the values of altruistic love" (2005, p. 621).

Spiritual leadership means that first, a vision is created in a way that members experience a sense of calling in that their life has meaning and makes a difference. This is related to the inner value of a life contributing to making a difference to the lives of others. By this spiritual calling and the noble goal in life, they are committed and sacrifice to their work. And secondly, there needs to be a social and organizational culture based on altruistic love whereby leaders and followers have genuine care, concern, and appreciation for both self and others, thereby producing a sense of membership and feeling of being understood and appreciated (Fry, 2003). When leaders and followers have the commonality of altruistic love toward others, they want to join the good cause so that they can achieve their sense of calling for workplace spirituality.

Fry illustrated a reasoning, echoing the Dalai Lama, that:
The spiritual leadership model can be inclusive or exclusive of religious theory and practices since it is also based on a spirituality that underlies or provides the foundation for the world religious and spiritual traditions (Fry, Latham, Clinebell, & Krahnke, 2016, p. 3). See figure 1 for an illustration of the model (Fry, 2003, p. 695). Figure 1. Causal Model of Spiritual Leadership
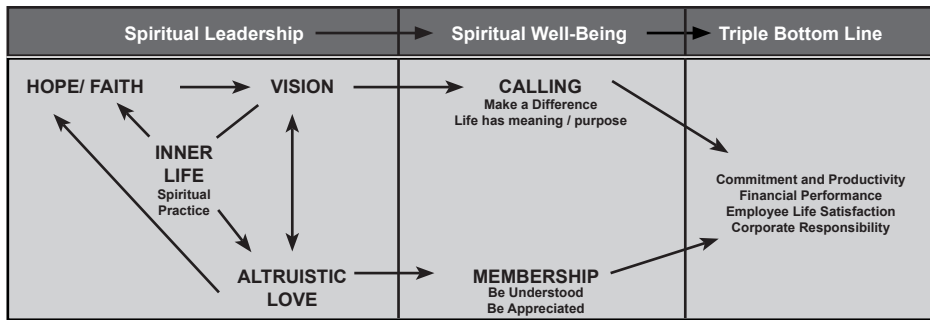
Spiritual Leadership	Spiritual Well-Being	Triple Bottom Line
HOPE/ FAITH → VISION → INNER LIFE Spiritual Practice ALTRUISTIC LOVE →	CALLING Make a Difference Life has meaning / purpose MEMBERSHIP Be Understood Be Appreciated	Commitment and Productivity Financial Performance Employee Life Satisfaction Corporate Responsibility

Figure 1. *Causal model of spiritual leadership*

Altruistic love in spiritual leadership means "a sense of wholeness and well-being produced through care, concern, and appreciation of both self and others" (Fry, Latham, Clinebell, & Krahnke, 2016, p. 3). Fry added that spiritual leadership means having an inner life and life satisfaction. To Fry, inner life refers to the feeling individuals have about the essential meaning of who they are, what they are doing, and what they are sharing. Inner life is about the search for a source of inner power that energizes hope/faith in a vision to love and serve others.

Subjective well-being is characterized as life satisfaction, while hope/ faith is characterized as the organizational vision that generates positive expectation, pushing for greater effort by the followers to pursue the vision (Fry, Latham, Clinebell, & Krahnke, 2016). Therefore, practicing inner life through hope, vision, and altruistic love eventually generates a sense of spiritual well-being via calling and membership, which finally has a positive influence on important individual and organizational outcomes such as:

1. Organization commitment- a sense of calling, membership, and ownership, loyalty to, and willingness to stay in organizations that satisfy these spiritual needs.
2. Unit productivity- people who experience calling and membership will be motivated to make work unit continuous improvement and productivity to help the organization success.
3. Life satisfaction- people with a sense of calling and membership will feel more fulfilled by having a sense of purpose, and belonging and therefore will perceive their lives as richer and of higher quality.

Spiritual Leadership at the Workplace

Mitroff and Denton (1999) provided significant research on spirituality at work with their publication of A Spiritual Audit of Corporate America. They used both qualitative and quantitative methods of data collection and analysis of more than 90 high-level managers and executives. They found some key information related to the design and leadership of organizations. Their findings laid emphasis on spirituality, religion, and values in the workplace. The results that they have found were:

1. First, "the respondents in their study did not have widely varying definitions of spirituality" (Mitroff and Denton, 1999, p. 60). In short, to the respondents, spirituality is the basic desire to find ultimate meaning and purpose in one's life, and to live an integrated life.
2. Second, "people do not want to fragment their lives in a way that they leave their soul at home. They wanted to be acknowledged as whole persons in the work place" (Mitroff and Denton, 1999, p. 64). It means that the search for meaning, purpose, wholeness, and integration is a continual task and struggle. Limiting people's search to one day or one year is violating people's fundamental sense of integrity because people want to be accepted as whole persons in the workplace, where they spend most of their waking time.
3. Third, "the respondents under study generally differentiated strongly between religion and spirituality" (Mitroff and Denton, 1999, p. 70). Religion is viewed as formal, organized, dogmatic, and intolerant, dividing people more than bridging them, and a highly inappropriate topic in the workplace, while spirituality is viewed as appropriate, informal, personal, universal, inclusive, tolerant, and connected to complete self-interconnectedness.
4. Fourth, "people are hungry for models of practicing spirituality in the workplace without offending their coworkers" (Mitroff and Denton, 1999, p. 74). They looked for practicing models of spirituality that are nonreligious. They firmly believed that when their spiritual energy increased, their productivity and results would increase.
5. Fifth, "lacking positive role models of how to practice spirituality in the workplace, many people are terribly afraid to even use the words spirituality" (Mitroff and Denton, 1999, p. 74). They believed

that "values" was a more neutral word that is more acceptable and less threatening.

6. Sixth, "one of the most significant findings that emerged from the research is the existence of a relatively small number of models for practicing spirituality responsibly in the workplace" (Mitroff and Denton, 1999, p. 79).

Spiritual Leadership and Leadership Effectiveness

The effectiveness of a leader in any organization plays a fundamental role in its success. The role of the spiritual leader is so essential because he needs to create a culture that encourages spiritual well-being in its followers. Reave (2005) drew a conclusion that spiritual values and practices are directly related to leadership effectiveness in motivating workers, creating a positive environment, inspiring trust, promoting positive relationships between employees and the leader, and achieving goals of the organization. Spiritual leaders produced committed and motivated workers by generating spiritual insights and cultural contexts in congruence with universal human values. Dent, Higgins, and Wharff (2005) mentioned a clear consistency between spiritual values, practices, and leadership effectiveness. A leader who displays spiritual leadership becomes happier, is more dedicated to work, and develops a stronger sense of calling. After discussing the important role of spiritual leadership in the literature, one can see the positive impact that spiritual leaders have on workers and organizational performance as a whole. It is good to look at how choosing the right leader to maintain the spiritual values of the organization is a key to integrating spirituality in the workplace. More research is needed on the integration of spiritual leadership in the workplace as well as how to become a spiritual leader.

Servant Leadership

Some people have said that servant leadership is a paradox because it is contrary to the general perception about leadership. On the whole, the picture of leadership is to take the lead, not be a servant. The leaders have to influence and the servants have to follow. The theory of servant leadership is first found in the writing of Greenleaf (1970). It has become the subject of interest in the field of leadership by many scholars and researchers for more than 40 years. Until now, the writing about the servant leadership either in

academic or non-academic fields has been prescriptive, paying attention to how servant leadership should ideally be, other than descriptive, emphasizing on what servant leadership really is in practice.

Servant leadership is about the idea that the leaders must focus attention to the concerns of the followers, be empathetic with them, and nurture them. Servant leaders always put priority on their followers. The servant leaders put the interests of the followers above all. The followers are empowered, helped, and developed to their full personal capabilities. Moreover, they are ethical and care about how to lead and serve for the greater good of the organization, community, and society (Northouse, 2013).

Greenleaf gives the most frequently referenced definition:

Servant leadership begins with the natural feeling that one wants to serve, to serve first. Then conscious choice brings one to aspire to lead…The difference manifests itself in the care taken by the servant-first to make sure that other people's highest priority needs are being served. The best test… is: do those served grow as persons; do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And, what is the effect on the least privileged in society; will they benefit, or, at least, will they not be further deprived? (1970, p. 6)

Historical Foundation of Servant Leadership

It was Robert K. Greenleaf who coined the term, *servant leadership*. He is also the author of the seminal works on servant leadership. His writing has influenced how servant leadership has developed on the theoretical and practical level. Furthermore, he established the Center for Applied Ethics in 1964, and now it has been transformed into the Greenleaf Center for Servant Leadership, opening up for research and writing on servant leadership.

Mr. Greenleaf served AT & T Company for 40 years. After he retired, he started to search for how institutions function and how they could serve society tremendously. He was haunted by the complicating issues of power and authority. He wondered how individuals in organizations could help each other in a very creative manner. Communication was strongly believed to build consensus in groups. Mr. Greenleaf said that his concept of servant

leadership was developed because of his reading of the novel, The Journey to the East, written by Herman Hess in 1956. The novel mentions a story of adventure by a group who travelled on a mystical journey. In the journey, there was a servant who did menial work for the group of travelers. The servant not only did the menial jobs but entertained the travelers with his spirit and song. The presence of the servant was very important and extraordinary because it had a huge impact on the travelers. When the servant did not show up among the group, the travelers fell into sadness and gave up the journey. In the absence of the servant, the journey could not go on. Hence, it became clear that it was the servant emerging as a leader via his selfless servitude to the travelers. A servant leader has a social responsibility to care about the poor and the less privileged. If inequalities and social injustice exists, a servant leader tries to remove them (Graham, 1991). According to Laub (2004), servant leadership is not a style leadership but is, rather, a paradigm that gave new forms of understanding the practice of leadership. Emotionally Intelligent Leadership

Intelligence Quotient or IQ had been tested since World War I. These tests were developed by Lewis Terman, a Standford University psychologist, to measure intelligence in a manner that found if a person was smart or not smart (Goleman, 1995). Howard Gardner, a Harvard School of Education Psychologist, was the first person to display a theory of multiple intelligences. He pointed out that there is not just one, monolithic kind of intelligence that was essential for life success, but rather a wide spectrum of intelligences (cited in Goleman, 1995). Gardner raised that:

Interpersonal intelligence is the ability to understand other people: what motivates them, how they work, how to work cooperatively with them. Successful sales people, politicians, teachers, clinicians, and religious leaders are all likely to be individuals with high degrees of interpersonal intelligence. Intrapersonal intelligence is a correlative ability, turned inward. It is a capacity to form an accurate, veridical model of oneself and to be able to use that model to operate effectively in life" (cited in Goleman, 1995, p. 39).

Goleman (1995) defined the word emotional intelligence or EQ and recognized the work done by Gardner, Sternberg and Salovey. Salovey subsumed Gardner's interpersonal intelligence in his own definition of emotional intelligence and broadened these abilities into four domains:

1. Self-Awareness: knowing one's emotions by recognizing a feeling as it happens. This refers to three aspects of the emotional self-awareness of leaders: recognizing how their feelings have affected them and their job performance so that they can speak openly about their emotions or with conviction about their guiding vision; accurate self-assessment to know their limitations and strengths; and self-confidence to create a sense of presence and self-assurance (Goleman, Boyatzis, & Mckee, 2005).

2. Self-Management or Managing Emotions: handling feelings. Leaders who are unable to handle their feelings will encounter distress, while those good at this will be successful. Self-management refers to (a) self-control by finding ways to manage emotions and stay peaceful and clear though under stress, (b) transparency to show authentic openness to others about their feelings, beliefs, and actions by adhering to one's own values, (c) adaptability to deal with many tasks while staying focused and comfortable with uncertainty, (d) achievement supported by high personal standards and continual improvement, (e) initiative that leads to a sense of efficacy and control of destiny, and (f) optimism–an ability to be flexible in positivity (Goleman, Boyatiz, & Mckee, 2005).

3. Social-awareness refers to people skills including (a) empathy, the ability to attune to emotional signals or even unspoken emotions of people; (b) organizational awareness, a keen social and relationship awareness and understanding of the values that people uphold; and (c) a service-orientation to make themselves accessible and available in time of needs (Goleman, Boyatiz, & Mckee, 2005).

4. Relationship Management refers to the ability or skills to manage emotions of others by (a) inspiring others to create a vision or mission, (b) influencing others, (c) developing others to become great and bringing out their best, (d) being able to recognize the need for change and to serve as a catalyst for change, (e) conflict management, enabled by being open to all views for better solutions, and (f) being able to create an environment of teamwork, built on respect, helpfulness, and cooperation (Goleman, Boyatiz, & Mckee, 2005).

The Socially Intelligent Leader

The socially intelligent leader refers to one who is very good at listening to, empathizing with, and acknowledging problems of other people accurately. When people in an organization feel upset and distressed, a leader can find ways to listen to the problems with empathetic feelings (Goleman, 2006). Moreover, the leaders need to show concern, and make a goodwill effort to change things for the better. It does not matter if the effort can solve the problems or not. By paying attention to someone's feeling, the leader helps metabolize them, so the person can move on rather than perpetuate being angry.

It is not necessary for the socially intelligent leader to agree with the person's stance or reaction. However, just appreciating their ideas, and then saying sorry if necessary or otherwise seeking a remedy, sends out some of the toxicity, making destructive emotions less harmful. According to a survey of employees at seven hundred companies, the majority of them said that a caring leader was more important to them than how much they earned (Goleman, 2006). It became clear that liking the leader was a key driver of both productivity and the duration they stayed at that job. People do not like to work under a toxic leader for any wage, except to earn enough money to quit with security.

The socially intelligent leader sets out being fully present and getting in sync with others' emotions. Once the leader is engaged, then the full social intelligence came into action, from viewing people's feelings and why to interacting smoothly to move people into a positive state. According to Goleman (2006), businesses are on the front lines of applying social intelligence. As people work longer and longer hours, businesses are seen as their families, villages, and social networks. Since emotions go viral, every leader at every level needs to remember that he can make problems either worse or better.

Leadership Ethics

Northouse (2013) defined leadership as a process whereby the leader has influence over followers to achieve a common goal. The leader's influence derives from the example of his life on others under his/her leadership.

To make others change always involves the leader's ethical conduct and responsibility. Because leaders have more power to use than followers, they have to bear more responsibility because it affects the followers' lives. Ethics is so important to leadership because it can help leaders to create and reinforce organizational values. In a nutshell, because of the nature of the process of influence, the need to inspire followers to realize reciprocal goals, and the impact of leaders on organizational values, ethics becomes fundamental to leadership (Northouse, 2013).

Ethics is related to who leaders are and what they do. This has to do with the nature of leaders' virtuousness and behavior. The choices that leaders decide to take and their responses to a given circumstance involve ethics. Northouse (2013) mentioned that there were two broad domains of ethical theories: theories about leaders' conduct and theories about leaders' character. And the theories of leaders' conduct are further divided into two kinds: the consequence-based and the duty-based.

Northouse (2013) stated that in making decisions, leaders use three approaches in regard to moral conduct. Those approaches are ethical egoism, utilitarianism, and altruism. From the perspective of ethical egoism, all decisions must be made to the leader's greatest interest. The leader of ethical egoist type would accept the job or career that he selfishly enjoys. In the second approach, utilitarianism, the leader will make a decision as long as the decision serves the good of the greatest number of the majority, maximizing the social benefits and minimizing the social costs. The third approach to the leader's decision making is altruism: actions are ethical if the main purpose is to promote the best interest of the majority. Duty-based ethics is the action-based decision making. To know if a given action is ethical or moral is not related to consequence. It is related to whether the action is itself good–keeping a promise or telling the truth. The actions of the leader are focused and they are also held responsible and obligated.

Buddhism on Leadership

The Buddha had a great vision to bring peace and harmony to the world. He found the ultimate truth, realized through renunciation of all the defilements—greed, hatred, and delusion. Therefore, he decided to serve humanity with *Mettā* (universal love) and *Karunā* (compassion). The Buddha

dedicated himself to preach the *Dhamma*—the teachings of liberation—for the benefit, welfare, and happiness of many and out of compassion for the world. The noble and virtuous qualities of the Buddha in putting others' welfare above his own welfare is characterized as the greatest spiritual servant leader because he sacrificed his own luxuries and shared the truth, establishing a monk community-democratic organization (Gopalkrishna, 2006).

The Buddha is a dynamic personality emphasizing the broad vision of directing and guiding mankind toward liberating itself from suffering. The Buddha has transformed many people through meditation. He is a pathfinder and, out of compassion, encouraged people to be self-reliant and to work towards one's own salvation.

Ten Buddhist Principles for Regal Leadership

The ten royal principles for kings were expounded by the Buddha to describe the person who performed a leadership role as king. According to the Buddha, the word 'king' means to satisfy or fulfill his populace. Here it means the king as the leader has to make his subjects happy and abundant. Once assuming the leadership role, the king has to abide fervently by the ten royal principles for Buddhist leadership as follows:

Generosity: The leader needs to be generous and benevolent. When a leader decides to give things to others, it means that he/she is selfless. But when he is selfish, he will do whatever it takes to gain more. Generosity in the context of kingship means that he must make sure that his subjects are not poverty-stricken. He needs to find means to create enough jobs for his people or create favorable conditions for his subjects to earn decent livings. People need the act of giving because, since we were born, we need breast feeding from our mothers. In Cambodian culture, people are instructed to appreciate the benefit of the culture of sharing because it is through sharing that life is nurtured. There is a Khmer saying, 'we receive giving from others and vice versus.' By this way, love and compassion can be mutually extended towards one another in the society and the world. There are three kinds of giving: giving basic needs, ensuring social order and stability and peace, and practicing the Dharma. The fruits generated from the act of giving is twofold. First, the leader is loved by the receivers. Second, the leader is respected by the receivers (Heng, 1995).

Morality: A leader is a role model. To earn respect and love from his people, he has to be pure in his moral conduct since he is a public figure. If the leader becomes immoral, suffering will befall his people, eventually leading to the total collapse of the nation. At this juncture, people will consider placing their leader. They would not stand seeing the country collapse. There are four types of morality expected of the leader (Heng, 1995).

First, the leader must guard his six faculties: eyes, ears, nose, tongue, body, and mind. If these six faculties are properly and rightly used, happiness can be achieved. However, if it is not properly guarded, it will cause suffering to his people. The good leader is the one who is morally stable and disciplined.

Second, the leader must abide by the law. There are two kinds of laws: state law and spiritual law. The state law refers to the constitutional laws and its relevant laws. A person who is widely notorious for crimes, sexual abuses, drug-addiction and being drunk is not chosen, since a leader is the one whose moral conduct is exemplary. The spiritual law refers to the observance of the five Buddhist precepts, which are the foundation of leadership. Those five precepts are not killing, not stealing, not committing adultery, not lying, and not drinking alcohol. When a person does not kill, he inwardly cultivates loving-kindness in his heart. When he chooses not to steal, he is dealing in right livelihood. When he chooses not to commit adultery, he respects other peoples' wives. When he chooses not to lie, he is truthful. And when he chooses not to drink alcohol, he is mindful.

Third, the leader must deal with right professions. The pure and right professions make one not repentant at a later time. The leader must avoid unlawful business. Therefore, profits and ethics must be balanced.

Fourth, the leader must be heedful in using the four requisites of clothing, food, shelter, and medicine. The mindful use of these four requisites will bring happiness. The leader must realize that he is respected and fed by the people through tax levying. Hence, the leader has to sacrifice for the people.

Altruism: The leader must sacrifice his personal happiness and welfare for the sake of others. He sacrifices his personal energies for building roads, land for building hospitals, blood for saving life, wealth for building

Buddhist monasteries, and personal interest for public interests. Hence, it should be well noted that the giving by the leader to his followers can be either positive or negative. If the giving is not wisely and properly distributed, jealousy may occur among his followers who may think that the leader adopts favoritism. At this point, it becomes clear that the act of sacrifice is more positive since the leader does not expect anything in return. The Buddha stated there are levels of sacrifice as follows (Kol, 2008):

- One will sacrifice one's wealth for body if the body is sick.
- One will sacrifice one's body for life if the life is in danger.
- Eventually, one will sacrifice one's life for the truth or principles. (Kol, 2008)

Self-sacrifice is like the natural law. It cannot be forced. For example, a tree is well grown and becomes green during the rainy season because of sufficient water, but its leaves fall during the dry season because there is not sufficient water. If not so, the tree dies due to the insufficient water. However, when the old leaves fall, one or two months later the tree will grow well and green, looking beautiful (Heng, 1995).

Honesty: The leader must be very honest. Since the leader models being honest, his followers will follow suit. It can be observed with a ruler. If one wants to know if a ruler is straight or not, the first end, the middle, and the other end of the ruler must be checked to see if it is straight. Likewise, the act of the leader can be noticed with his thinking, words, and actions (Heng, 1995). The leader has to be honest towards one's roles, works, speech, individuals, and goodness. Walking on the road that is right and straight makes one reach the destination so fast just as the Buddhists walk on the Noble Eightfold Paths, the straight road toward *Nirvana*.

Gentleness: The leader is soft with people but firm with his task. Every day one faces different roles as children, parents, students, teachers, spouses, lay people, monks, state leaders, or friends (Heng, 1995). The leader has to be flexible according to these respective roles. The leader needs to train one's mind to be gentle and simple. Gentleness can be manifested in the form of:

- Maintaining a smiling face
- Being polite to the little people

- Respecting the sacred places
- Kindly accepting the people's appreciation
- Being modest
- Not overrating oneself
- Showing contentment for recognition
- Admitting mistakes if wrong

Self-control: The leader has to abolish his unwholesome bodily, verbal, or mental actions (Heng, 1995). Moreover, the leader not only gets rid of the unwholesome acts within himself, but also to punish or eradicate the evil people out of his kingdom. The leader has to openly announce that he will not take sides with evil persons; will not help criminals; will punish wrongdoers; will not offer honor, ranks or power to the criminal; will not accept the bribes; and will honor the good people. In short, the leader has to practice austerity by getting rid of the evil within himself and the evil persons from his society.

Non-anger: The leader must be always calm and peaceful. Getting rid of anger is not easy but it does not mean that it has no way out. There are some ways that the leader can subdue anger. The leader has to have right view by contemplating the negative consequences of anger. The leader has to think about the vast benefits of non-anger. The leader has to repeat "Non-anger, non-anger, non-anger!" The leader needs to undertake meditation (Heng, 1995). For example, before getting angry with someone, the leader should close his eyes and take a long breath ten times or more. By this means, the anger will be subdued. The leader should also extend loving-kindness towards all living beings.

Non-violence: The leader has to be non-violent, not persecuting the people. The leader must not inflict casualties on others by abusing his power through threatening others for his personal gains or his own groups. There is a Khmer saying, "harming others is the cause of the world suffering" (Heng, 1995, p. 146). The leader has to be sure that he does not harm individual people, the society, community, organizations, or nature.

Forbearance: Practicing patience in one's duty. Patience refers to preventing one's mind from the influence of corruption and dislikes. The leader has to be patient with his own defilements, ignorance, the subordinates, works, instructions, heedlessness, and criticism. In short, the leader has to be

patient with hardship, suffering, hurts, and the power of defilements. Being patient with the hardship of one's work means the leader is not discouraged from difficulties such as tiredness, hunger, or changing weather. Being patient with suffering refers to enduring sadness, separation, or injuries. Being patient with insults refers to the injustice caused by others through belittling, bad words, or looking down. Being patient with one's defilements refers to controlling one's faculties or defilements (Heng, 1995).

Uprightness: Uprightness involves respecting public opinion and promoting harmony. Uprightness refers to right thought, right understanding, right speech, right work, right effort, right livelihood, right attentiveness, and right view. Hence, the leader bears in mind that 'I won't do wrong;' The leader is always attentive to his actions. The leader should bear in mind that he has to be a pure patriot and must always be 'clean;' that is to say, uncorrupted. Favoritism and injustice are abolished, and prevent members of the family, courtiers and flatterers from using the leader for their own interests. The leader needs to give priority to the poorer classes, those who suffer and truly deserve assistance.

Four Buddhist Principles of Social Service

To build a harmonious relationship among members of human society, the Buddha taught that each member should follow certain principles for giving services towards one another. It is called the 'principle of service' (*Sangaha-vatthu*). Adhering to the principle of service will create unity among the members of the society, which eventually becomes beneficial to the nation as a whole. These principles were mentioned by the Buddha, when he was born as a Monkey King, who instructed the Benares King to follow the 'principle of service' of four virtues for the welfare and happiness of his subjects (Kol, 2008).

The first virtue is that giving is being kind, generous, helping, and sacrificing. Offering help with the four necessities is also considered as giving. Giving money or other material needs to other people comes under this virtue. Imparting knowledge is also called giving. Knowledge does not perish and can be learnt from generation to generation, and therefore, is an excellent giving that one can give (Kol, 2008).

The second virtue is amicable speech. This refers to uttering polite words that are pleasant and nice to one's ears. One's speech should always be grounded on reason and helpful for goodness. One should always speak in an encouraging and sympathetic manner (Kol, 2008).

The third virtue is helpful action. This involves offering physical service, including the endeavor to give helping hands to others in their activities and in harmony, mutual love, respect and service. Providing a helping hand to resolve problems and promote morality will eventually help the social development (Payutto, 1998).

The fourth virtue is participation, which requires putting oneself in alliance with others. One should conduct oneself in a consistent and impartial behavior and be equitable towards everyone. One should always be mindful not to take others for granted (Payutto, 1998). It is good to take part in others' happiness and sorrows and solve problems in society and find solutions for them. By following the principle of service, one can maximize merit and make one's life meaningful and beneficial to others in society.

True Love: A Practice for Awakening the Heart

Hanh (2004) claimed that happiness can only be realized through true love that has the power to heal and transform the situation around us and provide a profound meaning to our lives. He asserted that if one had learned the ways to practice love, compassion, joy, and equanimity, one would be able to know how to cure the illnesses of anger, suffering, insecurity, and unhealthy attachments. There are four aspects of true love.

The first true love is *Metta* or loving kindness. According to Hanh (2004), loving kindness refers to the capacity to provide love and happiness. To gain this capacity, we need to practice looking and listening deeply. By this way, one can know what to do and what not to do in order to make others happy and joyful. Hanh suggests to us to understand the real situations of the people we help. Devoid of understanding, our love is not genuine. He further said that in order for us to be loved, we have to love and essentially to understand. When we decide to love, we dare to sacrifice everything for the people whom we love. When we understand someone profoundly, even the one who has harmed us, we cannot stop loving that person.

The second aspect of true love is compassion. According to Hanh, compassion refers to one's ability to relieve and transform the suffering of others. To develop compassion in our hearts, we need to exercise mindful breathing, deep listening, and deep looking. When we realize that there is a person undergoing suffering, we stay close to the person and begin to look and listen deeply to him/her so that their pain is touched by us. By this way, we have developed a deep communication to relieve his/her suffering. The words, actions, and thoughts full of compassion can reduce another's suffering (Hanh, 2004).

The third aspect of true love is sympathetic joy or altruistic joy. True love radiates itself to us and to the persons whom we love. Hanh asserted that when love does not produce joy to us and to the persons whom we love, it is not true love. The experience of happiness when we see others are happy just like us falls in this third aspect. Simply put, we are happy when we see others being happy (Hanh, 2004).

The fourth aspect of true love is equanimity, meaning nonattachment, nondiscrimination, even-mindedness, or letting go. It refers to seeing everyone being equal and not discriminating between ourselves and others, even in conflict. If we love based on attachment, discrimination, or prejudice, it is not true love. When we think we are better than others, this is not genuine love. We have to put ourselves in the other people's skins. Without equanimity, our love is not true and may even be possessive love. (Hanh, 2004).

Four Types of People in Buddhist Leadership

The Elder Ses (1956) mentioned that the relationship between leaders and their followers is compared to the heartwood and sapwood metaphor as taught by the Lord Buddha. According to the Buddha, there are four types of relationships between leaders and followers. The first type of relationship compares the leader as the sapwood, with the followers as heartwoods. This means that the leader is amoral and unethical, being fond of committing social vices, while the followers are moral and ethical, fond of performing good actions just as the Khmer adage says "the leader is heedful, while the followers heedless or the leader is unreliable, while the followers reliable" (Ses, 1956, p. 2). On the other hand, it is like a country whose leader is unethical, uneducated, incapable, and mindless and whose followers are ethical,

educated, capable, and mindful.

The second type of relationship compares the leader to heartwood, with the followers as sapwoods. It means that the leader is purely ethical and moral, equipped with high moral virtues, and unbiased, while the followers are unethical and immoral, being fond of committing evil acts just as the Khmer adage says "the leader is noble, while the followers are ignoble or the leader is good, the followers bad" (Ses, 1956, p. 3).

In the third type of relationship, the leader and the followers are both sapwoods. It refers to the area where there are sapwoods growing in the center and surrounded with the sapwoods. It means that the leader is unethical, reckless, and unjust. So are the followers. In this sense, a country that is found to be full of unethical leaders that are surrounded by unethical followers will degenerate automatically towards calamities. A country whose leader and the people are morally weak and uncivilized is bound to failure and collapse.

The fourth type of relationship is comparable to when the leader is heartwood and the retinues also are heartwoods. This is the best type of leader-retinue relationship. It suggests a country whose leader is morally good, broadly knowledgeable, devoid of evil actions, and fond of performing wholesome deeds, and so are the retinues. Both the leader and the retinues firmly believe in the moral virtues. Such a leader is always aware of the welfare of his/her retinues, opportunities for growth or failure, contentment, self-awareness, causes of progress or downfall, and the natural laws.

Buddhist Servant Leadership

The idea of servant leadership can be traced back to the Buddha's time in the 3rd century B.C. when the Buddha appeared in this world. When seeing human beings have been drowning in suffering, especially in the cycle of births and deaths, deep compassion arose in the Buddha's heart. When great compassion arose intensely, it motivated the Buddha to seek means to liberate people from suffering. This led the Buddha to sacrifice his entire life for the benefit and happiness of all mankind. One can observe his first message delivered to the first 60 *Arahants*[1] as follows:

---

[1] *Arahant* refers to the one who is pure and freed from all defilements such as greed, hatred, and delusion.

O, monks, travel along, from village to village, from market town to market town, from city to city, for the good of the many, for the well-being of the many, and in compassion for the world-for the good andwell-being not only of men but gods as well. Two of you must not travel along one road. Declare the Doctrine which is good in the beginning, good on the middle, and good at the end. I, too, will set out for the market town of Senāni in Uruvela to preach the Doctrine (Dharmakosajarn, 2008, p. 21).

After sending the first 60 *Arahants*, out of compassion for living beings, the Buddha purely sacrificed his time, energy, and life for the happiness and welfare of living beings. His day was divided into five sessions:

1. The first session is the Forenoon Session (Nārada, 1988). It is early in the morning. The Buddha usually surveyed the world with His Divine Eye to search for whom he could help with his teaching of liberations. If any person needs his assistance for spiritual guidance, without invitation, he went on foot to see that person. Then before he had his meal, he had always delivered a short discourse to lay people in order to establish them in the right course of actions, taking refuge in the Triple Gems and observing the Five Buddhist Precepts.

2. The second session is the Afternoon Session. At this time, he took a seat in the monastery and the Buddhist monks gathered around to listen to his preaching. Some approached the Buddha for meditational instruction according to propensities. Others just paid respect to the Buddha before they took a nap in the afternoon. The Buddha himself retired to his place to sleep for a while with mindfulness. Toward evening the lay people came to hear his preaching at the monastery. He preached to them for about an hour so that they set themselves in the right conduct (Nārada, 2010).

3. The third session is the First Watch. This time of the night extended from 6 p.m. until 10 p.m. The Buddha always reserved this time to preach to the Buddhist monks. The Buddha dedicated this time to clear Buddhist monks of various doubts. The Buddhist monks could ask the Buddha on the intricacies of the *Dharma* (Nārada, 2010).

4. The fourth session is the Middle Watch. This period lasts from 10 p.m. untill 2 a.m. During this period, the Buddha always reserved the time

for celestial beings that were invincible to the physical eye, approached him to have their questions cleared. Several discourses and answers given to the celestial beings appear in the *Tripitaka* (Nārada, 2010).

5. The fifth session is the Last Watch. It extends from 2 a.m. to 6 a.m. He dedicated this time to pace up and down. He spent from 3 a.m. to 4 a.m. to sleep on his right side. During the third part that is from 4 a.m. untill 5 a.m. he experienced the *Nibbānic* Bliss and then the Ecstasy of Great Compassion and radiated his loving kindness to all living beings (Nārada, 2010).

As we can see, the whole day the Buddha was occupied with his daily routine of serving the people. The Buddha spent an hour only to sleep unlike other living beings. With his immense sacrifice and servitude to mankind, the Buddha dared to devote his entire life for the welfare and happiness of the World. This is the servant leadership exerted by the Lord Buddha.

Conclusion

Leadership is distinctive in its nature. At its best, leadership transcends ordinary human nature by being unshakable, incorruptible, and unyielding in principle. It is energizing hope, creativity, and empowerment to unfulfilled human potential. Leadership is a process of mutual influence with groups for achieving the common goal. As a process, leadership takes place between the leaders and the followers. Leadership is about influence within the group but pays attention to the goal (Northouse, 2013).

While talking about the definitions of leadership, short-term and long-term self-interest of an individual can be differentiated. Action that promotes groups will also benefit the individual. According to Hogan, Curphy, and Hogan (1994), leadership is related to persuading other people to set aside their personal interest and focus on group interest and welfare. They also noted that leadership is persuasion, not domination. Leadership is an important aspect in any organization.

Although the definitions of leadership vary slightly, there are two important concepts. First, leadership is about a relationship between two or more people whose influence and power are not evenly distributed. This

definition differentiates between being a formal leader of a group-the person who has the authority to wield influence on the group-and the informal leader-the individual who engages in leadership behavior as a participant of the group. The second concept is that leaders do not exist in isolation. Individuals cannot coerce others into behaving in specific ways. Therefore, it implies that leadership must have followers who are consensually influenced.

It can be observed that modern day leadership plays a key role in shaping or reshaping the organization. Leadership theories have changed from one dimension of leadership to others. Initially, psychological characteristic or traits, like honesty, integrity, self-confidence, sharing, sacrificing, caring, and the ability to structure social interactions were deemed as essential qualities of a leader to influence followers. After that, the study of leadership shifted to behavioral theories, which characterized if the leader focuses on task or the welfare of followers. Later, there is another leadership theory called contingency leadership theory. The theory mentions that leadership is a complex social and interpersonal process and the effectiveness of the leader depends on compatibility between personality, task, power, attitudes, and perceptions. In path goal theory, the leader shows the path and provides direction to the followers. Hence it can be seen that many of these theories in some ways contribute to achieving short-term goals.

The spiritual leadership paradigm, in contrast, and Buddhist leadership in particular, takes a long-term view to create environments that are defined by service, sacrifice, calling, and altruistic love. While there is evidence that an organization defined by spiritual leadership can produce increased effectiveness, the theories remain prescriptive. An open question is the extent to which they can work in situations where members or stakeholders are stubbornly guided by self-interest rather than common interest and, when confronted with such a situation, what ethical action the leader can take to improve the situation. Studies of efforts to establish an organizational culture based in spiritual leadership, or to evolve an existing culture towards spiritual leadership, would be instructive.

References

Daft, R. (2008). *The leadership experience* (4th ed.). Mason, OH: Cengage Learning.

Dent, E.B, Higgins, M.E, & Wharff, D. (2005). Spirituality and leadership: An empirical review of definitions, distinction, and embedded assumptions. *The Leadership Quarterly 16*(5), 625-653.

Dharmakosajarn. (2008). *Buddhist morality* (4th ed.). Bangkok: Mahachulalongkornrajavidyalaya.

Fry, L.W. (2003). Toward a theory of spiritual leadership. *The Leadership Quarterly 14*, 693-727.

_____. (2005). *Toward a theory of ethical and spiritual well-being, and corporate social responsibility through spiritual leadership.* College Station, TX: Texas A & M University Press.

Fry, L.W., & Kriger, M. (2009). Toward a theory of being-centered leadership: Multiple Levels of Being as Context for Effective Leadership. *Human Relations 62*(11), 1667-1696.

Fry, L.W., Latham, J.R., Clinebell, S.K., & Krahnke, K. (2016). Spiritual leadership as a model for performance excellence: A study of Baldrige Award Recipients. *Journal of Management, Spirituality & Religion*, DOI: 10.1080/14766086.2016.1202130.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than* IQ. New York: Bantam Books.

_____. (2006). *Social intelligence*. New York: Random House Inc.

Goleman, D., Boyatzis, R., & Mckee, A. (2002). *Primal leadership*. Boston: Harvard Business School Press.

Gopalkrishna, D. (2006). *Buddhism and contemporary management*. Dehiwala, Sri Lanka: Buddhist Cultural Center.

Graham, J.W. (1991). Servant-leadership in organizations: Inspirational and moral leadership. *Leadership Quarterly 2*(2), 105-119.

Greenleaf, R.K. (1970). *The servant as leader* (1st ed.). Indianapolis, IN: Greenleaf Center for Servant Leadership.

Hanh, T.N. (2004). *True love: A practice for awakening the heart*. Boston, MA: Shambhala Publications, Inc.

Heng, M. (1995). *Preahbat Dhammik*. Phnom Penh: Buddhism for Development.

Hogan, Curphy, & Hogan. (1994). *What we know about leadership: effectiveness and personality*. Washington, DC: American Psychological Association.

Kol, P. (2008). *The Boddhisatva's way of life*. Phnom Penh: Paññãsãstra University of Cambodia Press.

Laub, J. (2004). *Defining servant leadership: A recommended typology for servant leadership studies*. [On-line]. Virginia Beach, VA: Regent University. Retrieved from: www.regent.edu/acad/global/sl_proceedings/2004/laub_defining _servant.pdf [January 2018].

Mitroff, I.I., McCaslin & Denton, E.A. (1999). *A spiritual audit of corporate America*. San Francisco, CA: Jossey-Bass Publishing.

Nārada Māha Thera. (2010). *The Buddha and his teachings*. Mumbai: Jaico Publishing House.

Northouse, P.G. (2013). *Leadership: Theory and practice*. San Francisco, CA: Sage Publications.

Payutto, P.A. (1998). *A constitution for living*. Bangkok: Buddhadhamma Foundation.

Reave, L. (2005). Spiritual values and practices related to leadership effectiveness. *Leadership Quarterly 16*(5), 655-687.

Ses, M. (1956). *Four types of individuals*. Phnom Penh: Mahamuntrey Monastery.

Proposed Strategic Action Plan to Implement the STEM Policy in Higher Education

Marin McWilliams Meas

Faculty of Business and Economics
Paññāsāstra University of Cambodia

ABSTRACT

In response to the Royal Government of Cambodia's Rectangular Strategy, Phase III addressing the need for the country to develop its industrial sector, STEM education policy and its implementation were drafted with funding support from the International Development Association (IDA)–a lending arm of the World Bank. The aim of the STEM policy implementation is to encourage grade school students at an early age–preferable at the primary school level–to take a keen interest in STEM education. These inquisitive young minds need to be fostered and nurtured with the facilities and support systems that are currently inadequate throughout the nation's public and private schools. The desired result would be a greater number of college graduates entering the workforce taking up productive and life-long careers in science, technology, engineering, and mathematics. This article also incorporates some of the inputs and ideas of how best to implement the STEM policy with maximum impact from various relevant stakeholders. A matrix of inputs were solicited from leading NGOs, foreign embassies, including public and private grade school STEM educators and administrators from Phnom Penh, Siem Reap, Kampong Cham, and Oddar Meanchey provinces. The venues used to brainstorm these inputs were seminars and meetings with open discussion sessions, where each participant was encouraged to provide comments and suggestions. Other aspect of this article also includes concepts and best practices from the US National Science Teachers Association (NSTA) and Next Generation Science Standards (NGSS). The main roadblocks towards a successful implementation of the STEM policy were identified as the inadequate content and practical knowledge of STEM teachers and support facilities that need to be instituted from primary schools onwards. One of the most immediate and cost-effective STEM policy implementation actions is ICT-based utilization and research skills, both of which are absolutely essential for both STEM teachers and students to validate and expand their knowledge in STEM subjects. A comprehensive approach to addressing STEM teachers' shortcomings in competency, and to provide students with proper learning tools and laboratory facilities requires concerted commitment from all the stakeholders, namely, the newly proposed STEM Oversight Committee, the Department of Scientific Research, development partners, private sector, the subject higher education institutions, and of course, the Ministry of Education, Youth and Sport.

Proposed Strategic Action Plan to Implement the STEM Policy in Higher Education

Introduction

The signing of the Paris Peace Accord in October 1991 ushered in a period of relative stability, which has afforded the Cambodian economy unprecedented expansion for the next two and a half decades with a sustained average economic growth rate of around seven percent. Under the stewardship of the current Minister of Education, Youth and Sport, H.E. Academician Dr. Hang Chuon Naron, the overall quality improvement of education as a whole has taken significant strides towards parity with neighboring ASEAN countries. In response to the rapid growth in many sectors of the economy and in-line with RCG's Rectangular Strategy, Phase III, the Minister signed on 9 March 2016 what became known as the STEM Policy. This is a significant milestone in the government's efforts to expand capacity and strengthen quality for industrial human development. Coupled with this the new set of policies, development partners for STEM education notably World Bank, JICA, VVOB, ADB, and STEM Festival Committee among others, have been injecting much needed ideas, funds and materials to support many government-run secondary schools and leading higher education institutions.

However, the first major milestone goes as far back as 1997, when the government introduced a public-private partnership, which paved the way for drastic expansion in the number of HEIs and student enrollments. More than a decade since this major milestone, these statistics are remaining on the uptrend; but what made up for the increase in quantity does not appear to have reflected the same in education service quality. Recognizing the staggered educational and institutional quality, the Royal Government joined forces with the International Development Association (IDA)–a lending arm of the World Bank that focuses on development of the world's poorest economies–signed a financial package agreement on 7 September 2010 to fund the implementation of an initiative known as Higher Education Quality and Capacity Improvement Project (HEQCIP). IDA's total funding is USD 23 million, of which USD 11.5 million is in the form of an outright grant, and USD 11.5 million is an IDA credit. The implementation period for HEQCIP commenced on 31 December 2010 and ran through 30 September 2017.

Definition of STEM

STEM is an interdisciplinary approach to the teaching and learning of science, technology, engineering, and mathematics, hence the acronym for STEM. It is conceived as a paradigm instead of individual academic subjects to impart to and foster a young mind towards one goal–innovation. Technology provides the avenue for communication, mathematics is the language of symbolic logic, science and engineering are the processes through which thoughts are formed and validated. Scientific and technological innovations are the engine that drives many sectors of the economy particularly manufacturing productivity, which in turn, directly improves and sustains the standard of living. STEM education program is recognized globally as the means to achieve a highly skilled technical workforce.

Current Baseline Statistics

Detailed baseline STEM statistics are non-existent or not available from Ministry of Education, Youth and Sport (MoEYS) or other sources. The following figures gathered from the referenced sources are scanty at best. These baseline statistics will have to be revised, gathered, tracked, and analyzed to establish a benchmark for assessment of the performance of the STEM policy implementation. The benchmark will serve as the reference for different performance indicators to measure against, and help members of the STEM Oversight Committee to make adjustment to policy and implementation action accordingly (see Table 1).

Table 1.
Baseline statistics for STEM education

Year	1997	2000	2003	2004	2008	2009	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020
Level of Funding for HE (4.1% of Total MoEYS's Budget)											0.1% GDP	0.1% GDP	0.1% GDP	0.1% GDP	0.1% GDP	0.1% GDP
MoEYS's Spending per Tertiary Student (USD)											218					
Number of HEIs	8	14									110	> 110	> 110	> 110	> 110	> 110
Number of HE Teaching Staff (Male/Female)										10,842						
Proportion (%) of STEM Teaching Staff (Male/Female)																
Number of HE Students			57,828	57,828				255,791	255,791	255,791	>250,000	>250,000	>250,000	>250,000	>250,000	>250,000
Proportion (%) of STEM Students					<25%	<25%	<25%	<25%	<25%							
Proportion (%) of IT Students							7.90%									
Projected Demand for Engineers											35,000	35,000	35,000	35,000	35,000	35,000
Projected Demand for Technicians											46,000	46,000	46,000	46,000	46,000	46,000

STEM Policy's Vision, Goals, and Objectives

The Vision of the current STEM policy is stated verbatim in the unofficial translation. "This policy is envisioned to develop highly qualified and responsible human resource in the areas of science, technology, engineering, and mathematics for the country's sustainable and inclusive development in accordance with the Industrial Development Policy."

The Goals are stated verbatim in the unofficial English language as:

This policy aims to develop general education and higher education students with strong competence in science, technology, engineering and mathematics to meet labor market needs within ASEAN community. Whereas expressed Objectives are stated verbatim as: The objective of this policy is to:

- Create suitable conditions and encouraging environments for the development of students' ability to study and conduct research in the fields of science, technology, engineering and mathematics;
- Provide a framework for the development and implementation of science, technology, engineering and mathematics at all levels
- Enhance research activities on STEM and link STEM education to daily life and life skills
- Develop the capacity of teachers and researchers in the fields of science, technology, engineering and mathematics;
- Increase participation and efficiency of the integration of STEM in the socio-economic development with better participation of all relevant stakeholders. (MoEYS, 2017)

STEM Policy's Existing Action Plan

The current STEM Policy as adopted on 9 March, 2017 by the Ministry of Education, Youth and Sport (MoEYS) consists of eight Sections. Sections 6 and 7 detail the Action Plan, Monitoring, Audit, and Evaluation, all of which, at a minimum, shall be the basis of a more comprehensive action plan to implement the STEM policy that this lump-sum contract scopes out for. The following is a direct translation from Khmer of the contents from Sections 6 and 7 in their entirety.

"6.1   Establishment of Mechanism for Implementation

Under the existing STEM Policy, Section 6 addresses Action Plan to implement the STEM policy. It called for an establishment of a national oversight committee to supervise and monitor all STEM implementation activities. The oversight committee can either be placed directly under MoEYS or under the supervision of the Directorate of Higher Education. The designated functions of the new committee are being specified as follows:

- To handle both general administration and technical oversight
- To review and approve proposed action plans, draft budgetary
- plans, and proposed technical oversight implementation activities
- To facilitate and collaborate with all relevant stakeholders to
- promote initiatives that induce and expand capacity for STEM
- education and research
- To monitor, control, and assess all activities of STEM learning and research

The role and responsibilities of the Department of Scientific Research in collaboration with the Department of Information Technology shall be adjusted to come within the purview of these designated functions. The Department of Scientific Research is a key support agency that plays the complementary role in promoting, facilitating, and coordinating activities to implement the STEM policy among the stakeholders.

6.2   Development of a Legal Framework

The implementation of the STEM policy shall be carried out within a legal framework where action plan preparation and all of the roles and responsibilities of the stakeholders are specified and legally binding. This legal framework shall be consistent with RCG's Rectangular Strategy, Phase III, Policies of National Council for Science and Technology, Royal Academy of Cambodia, Industrial Human Resources Development Policy 2015-2025, Cambodia Industrial Development Policy 2015-2025 as well as other government's initiatives.

6.3 Budgetary Support

The STEM Oversight Committee is the executing agency to facilitate the development and revision of STEM policy, strategic plan, programs, and planned implementation activities as such they are charged with mobilizing and pooling together funds and capitals from any available sources including but not limited to national and international organizations, private and public donors. Budgetary control policies for STEM related activities will be in accordance with MoEYS's.

6.4 Human Resource Development

The effective implementation of the STEM policy requires phased execution in short-term, medium term, and long-term whereby competency and expertise of STEM educators, researchers, administrators, particularly those involved in the STEM implementation process are being continually developed.

6.5 Implementation Process

STEM Policy shall be given the widest dissemination among public and private primary, secondary, and higher education institutions. Annual action plan shall encompass mobilizing resources on an increasing trend. Monitoring and evaluation shall be done on an annual basis through venues such as STEM fair.

7.0 Monitoring, Audit, and Evaluation

An effective and result-driven implementation of the STEM policy shall institute a system of monitoring, audit, and evaluation through a feedback loop to calibrate and continuously improve the implementation process by focusing on:

- Targeted goals and strategic activities of STEM policy implementation
- Indicators for educational plan on STEM subjects
- Comparing achieved implementation results with targeted goals
- Accomplishments and career-oriented benefits to students after completion of STEM education program"

Proposed Strategic Action Plan to Expand the Implementation of the STEM Policy at Higher Education Level

1   **Actionable Item 1**: STEM Oversight Committee

Under this Proposed Strategic Action Plan to Implement the STEM policy, it is hereby concurred for an establishment of a STEM national oversight committee to supervise and monitor all STEM implementation activities. The STEM Oversight Committee as it shall be known hereinafter, is a working   organization under MoEYS's jurisdiction; the composition and hierarchy shall be determined at the discretion of the Minister of MoEYS.

2   **Functions of STEM Oversight Committee**:

2.1   The STEM Oversight Committee is the executing agency to facilitate the development and revision of STEM policy, strategic plan, programs, and planned implementation activities. Dissemination and enforcement of the STEM policy is a crucial step towards achieving positive results.

2.2   To handle general administration to become both certified STEM teachers and technical oversight.

2.3   To review and approve proposed action plans, draft   budgetary plans, and proposed technical oversight implementation activities.

2.4   To provide oversight to the newly proposed STEM Teachers Training School to properly train new and existing teachers and administrators on STEM policy and subjects.

2.5   To be charged with mobilizing and pooling together funds and capitals from any available sources including but not limited to national and international organizations, private and public donors.

2.6   To facilitate and collaborate with all relevant stakeholders to promote initiatives that induce and expand capacity for STEM education, research and publication.

2.7 To monitor, control, and assess all activities of STEM learning, research capabilities, publication and performance. Statistics and performance indicators that reflect changing student enrollment levels, number of operating HEIs, test scores, number of scholarship recipients, national and international recognitions, research publications, publication citations shall be collected, analyzed to be benchmarked against baseline statistics for continuous calibration of STEM policy implementation.

3 **Actionable Item 2**: STEM Teachers Training Program

One of the most critical aspects of successful implementation of the STEM Policy is equipping STEM educators with proper and adequate knowledge in STEM academic disciplines. The quality of education rests squarely on the knowledge, skill and experience of the teachers. The content knowledge that they pass on to students must be accurate, scientific, up-to-date, with real-life applications. The training and improvement in competency of STEM educators must take priority among the proposed actionable items to implement the STEM policy. STEM Teachers Training Program needs to encompass both secondary school teachers and training for educators at the higher education levels. Both on-the-job and new STEM teachers are eligible to enroll in the STEM Teachers Training Program. Existing resources and facilities can be utilized to implement the STEM Teachers Training Program. The National Institute of Education (NIE), and nation-wide Teacher Training Colleges (TTCs) is the avenue to implement STEM teacher training by providing collaboration, and sharing of facilities, personnel, and resources. Another means to carry out STEM teachers training to become certified STEM teachers is through graduate programs offered by the four designated Centers of Excellence, namely, Royal University of Phnom Penh, Institute of Technology of Cambodia, University of Health Sciences, and Royal University of Agriculture.

3.1 Curriculum Development

Each higher education institution should have developed their own STEM curriculum to match with their in-house resources, and realistically cater to the labor market demand and outlook. STEM curriculum must be up-to-date, English-based, learning tool/laboratory supported, and/or private sector supported. It is suggested here and as a reference for the Accreditation Committee of Cambodia (ACC), that a standard STEM curriculum should

comprise of 60-70% STEM-related courses, and 30-40% non-STEM related courses. The curriculum must follow the three-dimensions of STEM learning (RGC's Rectangular Strategies, Phase III, n.d.):

      3.1.1   Core Ideas are the key concepts in science that are used widely within or across multiple science or engineering disciplines. These core ideas are getting further reinforced as the students progress through years of learning and exposure, and are grouped into the following four major science branches: Physical Science, Life Science, Earth and Space Science, and Engineering.

      3.1.2 Crosscutting concepts combine the study of science and engineering through their common application across many disciplines. Crosscutting Concepts help students explore connections across the four major science branches: Physical Science, Life Science, Earth and Space Science, and Engineering Design. When these concepts, such as "cause and effect," are made explicit for students, they can help students develop a coherent and scientifically-based view of the world around them. While being fully explained and applied in each of the originating academic disciplines, crosscutting concepts should also extend their meanings to social sciences to ensure the final product–technology is well humanized.

      3.1.3   Science and Engineering Practices explain what methods scientists use to investigate the natural world and what engineers use to design and build systems. The practices offer the student the hands-on connection to the first moment of "inquiry" in science learning process, and extend the range of cognitive, social, and physical practices that it requires. The experience gained from engaging in practices to build, deepen, and apply the knowledge of core ideas and crosscutting concepts.

   3.2 Competence of Teachers

      Each higher education institution shall strive to recruit, retain, and retrain their teaching staff to attain higher certification and degrees from developed English-speaking countries. Student exchange program should be a priority on each HEI's agenda to promote collaboration, knowledge sharing, and increase accreditation qualification on STEM degrees. Government-run higher education institutions should design a competitive compensation package

to attract and retain their best students to return from overseas studies and teach at their institution. The resources, tools, and laboratories as provided by education development partners must be continuously and actively utilized. Teaching staff must be trained adequately and properly in the use of these instructional materials. STEM teachers need to be competent in the technical English language and must have knowledge to use the online resources (ICT-based) to conduct research. The method of teaching and learning in science subjects within STEM curriculum must follow the listed 8 steps3 as below:

3.2.1 Asking questions (for science) and defining problems (for engineering)
3.2.2 Developing and using models
3.2.3 Planning and carrying out investigations
3.2.4 Analyzing and interpreting data
3.2.5 Using mathematics and computational thinking
3.2.6 Constructing explanations (for science) and designing solutions (for engineering)
3.2.7 Engaging in argument from evidence
3.2.8 Obtaining, evaluating, and communicating information

4 **Actionable Item 3:** Institutionalizing and Ownership of the STEM Policy

With the facilitation and enforcement of STEM Oversight Committee, each HEI needs to adopt and arrange their in-house resources such as school's policies, teaching staff, curriculum, and facilities to accommodate for the implementation of the STEM policy at their own institution. Integrating and updating the STEM curriculum should take immediate effect without commitment of much resources. Ownership of the STEM policy is a crucial step in achieving positive implementation results.

Career counseling and career day

Entering students or freshmen need much guidance and explanation of the career paths, the requirements, the risks and rewards that a certain engineering or technical profession can offer. Each HEI needs to have their own career-counseling program to help students make better- informed decisions about the prospects of a career, and how they can contribute to

the greater needs for industrial human resource development. The higher education institution should setup an on-campus Career Day to showcase the current and future job markets for STEM graduates as well as for potential employers to advertise their current employment opportunities.

5 **Actionable Item 4:** In-House Research Department

Each HEI should establish their own research department to conduct at a minimum, basic quality research as their academic curriculum entails. The research department should work collaboratively with other research departments from other HEIs, development partners and private sector. They should strive to solicit research funds, equipment and materials, and set certain target to publish quality research papers. The individual HEI should exert efforts to collaborate and establish partnership with other national and international HEIs to exchange research expertise, fund, facilities and resources. Each HEI also needs to reach out to form the mutually-beneficial university-industry partnership to re-orient career tracks, support university research initiatives, and procurement of additional research facilities and laboratories, all of which is in response to the industrial demand of a technical workforce with the right skill set and competency. MoEYS's Department of Scientific Research should work closely with each HEI's research department to assist in any research efforts as possible.

5.1 Tenure-Track Professorship or Academic Ranking

STEM teaching faculty members should be ranked by MoEYS from assistant professor, associate professor, to professor with each step requiring to meet certain research criteria prior to being elevated to the next level. This will motivate entering faculty members to conduct quality research and publication under national and international peer reviews. Each teaching faculty is encouraged to take up membership in national and international professional societies to gain visibility and recognition for their research works.

5.2 Internal Editorial Board

Each HEI needs to establish an Editorial Board to review and edit any research grant proposals and publications by its own research staff.

This editorial body should be an extension of the research department and should be staffed at a minimum by an engineer/scientist whose English is native.

6 **Actionable Item 5:** Capacity Improvement

The main target of MoEYS is to meet the demand of a technical workforce that can sustain the GDP annual growth rate between 6 and 8% in the next five years and beyond. This workforce is projected by CDRI–a non-governmental research institute to be numbered around 35,000 for engineers and 46,000 for technicians within the next five years. To produce technical human capital of this magnitude will require political will, pro-growth policy, sensible and implementable action plan, and strong commitment from all the stakeholders, particularly the individual HEIs.

6.1 Secondary School Outreach

The first moment of interest in STEM education starts early on at the primary education level and in some cases, the secondary education level. All the stakeholders, namely, STEM Oversight Committee, NGOs and governmental organizations, private sector, and the individual HEIs shall actively promote STEM education by reaching out to students at junior and senior high schools. The venues through which STEM education can be promoted would be any extra-curricular activities ranging from Career Day, keynote speech, science camp, science competition, and STEM scholarship competition.

6.2 Multi-Campus Extension

Each leading STEM-specialized HEI, namely, Royal University of Phnom Penh, Institute of Technology of Cambodia, University of Health Sciences, and Royal University of Agriculture among others should expand out into the provinces to absorb more STEM students in the rural areas hence expanding the capacity and access for STEM education. The Institute of Technology of Cambodia has already taken that step by expanding their campus from Phnom Penh to Tboung Khmum and Kampong Cham–an example other HEIs should follow. The availability of the science and engineering academic programs should be diversified in response to the current and future

job market demands.

6.3 Correspondence Courses

Each HEI should consider expanding their STEM academic programs and increasing enrollments by designing STEM distance learning programs offering courses by correspondence via online or by video conferencing to supplement or substitute the on-campus degree requirements.

7 **Actionable Item 6:** Extra-curricular Activities

Each school administrator and teaching staff need to allow students to participate in extracurricular activities such as STEM festival, science competition, field trips to laboratories, factories or nature sites, and internship to enrich and deepen their learning experience in short-term and long-term training periods. These extracurricular activities serve to re-enforce the students' understanding the core ideas as they are given hands-on opportunity to practice science and engineering. Paid or unpaid Internship with relevant company or enterprise is an integral part of shaping up a student's competence on many aspects including practical knowledge, work ethics, corporate working environment, and possible long-term relationship with the host company.

8 **Actionable Item 7:** STEM Scholarship and Tax Incentives for Institution Offering STEM Programs

The numbers of national and international scholarships to study STEM curriculum subject disciplines offered by MoEYS, other relevant ministries including Ministry of Labor and Vocational Training, development partners, and private sector need to be increased drastically in order to shore up enrollment levels and increase proportion of STEM students at the higher education level. Priority considerations for STEM scholarships should be given to women, disabled students, and indigenous students. Integral to the RCG's Rectangular Strategy and in-line with the Industrial Human Resources Development Policy, 2015-2025, as well as Cambodia Industrial Development Policy, 2015-2025, tax incentive policies and codes should be specified to encourage higher education institutions to qualify for tax exemption status. Under this tax exemption status, tax deduction and tax waiver for certain

incomes, expenses, and earnings should be extended to STEM-related personnel to include the institution's administrators, local and foreign teaching staffs, and students.

Phased Implementation for Selected HEIs

The Proposed Strategic Action Plan to Implement the STEM Policy shall be carried out in five-year interval. The STEM Oversight Committee shall formulate statistical performance indicators, namely, number of HEIs, enrollment levels at HEIs, number of successful graduates, number of STEM scholarship recipients, rate of diversification of STEM academic programs, rate of growth for certified STEM teaching faculty, test scores, national and international recognitions, research publications, publication citations among many other essential performance indicators. These audited performance indicators will establish the benchmarks to be compared with the baseline statistics for further calibration of the action plan. A number of leading HEIs should be selected as the Centers of Excellence to implement the STEM policy, namely, Royal University of Phnom Penh, Institute of Technology of Cambodia, University of Health Sciences, and Royal University of Agriculture under the support of the World Bank. The desired results would match or exceed the demand for industrial human resource currently projected at 35,000 engineers and 46,000 technicians by 2020.

Conclusion

The successful implementation of the STEM policy requires synergetic efforts from all the stakeholders, particularly the STEM Oversight Committee, the Department of Scientific Research, development partners, private sector, and, of course, the subject higher education institutions. Almost every stakeholder points to one obstacle for quality STEM teaching: the competence of the STEM teachers. This means equipping the STEM teachers with proper and adequate content knowledge of STEM academic disciplines coupled with correct understanding of the relevant technical English terms and ICT-based research skill will translate directly into quality STEM education. The individual HEI's policy to commit facilities, funds, resources, and marketing strategy and personnel in order to strengthen and expand their own STEM academic programs should yield a higher number of STEM graduates. Fiscal budget allocation and spending on

STEM scholarships and basic research will jump-start and sustain the implementation of the STEM policy. This will require strong political will, leadership, commitment, and support system from the top management of each stakeholder. The effective implementation of the STEM policy cannot be ascertained until meaningful performance results are gathered and analyzed.

References

Bunlay, Nith. (2016). *Overview of policy framework in support of STEM in Cambodia.* Presentation, Siem Reap.

CDRI. (2016). *Cultivating a STEM learning ecosystem.* Presentation.

Chey, Chan-Oeurn. (2017). *Learning and teaching methodology in the 21st century, a supplementary course.* Presentation, Chea Sim University of Kamchaymear, Kompong Cham Branch.

Council of Minister. (2017). *The establishment of the National Council for Science and Technology.* Retrieved from http://snt.gov.kh/wp-content/uploads/2016/03/Master-Plan-2014-2020.pdf.

Kamerane, Meak. (2016). *Reflection on best practices in STEM education in RUPP.* Presentation, Siem Reap.

Ministry of Education, Youth and Sport. (2017). *STEM policy.* Retrieved from http://www.moeys.gov.kh/index.php/en/.

The Royal Government of Cambodia. *Rectangular strategies, phase III.* Retrieved from http://www.cdc-crdb.gov.kh/cdc/documents/Rectangular_Strategy_Phase_III.pdf.

Srang, Sarot. (2016). *STEM policy.* Presentation, Siem Reap.

The Royal Government of Cambodia. *Rectangular strategies, phase III.* Retrieved from http://www.cdc-crdb.gov.kh/cdc/documents/Rectangular_Strategy_Phase_III.pdf.

Un, L., Sok, S., & Háǹ, J. N. (2016). *Higher education governance in Cambodia.* Phnom Penh: Ministry of Education, Youth and Sport.

Privatization of Cambodia's Foreign Trade Bank

Veara Kim
Ribaun Korm

Institute of Foreign Languages (IFL)
Paññāsāstra University of Cambodia

Runsinarith Phim

Paññāsāstra Institute of Academic Research and Development (PIARD)
Paññāsāstra University of Cambodia

Abstract

This article explores the privatization of state-owned enterprises (SOEs) in Cambodia with a specific case study on Foreign Trade Bank of Cambodia (FTB). The study focuses on the process of privatization of SOEs and key actors involved in the reform, and then evaluates the outcome of the privatization of SOEs. The findings suggested that the privatization of the FTB is rather policy-driven, with the support of donors, with strong resolve from the implementing agencies, as part of the banking sector reform agenda, where the privatization of FTB is under restructuring of the banking sector in the Cambodia's Financial Sector Blueprint for 2001-2010. Donors played a very important role in the elimination of the two-tier banking system. However, the privatization would not be realized without commitment from the leadership of the governor of the National Bank of Cambodia. The study also found that the privatization of FTB could be successful due to its performance in the provision of services and employment, which in turn contributes to economic development and poverty reduction.

Keywords: banking sector reform, foreign trade bank, privatization, state-owned enterprises

Privatization of Cambodia's Foreign Trade Bank

Introduction

Privatization has been a major force in world politics and economics since it was popularized by Margeret Thatcher's conservative British government in early 1980s. Privatization has become very popular because the vast bulk of money it raised has flowed directly to governments, rather than to the State-Owned Enterprises (SOEs) themselves. This is clearly one important reason governments have so enthusiastically embraced privatization, since these programs raise large sums without having to increase taxes or cut spending on existing government programs. The perceived success of the British privatization program helped persuade many other industrialized countries to begin divesting SOEs through public share offerings during 1980s. After 1987, privatization programs spread rapidly around the world, particularly to the developing countries of Latin America, Africa, and South Asia. Most of these involved selling an SOEs directly to a private corporation or individual in a process called an "asset sale," but several were sold to individual investors through public share offerings. After 1990, the pace of privatization steadily increased, and became positively frenetic after 1995. By that time, several dozen countries were selling SOEs every year. The last major region to adopt privatization programs comprised the former Soviet bloc countries of central and Eastern Europe. These countries began privatizing SOEs as part of a broader effort to transform themselves from command into market economies. Therefore, they faced the most difficult challenges and had the most restricted set of policy choices.

Like many other developing countries, privatization in Cambodia started to take place only after the collapse of Soviet Union in 1991. The country emerged into a "post-conflict" status of Paris Peace Agreements in 1991 with a drastic change in both political and economic regimes. The country changes from a single to plural party system and from a centrally planned economy to a market-oriented one. Change in economic regimes come with reforms in all sectors of the economy. Among them, privatization of SOEs was one of the key policies. Literally, privatization of SOEs is introduced and implemented as critical elements of the revitalization of post-conflict economy, and as priority items on the agenda of donors and post-conflict government

(Venugopal, 2011). More importantly, like privatization programs embraced by other countries, the main objective of privatization of SOEs in Cambodia was to reduce the government's fiscal burdens, which heavily depended on foreign aid. As Cambodia's SOEs were relatively small in size and in technology accumulation, the privatization process was carried out rather smoothly. Privatization is also perceived as an effective tool to attract Foreign Direct Investment (FDI) to supplement the devastated domestic industry in terms of job creation, technology transfer, and government revenue procurement. The privatization of SOEs in Cambodia was part of the policy package, and a necessary policy choice for the country to move from a planned to market economy. The privatization itself was considered successful, given the short period of SOEs' operation during the planned economic system and the relatively small scale of the enterprises.

Raising money is, quite naturally, a very attractive objective, and most governments also hope that privatization will help develop national capital markets. However, the most important rationale given for selling SOEs to private investors is almost always dissatisfaction with the actual performance of state enterprises, coupled with the belief that selling these firms to private investors will significantly improve their performance.

This article gives a particular focus on a privatization of the banking sector because private banks are a vital part of the market economy with their roles as providers of required capital at a competitive interest rate to companies to start investment or to expand businesses and hence create employment and spur economic growth. Despite many years of privatization, there has been no study with clear evidence to explain why SOEs were privatized, how they were done and what kind of impact it asserted on the performance of SOEs themselves and on the economy as a whole. There is a significant knowledge gap to be filled here. This study goes some way towards filling the gap through its critical exploration of privatization of SOEs in Cambodia with a specific case study on Foreign Trade Bank of Cambodia (FTB) using data and examining in the light of the existing literature.

The rest of the article is structured as follows: Section 2 explains what methodology and data is used; section 3 briefly reviews theoretical discussion in favour of privatization; section 4 discusses privatization of SOEs in general and scrutinizes privatization of FTB in detail including how FTB is

privatized, its progress and outcomes; and section 5 provides a conclusion and some policy recommendation.

Methodology

A combination of research methods is employed to answer different questions in this article. This includes literature and document reviews, secondary data analysis and a case study. Literature and document reviews and secondary data analysis are conducted to understand key privatization theory and privatization of SOEs in Cambodia. Most information is collected from documentary sources including academic literature, government reports, policy documents and statistical presentations, foreign aid agency reports and data sets, and media reporting. Some of these sources are in hard copy while others are accessed in electronic form. More specific privatization literature and reports from the government and donors such as the financial blueprint of National Bank of Cambodia (NBC), and article IV of the International Monetary Fund (IMF), will be carefully collected and reviewed.

The privatization of the Foreign Trade Bank (FTB) will be used as a case study. A case study is done as an in-depth examination of a privatization phenomenon. In the case of the Cambodian privatization of the state-owned enterprises, the principal context is government policy and its implementation. This article attempts to collect relevant secondary data related to privatization of the bank. Important data to be collected from FTB is the performance indicators at least three years before and after the privatization was introduced, in order to conduct an ex post evaluation to detect the impact of privatization of FTB on its performance. The documentary information will be supplemented by interviews with relevant government officials and representatives of the private sector involved in the privatization of the SOEs. Interviews were conducted with senior officials from key implementing agencies that include the National Bank of Cambodia and the Ministry of Economy and Finance.

Background of Privatization

Why privatization?

Governments typically list multiple reasons for launching privatization programs. This section details six rationales why many governments

embraced privatization programs, which draw heavily on the excellent survey article by Shirley and Walsh (2001).

Economists have offered three principal reasons that state ownership will be inherently less efficient than private ownership, even under the assumption of a benevolent government owner. First, SOE managers will have weaker and/or more adverse incentives than will managers of privately owned firms, and thus will be less diligent in maximizing revenues and (especially) minimizing costs. Second, state enterprises will be subject to less intense monitoring by owners, both because of collective action problems—potential monitors have less incentive to carefully observe managerial performance because they bear all the costs of doing so but reap only a fraction of the rewards —and because there are few effective methods of effectively disciplining SOE managers in the event that subpar performance is detected. Third, the politicians who oversee SOE operations cannot credibly commit to bankrupting poorly performing SOEs, or even to withholding additional subsidized funding, so state enterprises inevitably face soft budget constraints. It bears repeating that these criticisms of state ownership are valid even if one grants that the politicians who create and supervise public enterprises have benevolent intentions. The final, and in many ways most compelling, critique of state ownership is that SOEs will be inefficient by design, since they are created specifically so that politicians can use them to benefit their own supporters at the expense of another group in society. We examine each rationale in turn below.

There are three basic methods of privatizing state enterprises. First, SOEs can be divested by distributing vouchers to a nation's citizenry that people can then use to "bid" for the companies on offer. Vouchers have been employed in the "mass privatization" programs of the transition economies of central and Eastern Europe in the early and mid-1990s. While initially popular, these programs are now generally regarded as failures, since they did not attract new capital or management to the divested firm, and experience showed that these sales did not create effective ownership structures for the newly private firms. Instead, insiders ended up controlling most of the more valuable companies and ordinary investors received claims on the weakest and least promising firms.

The second and third methods of privatizing a company both involve the actual sale of the company to private investors, with cash as payment. In an asset sale (also known as a trade sale or private sale), the government will typically sell all of its holdings—or at least a controlling stake—directly to a single buyer. The buyer can be either an operating company (often a multinational company) or a group of investors. The sales are frequently conducted as auctions, and many governments choose to require buyers to meet numerous mandates after the sale, such as preserving employment at existing levels or achieving high service levels. Though popular, these mandates are costly in that they reduce the net amount the selling government will receive for its ownership stake. Asset sales are used most frequently for selling off smaller SOEs.

The largest state enterprises can be effectively sold only through a series of public offerings known as Share Issue Privatizations, or SIPs. These are much more costly to arrange than are asset sales, and also require much more time to implement. However, SIPs also have decisive advantages. As noted, the very largest SOEs can only be sold through SIPs—frequently through a series of offerings, or tranches, spread out over several years. SIPs are also the most transparent and least corruptible method of divesting state enterprises, and there is some evidence that these raise more cash for the selling governments than do asset sales. Finally, SIPs are the single most effective tools that governments have to jump-start development of their national stock markets.

The political and economic policy of privatization, broadly defined as the deliberate sale by a government of state-owned enterprises (SOEs) or assets to private economic agents, has been one of the most important and visible aspects of this global trend toward greater reliance on markets to allocate resources. Privatization has not only dramatically reduced the direct role of the state in producing goods and services, it has also massively increased the size and efficiency of the world's capital markets and fuelled an unprecedented increase in the number of people who own corporate shares.

Privatization of SOEs in Cambodia

This section provides a brief history of privatization in Cambodia. The privatization of state-owned enterprises (SOEs) in Cambodia can be divided into two phases. Phase one started in late 1989 and continued to mid-1993.

During this phase, ministries simply privatized their own enterprises under their direct supervision, negotiating the terms of sales/leases and brought the revenues directly into the ministries' budgets. Phase two started in the mid-1995, and was designed to tighten and centralize control over the whole process by an inter-ministerial privatization committee under the leadership of the Ministry of Economy and Finance (Hang, 2010). In 1989, there were 187 SOEs in Cambodia. By the end of 2000, 160 SOEs had been privatized, of which 139 were leased to the private sector, 12 transformed into joint-ventures, sold outright, and 8 liquidated (UNCTAD, 2003, p. 74). In 2007, there were 17 major SOEs operating in Cambodia with a total market capitalization of KHR 6,195,887 million (approximately USD 1.5 billion). The 17 SOEs employed 14,251 people, and the total revenue accounted for KHR 1,503,257 million (approximately USD 375 million) in 2007.

Melanie et. al (2004) notes that the issue of privatization of state enterprises is no longer considered a very important one in Cambodia. Public enterprises were nearly all privatized in the early 1990s. The reforms of SOEs were characterized as one of the core economic policies to transform Cambodia from a centrally-planned to a market-oriented economy in the late 1980s. SOEs in Cambodia consist of three types: a) economic public enterprise, 2) state company: c) joint-venture in which the state directly or indirectly holds more than 51% of the capital or voting rights.

Similarly, to other transition economies, SOEs in Cambodia faced the problems of: 1) degraded facilities, 2) inefficient and high cost production structure, 3) mismatch with the needs of the market, 4) deficits and 5) excess staffing (Hirohata, 2004). However, the privatization of SOEs in Cambodia was carried out relatively smoothly, which can primarily be attributed to three main reasons. First, Cambodia's centrally planned economic policy only lasted for 10 years (1979-1989). In 1979, Cambodia had just emerged from the Pol Pot regime where most of the infrastructure had been devastated and the rehabilitation and construction of the country had to start from scratch.

The time span of 10 years is considered short for the SOEs to build deep roots and linkages with other industries. Second, SOEs were basically small in scale. As a result, the impact on employment during the privatization could be minimized. Lastly, the policy options and pressure from the international aid community, upon which Cambodia heavily relied, meant Cambodia had no choice but to accept the privatization in the policy packages.

Privatization of state enterprises does appear to have reinforced the urban bias in economic development. There have been few incentives for firms to invest outside the more secure urban areas, which are also better supplied with infrastructure and services. Privatization of the banking system has resulted in reduced access by farmers to sources of credit. The FTB operated as a state-owned commercial bank. Unlike the Rural Development Bank which is another major state-owned bank, the FTB does not have a specific developmental objective. Given the impact of privatization of the banking system to date, however, there must be some concern about the likely impact of privatization of FTB on its contribution to poverty reduction. Under state ownership, the FTB was one of the very few commercial banks to accept deposits in riel. In reality, most riel deposits are held by FTB, while privately owned banks have shown a distinct preference for dollar deposits. Since farmers, who are the vast majority of the poor in Cambodia, use riel for most of their transactions, their ability to access credit in the local currency is bound to be an important element in any poverty reduction strategy.

Privatization of Cambodia's Foreign Trade Bank

Process and key stakeholders

The FTB of Cambodia was established in 1979 as one of SOEs. The privatization started with the restructuring of the bank by *Prakas* (Decision) and it was undertaken in 1999.[1] The *Prakas* defines the new roles and structure of the bank to operate as a private institution. Table 3 describes the privatization process and key dates of the FTB of Cambodia from 1979 to 2011.

The bank was created following Sub-decree No. 1213 dated 10 October 1979 under the former regime of the State of Cambodia. In order to allow the NBC to focus on its role as a central bank and monetary authority,

[1] See *Prakas* B8/99/140 on the Structure of Foreign Trade Bank and Roles/Duties of Its Subordinated Offices.

and to provide the FTB an opportunity to conduct autonomous business operations with an equal status to other commercial banks, privatization was identified as a key reform and was implemented using the framework of the Royal Government's Program on Poverty Reduction. In 2000, the bank was separated from the direct management of the NBC (the central bank) in order to transform its permanent identity into a state-owned commercial bank in Cambodia with the features of a Public Economic Enterprise and with the intention of conducting autonomous business operations (see Table 1).

In January 2001, the Bank obtained its banking license from the central bank to operate as a commercial bank in the Kingdom of Cambodia for a period of three years starting from 4 January 2001. This was the first license granted to enable the Bank to operate as a separate legal entity independent from the central bank's direct management. On 8 January 2004, the bank obtained its 2nd banking license from the central bank for a period of three years starting from that date. The bank now holds a commercial banking license, which was renewed for an indefinite period, on 21 December 2006.

Table 1.
History of Foreign Trade Bank

Year	Description
Oct 1979	The Foreign Trade Bank of Cambodia (FTB) had been established and operated as a department under the National Bank of Cambodia (NBC) until 1999. FTB developed active role both in the local and overseas markets and performed banking and business functions which contributed to the restoration of the Cambodia's economy. It operated as a separate legal entity from the government.
Dec 1999	In order to allow the NBC to focus on its role as a central bank and monetary authority, and to provide FTB the opportunity to conduct autonomous business operations with equal status to other commercial banks, privatization was identified as a key reform and was implemented using the framework of the Royal Government's Program on Poverty Reduction
Aug 2000	FTB's status had changed to that of a state-owned commercial bank.

Year	Description
Aug 2002	An 80% share of ownership in FTB was transferred to the Ministry of Economy and Finance, with NBC retaining the remaining 20% shares.
Oct 2005	FTB changed from state-owned to a commercial bank operating as a joint venture between the state and private enterprise. Under this new structure, the shareholders were Canadia Bank PLC with a 46% share, ING Holding Co., Ltd with 44% share and the Ministry of Economy and Finance holding the remaining 10% share.
Jul 2009	In accordance with the recommendation from the NBC, Canadia Bank PLC sold and reduced its share to 15.22% from 46%. Of the shares sold, 15.39% were purchased by Mrs. Kim Tiek, and the other 15.39% by Mrs. Chhay Kimbouy. The NBC recognized these new shareholders in letter No. B-7-090154 dated 26th August 2009.
Mar 2011	Canadia Bank PLC sold its remaining share of 15.22% to Mrs. Kim Tiek 7.61% and Mrs. Chhay Kimbouy 7.61%. At the end of 2011, the shareholders were ING Holding Co., Ltd with a 44% share, Mrs. Kim Tiek with 23% share, Mrs. Chhay Kimbouy with 23% share and the Ministry of Economy and Finance holding the remaining 10% share.

On 31 December 2002, the Ministry of Economy and Finance (MoEF) announced, through a Statement of Intent, the privatization of the bank as part of the reform of the financial sector of the Royal Government of Cambodia. On 28 October 2005, the shareholders of the bank, represented by the Privatization Committee, entered into a sales agreement with Canadia Bank and ING Holding Company. The Central bank sold its 20% shareholding in the Bank and MoEF reduced its 80% shareholding to 10%. In 2009, in accordance with the recommendation of the Central bank, Canadia Bank reduced its shares from 48% to 15.22% and 2 new private

shareholders, having respectively a share of 15.39%, entered the capital of FTB. The Bank's Memorandum and Articles of Association were revised on 12 April 2010 to reflect the change in shareholders and Board of Directors.

In March 2011, Canadia Bank sold its remaining share of 15.22% in equal parts to the 2 private shareholders. At thend of 2011, the shareholders were ING Holding 44%, 2 private shareholders 23% each , and the Ministry of Economy and Finance holding the remaining 10% share.

Reintroducing a banking system was very challenging for Cambodia after it went through decades of civil strife. The banking system's exposure to state-owned enterprises has played a minor role due to the fact of SOEs' limited role in the economy. And at the same time, there was growth in joint ventures and foreign banks, which reduced the role of SOCB (IMF, 2004). Eliminating the two-tier banking system became the main agenda for the financial sector reform.

FTB was essentially operated as a commercial banking business as a department of the NBC. The size of assets and liabilities was the largest among commercial banks, and by restructuring, the bank will play the key role in Cambodia's banking sector. Therefore, the privatization of the bank was among the most important priorities.

Thus, the privatization of the FTB is rather policy-driven, with the support of donors and a strong resolve from the implementing agencies, as part of banking sector reform agenda, where the privatization of FTB is under restructuring of the banking sector in the Cambodia's Financial Sector Blueprint for 2001-2010 (RGC, 2001). Donors played a very important role in the elimination of the two-tier banking system. However, the privatization would not be realized without commitment from the leadership of governor of the National Bank of Cambodia. The governor of the NBC took his office in 1999, and with the strong commitment, he was able to turn FTB into a privately owned bank by transferring the management of the bank to be under the Ministry of Economy and Finance.[2] And, this can be inferred that the NBC governor was one of the key stakeholders behind the privatization of FTB

---

[2] Interviews with a senior staff from NBC.

The privatization of FTB has undergone two main stages. The first stage involved moving from the management of the NBC to under the management of the MoEF, and the second stage was to become completely privately-owned, that is, the MoEF ceased to have any share in the bank. With technical assistance from the IMF and the commitment from the NBC, in 2000, FTB was separated from the direct management of the NBC, and was transformed into public economic enterprise so that it could conduct autonomous business operation. In January 2011, the bank obtained a license to operate as a full commercial bank and was independent from direct management of NBC. The critical steps in the restructuring of FTB include the assessment of balance sheet, recapitalization to satisfy the minimum capital requirements and preparing the business plan. The International Finance Corporation and the Asian Development Bank prepared technical assistance in the area of audit, portfolio valuation, and restructuring (IMF, 2000).

In 2002, the second stage of the privatization of FTB involved the announcement of the MoEF of the privatization of the bank as part of the reform of the financial sector of the RGC as set forth by Cambodia's Financial Blueprint 2001-2010.[3]   Prior to this, the NBC needs to follow three steps for completing the privatization in the first stage such as adopting and implementing the privatization plan, adopting a business plan for the medium term as a commercial bank by the FTB board, and implementing a comprehensive training program to instil commercial orientation (RGC, 2001). In 2005, the shareholders of the bank, represented by the Privatization Committee, entered the sale agreement with Canadia Bank and ING Holding Company. The Canadia Bank was the most powerful and richest bank in Cambodia during that period of time. The Central bank sold it 20 percent of the shareholding and the MEF reduced its 80 percent of shareholding to 10 percent only.

Therefore, the privatization of FTB involved two stages. First, it was done through the restructuring of the bank by moving FTB from direct supervision of the NBC to under the direct supervision of the MEF. Under financial sector reform of the RGC, the FTB was sold to the private sector in 2002.

---

[3] Interview with a senior official from the MoEF.

Outcomes of privatization

This section summarizes the results of the privatization of the FTB, by highlighting achievements as a private entity. The privatization of FTB could be the successful case due to its performance in the provision of services and employment which in turn contributes to economic development and poverty reduction. It is interesting also to make a comparison between a state-owned bank, currently running as a specialized bank, in both financial and technical services.

The following highlights the performance of FTB until 2015. This shows that privatization brings about a more efficient operation of the banking sector. FTB had a share of total assets of 3.9 percent of all commercial banks in Cambodia in 2015 (NBC, 2015). According to FTB annual report in 2015, FTB had gained substantial financial strengths. This growth is comparable with other commercial banks, which reflects the efficiency of FTB being privatized. ACLEDA, which is one of the leading commercial banks in Cambodia, has achieved similar growth. For example for the period of 2012 and 2015 (see Figure 1), the deposits grew by 18.17 percent, and loans and advances 22.71 percent (ACLEDA Bank Annual Report, 2015).
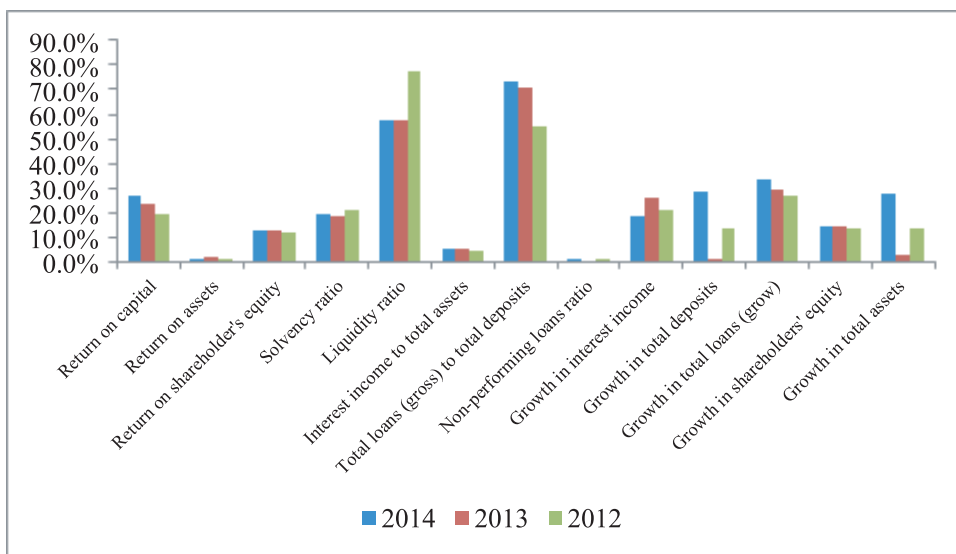
Figure 1. *FTB key ratio 2012-2014*
Source: *Data provided by FTB, 2015*

Employment growth

Employment is crucially important for development and growth. According to available data for the period of 2013 and 2015 as shown in Figure 2, FTB has substantially increased the number of its employees. According to NBC (2015), Employment in FTB has been increasing every year. Employment increased by 14% in 2014. In 2015 there were 55 employees were recruited, which is an increase of 21.3% compared to 2014. In 2017, number of employees rose to 342.

Number of Employees
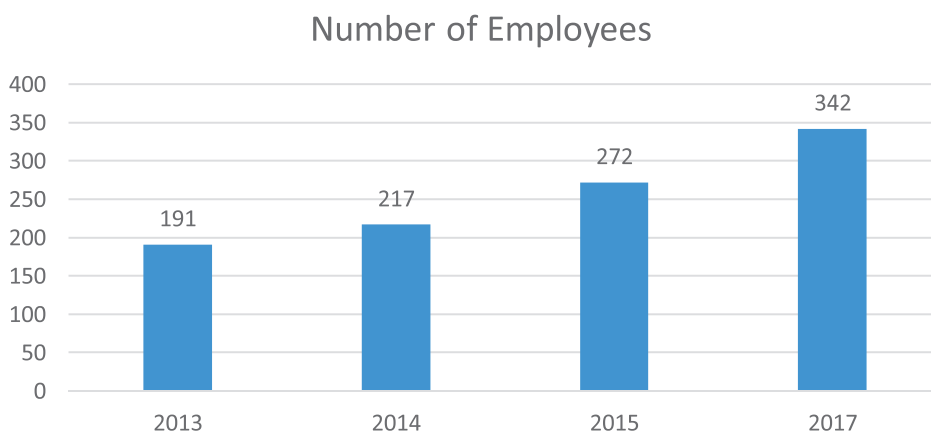
Figure 2. *Number of employees 2013-2017*
Source: *NBC, 2018*

Balance sheet

Available data shows that FTB's balance sheet has improved significantly. Table 2 depicts the balance sheet of FTB in 2006, 2010, 2014, and 2017. The total assets have been almost a five-fold increase for the period, from USD 218,848,353 to USD 997,587,609.8. The bank also attracted a huge deposit, which can be translated into investment.

This shows that after privatization the bank has expanded drastically in all areas in the balance sheet. Net loans and advances customers rose almost ten-fold during that period. It is also interesting to learn that customers' deposit expanded drastically from USD 196 million in 2006 to USD 276 million in 2010 to USD 510 million in 2014, and to USD 809,520,243.9 in 2017. Bank reserves and retained earnings rose by five-fold from

USD 8.8 million in 2006 to USD 43.4 million in 2014 but fell to USD 27,183,414.63 in 2017.

Table 2.
FTB's balance sheet 2006-2014

	2017 US$	2014 US$	2010 US$	2006 US$
Total assets	997,587,609.8	608,993,870	329,274,921	218,848,353
Net loans and advances to customers	N/A	362,766,030	136,201,031	42,411,102
Deposits	809,520,243.9	510,264,491	276,930,868	196,158,405
Total equity	N/A	81,966,205	47,660,892	N/A
Capital	73,847,560.98	38,500,000	35,750,000	12,159,533
Reserves and retained earnings	27,183,414.63	43,466,205	11,910,892	8,821,314

Source: *FTB, 2006 & 2015 & NBC, 2018*

FTB has also managed to increase its capital from USD 8,821,314 to USD 27,183,414.63 in 2017.

The growth of loans and advances to customers

The reform outcome of the banking sector is related to the provision of better services, in which lending service is the centre. Figure 6 shows that FTB has increased its lending operation extensively. FTB loan disbursement is both in USD and KHR. The amount of disbursement for commercial loans reached almost USD 163 million, and KHR 664 billion. The bank also provides housing loans and staff loans.

Figure 3 shows that, in 2014, the bank disbursed a large amount of housing loans, accounting for over USD 79 million and over KHR 320 billion. Data in 2010 shows that individual loans were not available. However, the bank had also introduced staff loans, while housing loans were started after 2010.

In general, it is interesting to learn that for the period of less than 10 years, the bank exponentially increased the amount of lending. FTB also

has lent to other banks and microfinance institutions. This is reflected by the amount of capital available at FTB. The amount of loan disbursement in 2014 to other banks and microfinance institutions was USD 14.1 million and KHR 57.4 billion from USD 10.7 million and KHR 43.6 billion respectively.
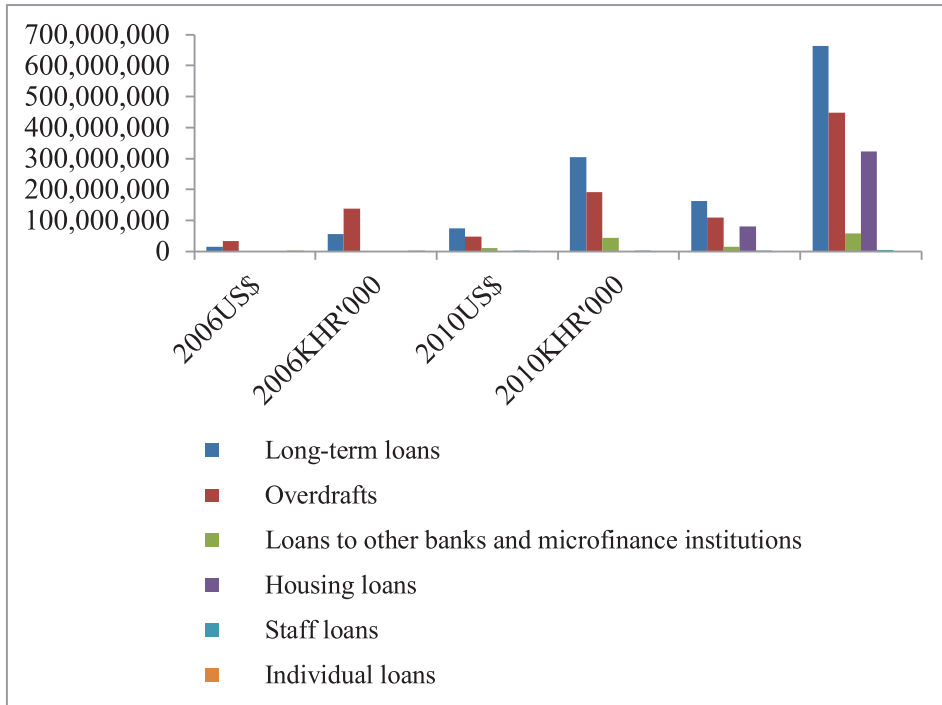
Figure 3. *Loans and advances to customers 2006, 2010, and 2014*
Source: *FTB, 2006 & 2015*

Balance with NBC

FTB's balance with NBC is impressive. Paid-up capital required by NBC for a commercial bank is USD 37 million. Apart from the paid-up capital, the balance at NBC exceeds the paid up capital five times for USD.

Table 3 shows that the total balance at NBC in 2014 was USD 164 million and KHR 670 billion up from USD 145.4 million and KHR 606.3 billion in 2009. This shows that the bank is operating with a healthy financial status. The current account at NBC is USD 53.3 million and KHR 217.5 billion. It is also interesting to learn that the bank's deposit with NBC came down from USD 110.3 million to USD 27 million. This can be a result of the increasing demand for lending to its customers during the last several years.

Table 3.
Balance with NBC

	2014 USD	2014 KHR '000	2009 USD	2009 KHR '000
Current accounts	53,397,103	217,593,195	7,523,962	31,367,398
Term deposits	27,000,000	110,025,000	110,300,000	459,840,700
Term deposits as collateral	22,500,000	91,687,500	-	-
Capital guarantee deposit (statutory deposit)	3,850,000	15,688,750	1,300,00	5,419,700
Reserve deposits	57,866,258	235,805,001	26,318,254	109,720,801
Total	164,613,361	670,799,446	145,442,216	606,348,599

Source: *FTB, 2015 & 2010*

Tax paymentt

One of the important contributions of the private sector is tax payment. Due to FTB's healthy growth, the bank has been able to pay tax to government, which contributes to the expansion of government revenue. According to Table 4, in 2014, FTB paid the corporate income tax almost USD 3 million and over KHR 11 billion to the government. In this regard, FTB contributes significantly to the government revenue through tax paying.

Table 4.
Tax payment

	2014 USD	2014 KHR '000
Corporate income tax expense in accordance with statutory tax regulations:		
Current	3,122,369	12,723,654
Deferred	-398,128	-1,622,372
Income tax expense	2,724,241	11,101,282

Discussion

Governments typically list multiple reasons for launching privatization programs. The privatization of FTB is attached with the policy agendas for financial sector reform of the Royal Government of Cambodia. Among the three approaches for banking sector reform in Cambodia, the restructuring of the state-owned banks appears to be a successful case (IMF, 2004). Strengthening accounting standards and banking supervision has been a centrepiece of reforms in Cambodia early on, with comprehensive legal changes, including the new central bank and financial institutions law (IMF, 2004).

Due to a well-laid plan in the privatization of FTB, with involvement from key interest groups such as the government (the NBC and the MEF), donors such as the IMF and the Asian Development Bank, and the private sector, the privatization of the banking sector in Cambodia proves to be a successful case. The claim that state ownership will be inherently less efficient than private ownership, even under the assumption of a benevolent government owner, can be confirmed by this case. State-owned banks will have weaker and/or more adverse incentives than will managers of privately-owned firms, and thus will be less diligent in maximizing revenues and (especially) minimizing costs.

State enterprises will be subject to less intense monitoring by owners, both because of collective action problems–potential monitors have less incentive to carefully observe managerial performance because they bear all the costs of doing so but reap only a fraction of the rewards–and because there are few effective methods of effectively disciplining SOE managers in the event that subpar performance is detected. Therefore, as in the case study, in order, have a clear regulation and supervision of the banking sector, FTB was privatized.

Moreover, the privatization of the FTB would allow for the development of the banking sector through the provision of a level playing ground. At the same time, due to the political will, the politicians who oversee SOE operations can be kept from credibly committing to bankrupting poorly performing SOEs, or even to withholding additional subsidized funding, so state enterprises inevitably face soft budget constraints.

However, the method of selling the enterprise to the private sector from the MEF has not yet been presented clearly through distributing vouchers to a nation's citizenry that people can then use to "bid" for the companies on offer. However, it involved the method of privatizing a company both involve the actual sale of the company to private investors, with cash as payment.

Despite privatization of the FTB was under the donor agenda, the political will of the implementing agencies was reflected clearly. The moving of FTB from direct supervision of the NBC and then the selling of the bank's shares from the MEF has been conducted very smoothly.

Conclusion

Based on the results from the findings above, the privatization process has yielded development outcomes for the post-conflict country. As the government has privatized almost all SOEs, the objectives of the study are two-folds. First it examines the process of privatization in Cambodia, focusing on FTB. It then evaluates the outcome of the privatization of SOEs and FTB. Regarding privatization of the banking sector in Cambodia, there is only one case—the Foreign Trade Bank of Cambodia. Under the encouragement and technical assistance from donors, namely the IMF and the Asian Development Bank, the government first took the step of restructuring the bank by leaving the bank under the operation of the Ministry of Economy and Finance. Another move was the transfer of ownership to the private sector, meaning the operation of the bank itself is by the private sector.

It is very important to discuss the outcome of the reform as it is generally believed that privatization would make the operation of the enterprise more efficient. Purely run as a private enterprise, FTB has grown very quickly after its privatization. Financial performance has been strengthened, while employment has been expanded. FTB also pays a huge amount of corporate tax annually to the government. It should be noted that in Cambodia's banking sector, FTB is not alone to have grown quickly. Due to the recent development of banking sector in Cambodia, other banks have also been expanded, such the local bank ACLEDA.

References

ACLEDA Bank. (2015). *Annual report 2015*. Phnom Penh.

ADB. (2015). *Key indicators for the Asia and the Pacific 2014*. Retrieved from http://www.adb.org/publications/key-indicators-asia-and-pacific-2014

FTB. (2006). *Annual report 2006*. Phnom Penh.

_____. (2015). *Annual report 2015*. Phnom Penh.

IMF. (2000). *Cambodia: Article IV consultation and first review under poverty reduction and growth facility – staff report; public information notice following consultation; statement by Cambodia's representative on IMF Executive Board,* IMF Staff Country Report No. 00/127.

_____. (2004). *Banking reform in the lower Mekong countries,* IMF Policy Discussion Paper.

Langer, A., Stewart, F., & Venugopal, R. (2012). *Horizontal inequalities and post-conflict development.* Houndmills, Basingstoke: Palgrave Macmillan.

Naron, H. C., & Cambodia. (2009). *Cambodian economy: Charting the course of a brighter future.* Phnom Penh: Ministry of Economy and Finance.

NBC. (2005). *Annual report 2005.* Phnom Penh.

_____. (2015). *Annual report 2015.* General Director of Banking Supervision. Phnom Penh.

RGC. (2001). *Financial sector blueprint for 2001-2010.* Phnom Penh.

_____. (2014). *National strategic development plan 2014-2018.* Phnom Penh.

_____. (2015). *Industrial development policy 2015-2025*. Phnom Penh.

Shirley, Mary, & Walsh, Patrick. (2001). *Public vs. private ownership: The current state of the debate.* Retrieved from https://www.researchgate.net/publication/249866502_Public_vs_ Private_Ownership_The_Current_State_of_the_Debate.

Artificial Reef for Enhancing Marine Biodiversity in
***Koh Seh,* Kep Province, Cambodia**

Chorvida Khem
Rachana Thap

Faculty of Mathematics, Sciences, and Engineering
Paññāsāstra University of Cambodia

Danet Hak

Faculty of Mathematics, Sciences, and Engineering
Faculty of Hydrology and Water Resource Engineering
Institute of Technology of Cambodia
Paññāsāstra University of Cambodia

Abstract

The Kep Archipelago once was known as a pristine coastal ecosystem, which is rich in biodiversity and many valuable species, which are important livelihood resources for fisherman, and a driving force for local economic growth. However, in the last decade, the presence of Illegal, Unregulated, and Unreported (IUU) fishing (stress on trawlers) and overfishing have caused destruction to this ecosystem and put some species at great risk of extinction. As a countermeasure, Artificial Reefs (AR) have been recognized for their role in enhancing coastal biodiversity by providing shelter, offering protection to natural habitat against trawlers, and further benefit the socioeconomics of coastal communities. In this study, the potential of AR in enhancing fish and invertebrate diversity in the Koh Seh area, Kep Archipelago, was investigated. To discover the influence of AR on fish and invertebrate diversity, three types of AR were deployed in the study area, a baseline survey was performed a week before the deployment of the AR structure, and four other surveys were conducted during four consecutive weeks after the deployment. During the baseline survey, only eight fish species and eight invertebrate species were identified in the study site. However, four weeks after the deployment of AR structure, 25 species of fish and 17 invertebrate species were found in the area. Based on these results, it can be concluded that the presence of AR has significantly enhanced fish and invertebrate diversity in the study area. Most importantly, among the newly found species there were several keystone members including the Java rabbitfish (*Siganus javus*), Orange-spotted grouper (*Anyperodon leucogrammicus*), Collector urchin (*Cripneustes gratilla*) and Diadema urchin (*t*), which play important roles in maintaining a healthy coastal ecosystem.

The above results suggested that AR can be considered as a good countermeasure to protect coastal ecosystems against IUU fishing and, can potentially improve marine biodiversity in the study area.

Keywords: artificial reef, IUU, key stone species, Koh Seh

Artificial Reef for Enhancing Marine Biodiversity in Koh[1] Seh, Kep Province, Cambodia

Introduction

Under the London Convention and Protocol / the United Nations Enrolment Programme (UNEP) (2009), Artificial Reef (AR) is defined as "A submerged structure deliberately constructed or placed on the seabed to emulate some functions of a natural reef such as protecting, regenerating, concentrating, and/or enhancing populations of living marine resources" (UNEP Seas Reports and Studies No. 187). The benefits of using AR in enhancing marine biodiversity have been widely recognized. For instance, in many coastal regions AR have been deployed as protected structures to keep natural habitat safe from trawling and promoting diversity of marine organisms (i.e., Artificial reef in *Pemuteran* Bay, Bali, the newest, biggest, and most radical reef system). For similar reasons, this study attempted to explore the potential of AR as a countermeasure against IUU fishing as well as to promote fish and invertebrate diversity in Koh Seh area, Kep Archipelago. Detailed objectives of the study are given below:

- To investigate the baseline situation of fish and invertebrate diversity in the study site
- To construct and deploy a proper artificial reef structure in the study site
- To examine the effect of AR structure in increasing fish and invertebrate iversity in the study area

Material and Methods

Study site

This study was conducted in *Koh Seh,* which is located in the Southwestern part of Cambodia. The island is situated about 10km from the mainland. The Northeastern coast of the island was selected as the site for artificial reef deployment, as well as for fish and invertebrate survey as it is far from existing underwater gardens and inhabit the natural reef (see Figure 1). The area is mostly covered by sandy bottom with some rubble, a small piece

---

[1] *Koh* is the word for island in Khmer language.

of hard coral, and a few seagrasses with water depth of 3 m to 4 m.
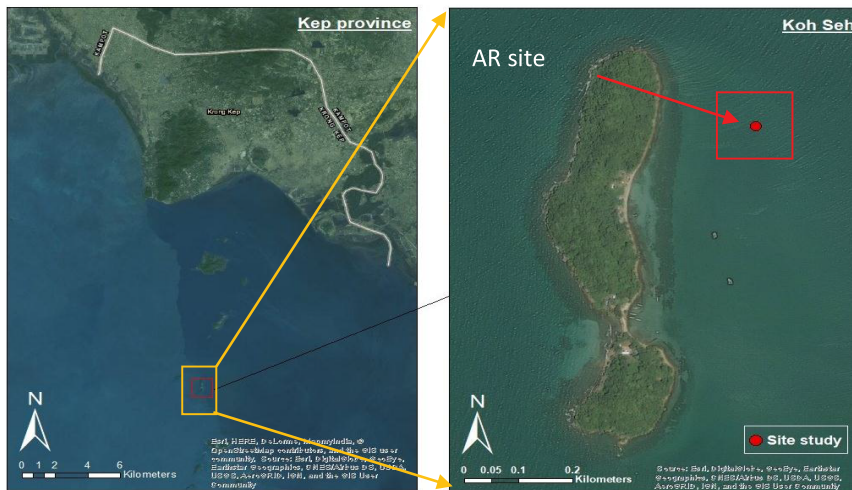
Figure 1. *Overview of the study area*

Artificial reef design

Choosing the right type of materials for AR construction as well as the design of the structure are equally important. As the rule of thumb, AR structure must be strong enough to withstand the impact of IUU activities and wave action. Furthermore, the structure must be properly designed to serve as shelter for marine organisms. In this study, a concrete structure with diverse designs including (i) two hexagons, (ii) a square, and (ii) two lion statues were used. The heavy weight of the concrete block serves to keep the structure stable against wave action and safe from trawling force, while concrete material is resistant to the corrosive effect of seawater (see Figure 2).
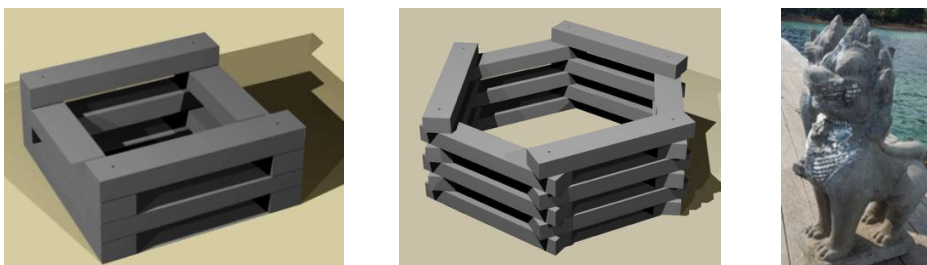
Figure 2. *Artificial small 'reef' structure in this study (a) hexagon, (b) square, (c) lion statue*

For the data analysis, all recorded data was prepared in Microsoft Excel spreadsheet. The average species number and head count obtained from each survey were computed and plotted using bar charts to visualize the results.

Baseline fish and invertebrate diversity

During the baseline survey, eight fish species were found including Scad (*Scatophagus Argus*), whiptail (*Nemipteridae*), gurnard (*Dactylopteridae*), wrasses (*Labridae*), weedy surge wrasses (*Halichoeres margaritaceus*), filefish (*Monacanthidae*), sergeant fish sp. (*Abudefduf sp.*) and seahorse (*Hippocampinae*). The number of each fish species were found to average two-three fishes. For invertebrate species, eight species were identified, which includes blue swimmer crab *(Portunus pelagicus*), boring clam (*Tridacna crocea*), conch (*Disambiguation*), cuttlefish (*Sepiida*), octopus (*Octopoda*), other gastropods (*Prosobranchia*), pencil urchin (*Eucidaris tribulides*), and triton (*Charonia tritonis*).

Effect of AR on Fish and Invertebrate Diversity

Based on the results of the monitoring surveys, which were conducted consecutively five weeks after the deployment of AR structure, fish and invertebrate diversity were found to have increased significantly both in terms of species diversity and head count. Fish species were increased from eight species during the baseline survey to 22 species during the week-five monitoring survey after AR deployment. Similarly, invertebrate 8 species were found during the baseline survey and increased to nine species during the last monitoring survey. Aside from the number of species, populations of both invertebrates and fish were significantly enlarged in the survey area. Furthermore, a new invertebrate species, which was previously absent in *Koh Seh* area, was also identified (see Figure 4).
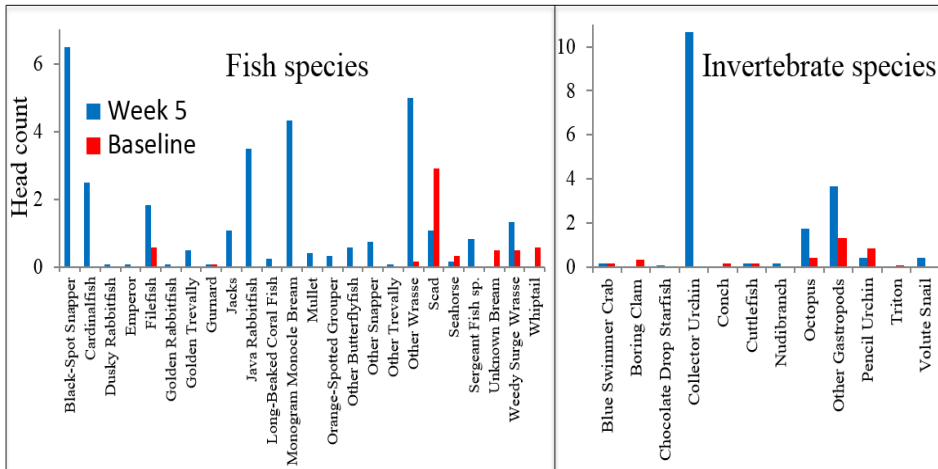
Figure 4. *Fish and invertebrate species population identified during the study*

Particularly, sea hares (Aplysia California), which were never present in the *Koh Seh* area previously, were found during the third week monitoring survey, on the fourth segment of the survey transect in the sandy, silt, rubble and algae rich area. During the study period (see figure 4), collector urchin and diadema urchin were seen as keystone species because they are dominant indicators in substrate ecosystem in the site study, whose absence in the area show the changes in stable-state of the surroundings (substrate and invertebrate species). These function ecologically as habitats, which are natural barriers against disaster, and sources of ecosystem services. This result indicates that application of AR have significantly enhanced fish and invertebrate diversity in the study area both in terms of species diversity and population number.

Conclusion

Based on the results of this study, it can be concluded that application of artificial reefs brings good impact on the reef by attracting more species, providing safe and healthy habitats, which are natural barriers against disaster, and sources of ecosystem services, as well as a food source to support the growth of marine species including fish and invertebrates. The success of the artificial reefs will play a crucial role in preventing illegal fishing, especially against trawling, and improve marine diversity in the study area.

Acknowledgment

References

London Convention and Protocol/UNEP. (2009). *Guidelines for the placement of artificial reefs.* United Kingdom.

Marine Conservation Cambodia. (2016). *Koh Seh marine environmental assessment,* Kep Province, *Cambodia.* Cambodia.

The Contradictory Effects of Family Ties and Social Mobility on the Relevancy of Asymmetrical Gender Norms in Cambodia

Sen Chantarasingh

Faculty of Social Sciences & International Relations
Paññāsāstra University of Cambodia

Abstract

Despite the increase in women's economic independence and the introduction of modernity, Cambodian women are still generally being seen and treated as lesser than men in many regards. Compounded by the entrenched male-dominated Cambodian gender code of conduct and the lack of open gender discourse, Cambodian women are placed by the society in the fetter of docility and modesty, which prevents them from gaining control over their freedom of choice. Women's traditional roles in families and society proliferate the gender issues further because those expected roles are a part of the greater Cambodian hierarchical order. This hierarchical order impedes individualism from taking firm root. Without individualism, women are more or less coerced to follow the ways that are deemed acceptable by their families and communities, or they would risk being shamed for their actions by their respective families or communities. This article seeks to explain the enduring gender inequality in Cambodia. The main foci of this article are the perceptions that people hold on tradition and modernity at family and community levels, for they constitute a dilemma for women on whether women should adhere to the tradition or embrace the modern lifestyle. Since the choice is most likely not exclusive, a synthesis of both tradition and modernity shall be explored. After examining the intricate web of social ties and social interactions, this article explores the potency of Cambodian gender code from the view of "ideological bankruptcy," that imperfect ideologies can renew themselves to fit new social circumstances. Therefore, on top of having a self-renewing gender code, the community-centric lifestyle and the conservativeness of the Cambodians toward social changes contribute to maintaining the enduring gender inequality in Cambodia. This article is purely secondary research and theoretical in its approach, thus one of its major limitations is the lack of empirical evidence to support its various propositions. Nonetheless, its exploratory nature may bring new insights into the study of gender inequality especially in Cambodia.

Keywords: Cambodian women, *Chbab Srey,* gender in equality, gender norn, ideology bankruptcy

The Contradictory Effects of Family Ties and Social Mobility on the Relevancy of Asymmetrical Gender Norms in Cambodia

Introduction

Traditionally in Cambodia, women are required to be "obedient" and mindful when it comes to family matters and social reputation, respectively (Kasumi, 2006, p. 26, 51). This code of conduct has its roots in a poem called *Chbab Srey* in Khmer or code of conduct for women in English, which "was orally passed down from the 14th to 19th centuries" before it was compiled by a Cambodian poet named Krom Ngoy (Anderson and Grace, 2018, pp. 216-217). This poem serves as a guide on how a woman should behave in various social contexts, but the code itself contains ambiguity and sometimes incoherencies (Ledgerwood, 1990). Furthermore, *Chbab Srey* is in some ways not an explicit ideology in the way that socialism was to the Soviet Union, for example, when people challenge it, a clear faction of conservatives in favor of *Chbab Srey* emerge. Such was the case when Katherine V. Harry criticized the male dominated culture of Cambodia and the unjust cultural burdens placed on women (Kasztelan, 2017). This presents an opportunity to examine why Cambodia still retains this asymmetrical gender relation even in the face of modernization. An initial hypothesis is that the push and pull between women's economic independence, and her roles as a part of her extended family, combined with the uncertainty about what constitutes Cambodian gender culture are the primary culprits for the endurance of gender inequality in Cambodia.

This paper aims to use sociological concepts about social structure and social change to examine women's social circumstances in regard to gender norms. The timeline of this study is after the steady increase of economic migrations to urban areas due to the liberalization policy after 1993 (Derks, 2008, p. 28) but article the proliferation of the use of internet in Cambodia around 2011 (Japan International Cooperation Agency, 2013). The focus of this paper is on women who have achieved economic independence yet are still expected to fulfill their traditional gender roles. After examining that, the uncertainty about what actually is the Cambodian gender culture is discussed by looking at how Cambodians perceive tradition and modernity. The last part provides a theoretical discourse on why *Chbab Srey,* as an implicit ideology,

survives from generation to generation even withstanding social and economic changes. This paper took inspiration from Leszek Kołakowski's notion on what a historian of ideas is occupied with that stated, "the problem facing the historian of ideas, [. . .] is rather how, and as a result of what circumstances, the original idea came to serve as a rallying point for so many different and mutually hostile forces, or what were the ambiguities and conflicting tendencies in the idea itself which led to its developing as it did" (Kołakowski, 2008, p. 6). Likewise, this article seeks not to thoroughly examine *Chbab Srey*'s contents, but it seeks to explain why *Chbab Srey* is still a relevant social force to reckon with in Cambodia in spite of noticeable economic modernization.

Terminology

Since the paper deals with both sociological and ideological studies, a clarification of terminology needs to be addressed. "Modernization" and "social mobility" here, denote industrialization and work force migrations that came with it, which effectively produce new social circumstances and norms (Hughes & Kroehler, 2008, p. 195, 441).

"Family" in this paper refers to a primary social group, which has significant influence on an individual's decision making (Hughes & Kroehler, 2008, p. 102, 123). "Asymmetrical gender relations" is used here to indicate the effect of Chbab Srey, implicitly or explicitly, in determining socially appropriate gender norms that favor male over female. "Ideological bankruptcy" refers to the idea that any particular ideology is likely to lose its potency if that ideology does not contain in itself contradictions and ambiguities, whose jobs are to provide the ideology with rooms for adjustments to new social circumstances (Kołakowski, 2012, p. 41).

Social Mobility and Familial Pressure

Employment incentives resulting from modernization have pushed some Cambodian women from working in traditionally associated feminine jobs to the industrial sector (Derks, 2008, pp. 7-8). The sociological theory of modernization would suggest that such a move from "traditional" social structure to "modern" way of life would result in the shift of the source of "authority" (Schaefer, 2005, p. 232). Logically, if a person has achieved financial independence and is away from their family, then their family would

retain little to no influence over their lives. In this case, *Chbab Srey* would lose its relevancy because this code is reinforced through familial interactions (Derks, 2008), and therefore, it would lead to a condition in which women are free to pursue different lifestyles.

However, in reality, it is not the case due to the long reach of family pressure and the already strongly imprinted values made by the process of socialization during a woman's upbringing. The first reason is that pursuing a lifestyle too modernized would stigmatize both the woman and her family in their community in the form of "losing face" (Derks, 2008, p. 50). As argued by David M. Ayres, "it was the introduction of the concept of social mobility that proved a significant factor in undermining the solidarity of the traditional, cohesive social system" (Ayres, 2003, p. 28). Considering the durable traditional adherent to social hierarchy in Cambodia (Ayres, 2003), individuals are ultimately perceived as a part of the larger group. In this case, a financially independent woman is still, to a certain extent, under her family supervision, and therefore she is coerced to act in accordance with her family's wishes. On the other hand, in terms of socialization, normalization of gender inequality is fostered during a girl's development especially in less liberally minded families (Kasumi, 2006; Ministry of Women's Affairs of Cambodia, 2014). These two factors imprison women in a fetter of docility and modesty.

Furthermore, even with its limitation, communities in rural areas still retain a factor of "trustworthiness" (Derks, 2008, p. 146), which would impede individualism from taking firm root in people who have migrated to urban areas because their previous social groups still have significant benefit for them. In addition, a large scale study on the effect of globalization and modernization in Asia showed that Asia and the West experienced modernization in different national and political contexts (McKinnon, 2011), which is why conventional theories on modernization might not be fully applicable in Asia. The hierarchical social norms enable family, which is the agent in spreading asymmetrical gender values, to influence decision making of migrated and economically independent women and in doing so continues to define her daily conduct while undermining her freedom.

Cambodian Gender Culture: Between Tradition and Modernity

As more Cambodians are moving away from the traditional way of life, modernity would be a social circumstance that has the potential to change the dominant gender ideas, but reality may not be as dialectic as it seems. This section examines Cambodian perception about tradition and modernity, specifically women who have acquired observable economic independence.

By being economically independent, Cambodian women would have the means to pursue a modern lifestyle relatively free from traditional constraints, which are strongly perceived to be outdated. Therefore, they are presented with a choice to either conform or not conform to the modern way of life (Derks, 2008). This social circumstance makes women see that to be modern is to behave contrary to tradition, and such endeavor is now possible because of her economic independence. However, just because the condition gave way to freedom of choice, it does not necessarily mean that women would choose to completely disregard entrenched gender norms.

The socialization process, again, plays a role in maintaining the asymmetrical gender norms in Cambodia. An economically independent woman was still once a girl. A Cambodian girl is expected to grow up to become a docile and mindful woman toward the men in the family, such as brothers or husband. As a consequence, women lack the capacity to be decisive especially when they are in a relationship with a man; therefore, a female's "capacities and potential" to be something more than their ascribed roles are hindered by their upbringing (Ministry of Women's Affairs of Cambodia, 2014, p. 11). Furthermore, "gendered division of labor" compels men to uphold their idea about what a proper relation with a woman is based largely on the concept of masculinity (Gender and Development for Cambodia, 2010). These two factors decrease the likelihood that women in Cambodia would emancipate themselves.

Nonetheless, not everything is bleak. An ordinary Cambodian woman might not become a radical feminist in a fortnight after gaining economic independence, but that does not mean that the new modern social condition has no tangible effects on gender norms. The presence of modernity means that traditional gender norms are put to question. Women may sometimes earn more than men, so traditional invulnerability of men can be questioned.

Moreover, even though social stigma for men who hold unorthodox concepts about masculinity is present, some men have privately abandoned their beliefs that men are inherently better than women (Ministry of Women's Affairs of Cambodia, 2014). As a consequence, more liberal norms have emerged. Even though imperfect and ultimately still upholding sexism, some men see women as a group that are specialized in certain jobs, thus acknowledging that a woman is more than just a wife or a mother. However, their beliefs are significantly influenced by the idea that women have traits different from men (Kim and Öjendal, 2012).

According to functionalist perspectives in regard to social change, therefore, a compromise between modernity and tradition would likely be reached because of the "tendency toward equilibrium" of contradictory ideas (Hughes and Kroehler, 2008). Then the current gender culture in Cambodia is composed of the push and pull between entrenched traditional gender ideals and modern individualism. Nevertheless, the conservativeness of Cambodian society would prevent any radical or dramatic changes from happening in the foreseeable future.

"Ideological Bankruptcy" and Ambiguity of Cambodian Gender Norms

This part looks at how Cambodian gender expectations operate as an ideological force. I examine a few specific parts of *Chbab Srey* that contain ambiguities and contradictions. Ambiguities in an ideology create room for contradictions; and consequently, the existence of contradictions enables an ideology to sustain itself. In other words, internal debates rejuvenate ideologies to be relevant to new social circumstances and not be stagnant (Kołakowski, 2012). In our case, if *Chbab Srey* truly has rules that exhibit such characteristics, then it would be possible to say that *Chbab Srey* has the potential to renew itself to fit new social realities.

The goal of *Chbab Srey* is to foster family stability using the prescriptions of the poem. This rather challenging task is placed upon a wife, who should listen attentively to her husband and bear with her husband no matter the circumstances (Kasumi, 2006). Here lies the first contradiction. If a woman practices those pacifying prescriptions seriously, then she lacks the power to make decisions, for all meaningful decisions are made by the husband. The husband decides, but, when something go wrong, the wife can

also be blamed. Therefore, the fault is attributed to the wife's inadequacy in acting as a complement to her husband despite the fact that the wife did not make decisions that led to the issues.

The second contradiction that consequently leads to ambiguity in the code lies in the categorization of wife (see Table 1).

Table 1.
Types of wife and their prescribed roles

Types of wife	Their prescribed roles
Wife as a mother	Act as a literal mother by taking care of the husband and sacrifice for him.
Wife as a sister	Try to understand the husband as would a sibling while protecting his reputation and wealth.
Wife as a friend	To be intimate with the husband as one would with a friend and dedicate herself to him.
Wife as a slave	To be mindful and prevent the husband from getting angry. Do not talk back when he is angry, and know the rightful place of a wife, under the control of the husband (Mei, 1974).

These four types of wife set an expectation on how a perfect wife should behave. When we keenly look at them, we can see that a wife cannot be all four at once. For example, how can a wife take on the role of the mother who takes care of her son while being an obedient slave at the same time? The appropriate time for a wife to take the appropriate role is blurred, thus the wife needs to jump back and forth between roles, which leads to a higher chance for making mistakes condemned by the code.

Both the first and the second points create the same issue. Namely, the contradictions and ambiguities of the code do not make the code obsolete; instead, they provide a constructive platform for discussions to take place. Accordingly, new adjustments of the code are made in order to cope with the problems. Therefore, the code is self-renewing because it has contradictions as a fuel.

Conclusion

Enduring Cambodian social elements, such as obeying the hierarchical order, living in community-centric lifestyle, and maintaining close family ties continue to repress women even if they have achieved economic independence. This repressive condition tends to put women in less privileged positions in comparison to men. On the other hand, progress has been made in regard to gender equality due to the introduction of modernity in Cambodian society, yet the effect of modernity is muffled by the conservativeness and the lack of open gender discourses. Coupled with the self-renewing and self-rejuvenating nature of the gender code in Cambodia, the asymmetrical gender relations resist changes due to the collectivistic style of living and the lack of proper adoption of more individualistic lifestyles. Such conditions provide grounds for outdated gender norms to maintain their relevance.

References

Anderson, Emily, & Kelly, Grace. (2018). From schoolgirls to "virtuous" Khmer women: Interrogating Chbab Srey and gender in Cambodian education policy. *Studies in Social Justice 12*(2), 215-234. doi: 10.26522/ssj.v12i2.1626

Ayres, David M. (2003). *Anatomy of a crisis: Education, development, and the state in Cambodia, 1953-1998.* Chiang Mai: Silkworm Books.

Derks, Annuska. (2008). *Khmer women on the move: Exploring work and life in urban Cambodia.* Hawaii: University of Hawaii Press.

Gender and Development for Cambodia. (2010). *A preliminary analysis report on "Deoum Troung Pram Hath" in modern Cambodia: A qualitative exploration of gender norms, masculinity and domestic violence.* Retrieved from https://www.gadc.org.kh/kh/downloads/resources/publications/deoum_troung_pram_hate_2010/Research%20Doeum%20Troung%20Pram%20Hate%202010_English.pdf.

Hughes, Michael, & Kroehler, Carolyn J. (2008). *Sociology: The core* (8th ed.). New York: McGraw-Hill.

Japan International Cooperation Agency (JICA). (2013). *Cambodia investment guidebook: Council for the development of Cambodia.* Retrieved from https://www.jica.go.jp/cambodia/english/office/topics/c8h0vm000001oaq8-att/investment_01.pdf.

Kasumi, Nakagawa. (2006). *More than white cloth? Women's rights in Cambodia.* Phnom Penh: Cambodian Defenders Project.

Kasztelan, Marta. (September 9, 2017). Cambodia's YouTube provocateur: 'Is a woman's value measured by virginity?' *The Guardian.* Retrieved from https://www.theguardian.com/global-development/2017/sep/09/cam

bodia-youtube-provocateur-is-a-womans-value-measured-by-virgini ty-a-dose-of-cath.

Kim, Sedara, & Öjendal, Joakim. (2012). A gendered analysis of decentralization reform in Cambodia. *CDRI Working Paper Series, no. 71.* Retrieved from https://www.cdri.org.kh/publication-page-old/pub/wp/wp71e.pdf.

Kołakowski, Leszek. (2012). *Is God happy? Selected essays.* London: Penguin Classics.

_____. (2008). *Main currents of Marxism* (P. S. Falla, Trans.). New York: Norton.

McKinnon, Malcolm. (2011). *Asian cities: Globalization, urbanization and nation-building.* Copenhagen: NIAS Press.

Mei, Mern. (1974). Women's code of conduct. Compiled in *Women's and Men's Code of Conduct and Prophecy.* Phnom Penh: Samdach Choun Nat Association.

Ministry of Women's Affairs of Cambodia. (2014). Chapter and policy brief 2: Gender attitudes and relations. *The Cambodia Gender Assessment.* Retrieved from http://www.kh.undp.org/content/dam/cambodia/docs/DemoGov/ NearyRattanak4/Neary%20Rattanak%204%20-%20PB%20Gen der%20Relations%20and%20Attitudes%20Eng.pdf.

Schaefer, Richard T. (2005). *Sociology* (9th ed.). New York: The McGraw-Hill Company.

Bamboo and Bronze Instruments of Southeast Asia: An Overview

Jittapim Yamprai

Paññāsāstra Institute of Academic Research and Development (PIARD)
Paññāsāstra University of Cambodia

Abstract

The bamboo and bronze instruments of Southeast Asia are the signature culture of the region. Dating from the early civilization of *Dong Son,* various bronze instruments have been developed and have served people of Southeast Asia in many ways, including state and military affairs, countless festivals, and ceremonies that unite the beliefs and strengthen the harmony of the society. Through document analyses and fieldwork studies, an overview of the history and development of the bronze and bamboo instruments, their migration and functions in the society as well as their circulation within and across the region are examined. The impacts of colonization, westernization, globalization, and urbanization are the main factors that cause the rise and fall of bamboo and bronze instrumental practices. The succession of the cultures and sustainability of the practices are found within closed communities of indigenous ethnic groups, in which social structures and beliefs are imparted to their younger cultural carriers and in the countries that support and preserve the traditions.

Keywords: bamboo instrument, bronze instrument, gong, Southeast Asian music

Bamboo and Bronze Instruments of Southeast Asia: An Overview

Introduction

Bamboo and Bronze are the two common cultures diffused all over Southeast Asia. Geographically, the bamboo forests of Southeast Asia span hundreds of square miles due to their love of heat and moisture (Oliver, 1956). The plant itself is easy to grow and requires little care. As a consequence, bamboo has become the signature plant that both symbolizes and dominates the history of the region. Bamboo provides various resources for everyday life including food, medicine, homes, furniture, textiles, and household as well as agricultural, farming, and fishing tools. Bamboo is used for construction, such as bridges and water pipes, for transportation in the form of rafts and trains, and making it into musical instruments for ceremonies and entertainment. The Bronze cultures of Southeast Asia are rooted in the *Dong Son* civilization, which spread its influence from 1000 B.C.E. to the first century, having its center in the Red River valley in the Northern part of present day Vietnam (Sam, 2002). Through archeological excavation, many artifacts have emanated from bronze cultures of ancient civilizations. They demonstrate an early settlement, social development, beliefs and rituals, and arts and design.

Binding with the beliefs and social practices, both the bamboo and bronze cultures have created musical instruments that function in religions, ceremonies, rituals, and entertainment from the sophisticated ruling class to the rural folk cultures. Unlike other bronze artifacts such as spearheads, daggers, and head-dresses, many musical instruments of bamboo and bronze cultures are still being used in the modern culture of Southeast Asia; nonetheless, they have been reformed and modernized to accommodate this contemporary outlook and expression.

The article aims to provide an overview of both major bamboo and bronze musical cultures of Southeast Asia by exploring through their history, development, circulation, and their connections in the area of organology, along with their functions and roles in the communities. Materials and methodologies for this research are based on the study of former research works of Southeast Asian ethnomusicologists and from the researcher's own fieldwork study in Southeast Asia.

The Bronze Culture of Southeast Asia

The Southeast Asian *Dong Son* civilization gave birth to extensive sites of bronze artifacts around the Red River delta of the present day Vietnam (Loofs-Wissowa, 1991). Around the eighth century C.E., trading between Indian Ocean, Southeast Asia, and China had created an interchange of musical instruments along with musical cultures throughout the region (Nicolas, 2009). By the tenth century, flat gongs were circulated in all the maritime of Southeast Asia. Evidence from shipwrecks in the maritime indicated several types of gongs were being traded, including flat and bossed gongs, cymbals, and bells (Oliver, 1956). Several kinds of bossed gongs were manufactured in mainland Southeast Asia, and exported to the maritime during the Majapahit Empire (13th-16th centuries) (ibid.). Gongs and other instruments had been traded and exchanged with China. For example, the Pyu Kingdom of Myanmar had sent their court musicians and instruments to the Tang dynasty of China in the ninth century (Nyunt, 2001). Additionally, in the twelfth century, Vietnam sent two gold gongs and five bronze bells to China (Nicolas, 2009). The function of gongs and bells in this period was to accompany the rituals in temples: Hindu, Buddhist, and Confucianism. Among the bronze instruments, bronze bells and drums have survived in their original form; however, their original functions have been varied and modified to reflect socio-cultural changes. Many have lost their historical practices due to western colonization, cold war, and political turmoil.

Bronze bells

Mentioned by Doustar in his monograph *Art of the Bronze Age in Southeast Asia* (Doustar, 2014), the bronze elephant bell is one of the early examples (see Figure 1). The bell was excavated in an archeological site at Ban Chiang, Thailand (1500 B.C.E.). It was estimated to be functioning in ceremonies around 300-200 B.C.E. The bell itself had an elephant figurine attached to the surface of the bell, along its top, which was made in the shape of an elephant's trunk. Due to this iconographic image of elephants, it was assumed that the bell, along with the gong, was used in the ceremonies related to elephant, an animal of the *Devaraja* idealization of Southeast Asia.

Figure 1. *Elephant bells in Thailand*

To verify the historical function, evidence of elephant rites that were inscribed in Indian historical accounts are examined. According to the scripture, the white elephants or *Shri Gaja* are considered sacred animals. The number of the white elephants owned by a king depicted the power of such a king over others (Andaya, 2016). Therefore, special care and housing were provided for these elephants, along with the ceremonies. The handling of these special elephants in Southeast Asia derived from the Vedic culture of India. *Gajasastra,* a scripture considered an elephant manual, provides details of methods and rituals in capturing and handling elephants (Trautmann, 2015). In India, many hymns were chanted to praise the elephant (Andaya, 2016). The practice in chanting for the elephant was spread throughout Southeast Asia. Although the ceremony for capturing the elephant and taming them survives in modern Thailand and Laos, the bronze bell has lost its function in accompanying the ceremony.

Bronze drum

The bronze drum has been circulated all over Southeast Asia since the Bronze Age. Earliest evidence of the bronze drum was excavated in the Northeastern part of Thailand where bronze drums, dating from more than a thousand years ago, have been found in the sites of Nonnoktha, Ban Chiang, and Ban Nadi (Loofs-Wisowa, 1991). More evidence of bronze drums was found in the iconography of a prehistoric rock cave painting (see Figure 2) in the Kanchanaburi province, Thailand. Archeologists indicated that the painting dated back more than 2,000 years. The image depicts the scene of a funeral procession comprised of men carrying a bronze drum on sticks leading the coffin. Therefore, the early function of the bronze drum was associated with

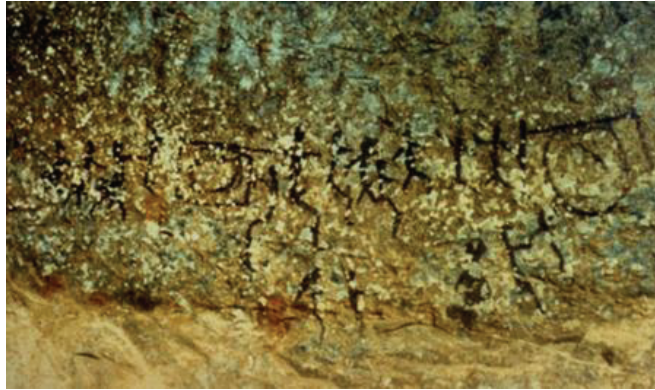indigenous belief in rituals and ceremonies.

Figure 2. *The painting of bronze drum in a funeral procession at Taduang cave, Kanchanaburi, Thailand* (Fine Arts Department of Thailand, n.d.)

Records of pre-historic bronze drums are also found in the province of Uttaradit, Ubon Ratchathani, and Karasin in the Northeast as well as in the provinces of Chumporn, Suratthani, and Nakorn Srithammarat in the southern part of Thailand (see Figures 3-5). According to Heger's drum classification, the type I drum is found in Vietnam, Thailand, Laos, Malaysia, and Indonesia (Solheim II, 1989); type II in Southern China and Vietnam; type III in Southern China and Myanmar; and type IV in Vietnam and Thailand (Han, 2004). The drums categorized under Heger's type I are considered the oldest bronze drums (Loofs-Wisowa, 1991). On the island of Sumatra, the bronze drum, *Nakara* became evident around 500 B.C.E. (Miller, 2017).

The iconographical symbols found on bronze drums include frog, star, bird, fish, deer, elephant, horse, and hunters. The drums circulated in Eastern Java share common features of having frogs or toads on the drum surface. Regarding the symbolic interpretation of the drums, Quaritch Wales proposed that the star symbol at the center of the drum is connected to Shamanistic practices of the *Dong Son* cultures, while Colani believed that the center symbol is not a star but a solar star related to sun-worship (Miller, 2017). The type of birds depicted are water-birds, such as cranes, storks, or herons, which are related to fertility; the boat represents the funeral rite of sending the dead to the afterlife or a boat-race that is still practiced today in

the Mekong river of Southeast Asia.

The roles of the bronze drums are varied throughout Southeast Asia, ranging from court functions and warfare to folk cultures and indigenous beliefs, including rain- and spirit-calling, as well as a symbolic representative of high status, power, and authority in the society. The early role of the drum in warfare was depicted in a 15th century painting, in a Cham museum, of a Vietnamese battle where the drum was rolled onto the battle field (Miller, 2017).

In Cambodia, two types of bronze drums are called *Skor Moho Thoeuk (Skor Moha Ritt)* and *Skor hao thoeuk phlieng.* Sam-Ang Sam stated that the first was used in the royal ceremony and water festival, while the second was used in the rain ceremony to summon the rain in accordance with the name of the drum, which literally means "drum to call for the rain" (Sam, 2004). In the rain ceremony, the drum is carried by four men in the procession and played with a stick. The indigenous ethnic groups in the mainland of Southeast Asia have strong beliefs and practices associated with the bronze drum. Possessing the drum represents high respect from the society.

For the Karen, the frog drum or *Pazi* (see Figure 3) is regarded as a sacred instrument that every family needs to possess. The drum plays an important role in connecting the living people with the spirits, especially the spirits of their ancestors. The Karen in Myanmar hang the bronze drum (small size) above the body of the dead. The drum is rolled to call the spirit of the deceased to consume the meal provided by the family members. The sound of the drum provides the connection to the spirit. They also believe that the drum itself inherited a spirit; therefore, wine and rice offering to the drum is a significant task of the drum's owner. The Karen carefully protect their drum, and watchfully observe the surface of the drum for predicting the future. Drums also function as gifts exchanged in the wedding ceremony, raining ritual, harvesting ritual, and so on (Fraser-Lu, 1983). Resembling the Karen frog drum, people on the islands of Eastern Java, believe that when the bronze drum is beaten, the sound of the drum, together with the frogs that are placed on the surface of the drum, will bring magic and power to bring rain and storms that can nourish the land (Andaya, 2016).

Figure 3. *Karen's frog drum*

Bronze drums in Southeast Asia represent authority and high status in the society. The Alor and Pantar people of Indonesia, require *Moko,* a small bronze drum in an hour-glass shape to be a gift for the bride (Andaya, 2016). A pair of *Moko* is played in special festivals, along with other instruments: bronze gongs, drums, bamboo flutes, and dancers. *Moko* is kept in a sacred place of the house, and is performed only for significant ceremonies.

In Thai culture, the drum is not only considered one of the ancient treasures, representing the pre-historic civilization, it is highly regarded as part of the royal court ensemble, performed alongside the *Pii* (Thai folk oboe), *Kong chai* (large hanging gong), and conch shell in the royal procession as well as marking the royal audience of the King. The Thai bronze drum, when performed, uses two mallets made of wood with one edge wrapped in thick cloths. (see Figure 4).

Figure 4. *Bronze drum in Thai ceremony*

Nevertheless, not every culture is able to maintain the practices of bronze drum according to their original role. The function of the drum has been adjusted in association with the change in each socio-cultural context. As a consequence, many countries have lost their practices and can only preserve their drums in museums as a monument of national treasure. Today, the bronze drum is still in practices in Karen rituals, Thai royal court ceremonies, and Vietnamese (Hanoi) international festivals, including The Third Asian Indoor Games in 2009, the Jubilee celebrations of the Vietnamese Catholic Church in 2010, and the Hue International Arts Festival in 2012 (Hayes, 2014).

Gongs

Similar to the bronze drum, gongs in Southeast Asia evolved with the *Dong Son* cultures that spread over all regions of Southeast Asia. Early gongs from archeological excavations are single gongs in the forms of both flat and bossed gongs. While flat gongs were circulated prior to the 13th century, bossed gongs were traded around the 13th-16th centuries among Thailand, Indonesia, and the Philippines (Hayes, 2014).

The earliest evidence of gongs in Cambodia appeared in the Funan-Chenla period (1st-9th centuries). However, gongs in a set of several pitches arranged in a half-circle wooden frame appeared later in the   Angkor period (9th-15th centuries). The *Peat* (half-circle framed gongs) found at the Angkor Wat (see Figure 5), which was constructed in the reign of King Suryavarman II in the 12th century, revealed eight and nine pitched gongs. The gongs in later petroglyphs indicate further development, increasing the number of gongs, the size of the gongs, and the wooden frame that holds those gongs together.

Figure 5. *Eight (left) and nine gongs (right) carved at the stone-bas relief of Angkor Wat*

The instrument can be seen in the major classical ensembles of Southeast Asia, including *Pinn peat* of Cambodia, *Pii phat* of Thailand, *Pin phat* of Laos, and *Hsaing waing* of Myanmar. The role of gongs in these ensembles are also different in each country even though the instruments look alike and share the same background. In Thailand, the *Kong wong yai* has the role of providing the main melody to the ensemble, while the *Korng vung thomm* of Cambodia plays a variation of the melody. The size and shape of bossed gongs in the maritime are different from those of the mainland. In the mainland, small bossed gongs are set in a circular frame, while bossed gongs of the maritime are larger and different in appearance.

Sets of gongs used in classical music ensembles are mostly sets of bossed gongs. When different sizes and pitches of bossed gongs are arranged in a particular frame, they can provide melodies as well as countermelodies. In most ensembles, the sets of gongs appear in pairs: one in the high register and the other in the low. When performed together, each has a different role in the ensemble as well as providing a contrast of high and low melodic range, such as *Kong wong yai* (low-pitched gong set) and *Kong wong lek* (high-pitched gong set) in Thailand, *Korng vung thomm* (low-pitched gong set) and *Korng vung tauch* (high-pitched gong set) in Cambodia, and *Bonang barung* (low-pitched gong set) and *Bonang panerus* (high-pitched gong set) in Indonesia (see Figure 6).

Thailand: *Kong wong yai*   Thailand: *Kong wong lek*

Cambodia: *Korng vung thomm*   Cambodia: *Korng vung tauch*

Indonesia: *Bonang*

Figure 6. *Pairs of sets of gongs in Thailand, Cambodia, and Indonesia*

Besides the range, the number of gongs in the set varies depending on the scale system, repertoire, as well as function of the instrument in the ensemble. For example, the Indonesian scale system includes both *pelog* (seven-pitch system) and *slendro* (five-pitch system); therefore, a melodic instrument such as the *Bonang* has both five and seven gongs in a row. However, the Burmese have twenty-one gongs in the *Kyi waing* to support the main instrument, *Pat waing* (twenty-one drums) that provides the main melody in the ensemble. The number of gongs can be extended beyond the traditional practices if performing new compositions; for example, the Burmese *Maun saing* (see Figure 7) can contain from 19 to 30 gongs. The additional pitches of the thirty-gong set make it equivalent to a western keyboard that includes

half-steps of sharps and flats so that they can play the major and minor keys of western music, and have a range up to four octaves.

Figure 7. *Burmese Maun saing*

Gongs of indigenous ethnic groups

As mentioned in an earlier paragraph, gongs of indigenous ethnic groups are mostly hanging gongs performed in specific numbers in a specific ensemble. The gong ensemble can be comprised of only a single gong or two to 13 gongs. Also, the gong ensemble can be mixed with other instruments such as a bowed fiddle, plucked zither, flute, pipe, mouth organ, and other percussive instruments (see Figure 8).

Figure 8. *Gong ensemble with drum, Ratanakiri, Cambodia*

Hanging gongs played individually or as part of an ensemble are associated with indigenous beliefs, and function in their sacred ceremonies. The tradition of performing the hanging gongs is mostly maintained in various indigenous ethnic groups of Southeast Asia, both in the mainland and the maritime. For the ethnic tribes, hanging gongs are more than just musical instruments. They are a symbol of fulfillment in one's life, and as an acceptance by the clan. Therefore, the indigenous ethnic groups treat their gongs as their treasured and sacred instruments. Flat gongs in the mainland Southeast Asia and Luzon of the Philippines are mostly performed by highland people (Nicolas, 2009). In Indonesia, a gong and elephant tusk are considered a gift to the bride. Both refer to power and authority; therefore, to ensure the wealth of the bride, an elephant tusk has to be provided to the bride. To state the significance of the gong, the large elephant tusk can be compared to the large gong, and a small tusk to the small gong (Andaya, 2016).

In many ethnic groups of mainland Southeast Asia, gongs function in the ritual and funeral ceremonies. Both the flat and bossed gongs are regarded as sacred instruments associated with animistic practices. Therefore, it is treated as a ceremonial instrument as well as an entertainment instrument. Sam-Ang Sam (2010) indicated that in Cambodia, gongs are special instruments in the funeral that musicians perform and dance around the dead and the grave. About five (see Figure 9), seven, or 13 gongs are held in the hands of as many musicians, playing interlocking rhythmic patterns that produce unusually complex melodies (Sam, 2010). Since gongs are played in groups, as such, they are also instruments that create a social connection in the community, bringing unity and harmony when all musicians are performing gongs together in a harvesting ceremony, dancing, or at funerals. The Karenni also used gongs to call the soul of the sick back to the body as well as elevating the sorrow of the livings for their departed family member (Naw Ju, personal communication, March 20, 2018).

Figure 9. *Five-gong ensemble, Ratanakiri, Cambodia*
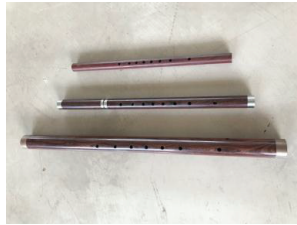
Bamboo Musical Instruments of Southeast Asia

Similar to gongs, bamboo musical instruments are a ubiquitous part of Southeast Asian musical cultures, functioning as instruments of classical and folk music ensembles. Bamboo is transformed into several categories of instruments: aerophones, chordophones, and idiophones. Both the mainland and the maritime of Southeast Asia have bamboo flutes that come in different sizes, number of holes, with or without reeds, as well as different methods of playing the instruments. Since the sounds, scale systems, and musical appreciation of each nation are different, the bamboo flutes are tuned differently in each culture and come in different ranges. Three categories of bamboo flute can be found based on how the sound is produced: the duct bamboo flute, the reed bamboo flute, and nose flute (see Figure 10). Duct flutes can be further separated into vertical flutes or end-blown flutes, where the air is blown across the top of the flutes, and transverse, which are similar to the western flutes.

Reed flute (*Pey pork,* Cambodia)
Photo by Dr. Sam-Ang Sam

Nose flute (*Tongali,* Philippines)
Metropolitan Museum of Manila

Vertical duct flute (*Klui,* Thailand)
Chulalongkorn University

Transverse flute (*Sáo,* Vietnam)
Photo of Mr. Duc Dau

Figure 10. *Bamboo flutes of Southeast Asia*

Bamboo mouth organ is another aerophone that is considered a popular instrument of the folk culture, especially in the music of indigenous ethnic groups in Southeast Asia. However, the physical appearance and function of the instrument in each culture is different. In Myanmar, the mouth organ is called *Hnyin.* It has a gourd and free reeds attached to the bamboo pipes, which are varied in numbers, usually set in two rows (Okell, 2015). Unlike other mouth organs of Southeast Asia, the Burmese *Hnyin* has lost its place in the present day Burmese music. The mouth organ of Vietnam, *Ding nam,* is similar to the Burmese mouth organ in that it contains reeds and has a gourd attached to the instrument. The instrument is widely used throughout the highland indigenous ethnic groups of Northern Vietnam. Contrasting to the gourd mouth organ, the bamboo mouth organ in the northeastern part of Thailand and Laos is a free reed mouth organ carved inside a windchest. *Kaen* (see Figure 11) consists of two rows of small bamboo tubes, bundled together in a vertical position arranged from the shortest to the longest. *Kaen* is the most popular instrument functioning in ceremonies, both secular and sacred, as well as popular and folk cultures. The number of bamboo tubes can vary from 14, 16, up to 18.

Figure 11. *Kaen, Thailand*

Another type of bamboo aerophone that is not performed by directly blowing into the instrument is the *Klongput. Klongput* (see Figure 12) is a set of several bamboo tubes of different sizes arranged in rows from low to high pitch. The sound is produced by clapping the hands on the top of each bamboo tube. The air then vibrates inside the tube and projects the sound of a certain pitch. These types of instrument are distributed among indigenous ethnic groups of Vietnam and Cambodia.

Figure 12. *Klongput, collection of Mr. Duc Dau*

For the bamboo chordophone instruments, bamboo fiddle is in use among indigenous ethnic groups of Southeast Asia. The number of strings and the size of the fiddle, including its bow, are varied. One of the common bamboo fiddles that is shared by several ethnic groups of mainland Southeast Asia, such as the Khmu, Karen and the Jarai, is a monochord bamboo fiddle. The bamboo fiddle may appear with or without a gourd which serves

as a resonator. For example, bamboo fiddles without gourds are *Memm* (see Figre 13), an ancient monochord fiddle of Cambodia, where its image was carved on the stone relief of the Bayon temple of the Angkor period. *Memm* are still played among Tumpuon and Kroeung ethnic people of Northeast Cambodia as well as the Kni of the Jarai people in Vietnam (Okell, 2015; Sam 2010). As for gourd fiddle, this monochord is a common fiddle circulated among indigenous ethnic groups of Cambodia and Vietnam such as the *Kaney,* the bamboo gourd-fiddle of the Tumpuon people of Cambodia (Sam, 2010).

Figure 13   *Memm (left) and Kaney (right)*

Besides the bamboo fiddle, bamboo plucked zither or lute in diverse shapes are circulated among many indigenous ethnic groups in both the mainland and the maritime of Southeast Asia. The bamboo lute in Southeast Asia not only has a variety of shapes, the number of strings is varied from one string to 13 strings. One of the spectacular instruments of Vietnam is a monochord zither called *Dan bau* (see Figure 14). The instrument body is made of bamboo, having one string laid across the bamboo body horizontally. One end of the bamboo contains a wooden handle, sticking up straight to adjust pitches. The stick has a dried gourd attached to serve as a resonator. The sound of *Dan bau* is very unique with its capability of providing harmonic pitches along with the melody (Miller, 2017).

Figure 14.   *Dan bau, collection of Mr. Duc Dau*

Besides *Dan bau,* there are various plucked bamboo folk instruments of indigenous ethnic groups, including a gourd lute or lute without gourd, differing in the number of strings, ranging from one to 13, as well as the bamboo tube zither (see Figure 15).
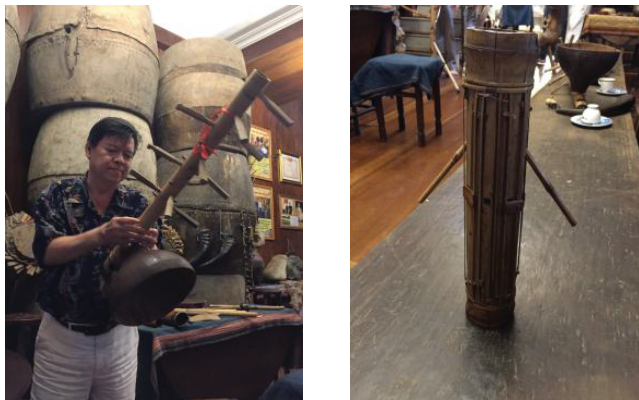

Figure 15. *Bamboo tube zither and gourd zither, collection of Mr. Duc Dau*

The majority of bamboo instruments are in the category of idiophone. In the mainland, the bamboo xylophone was used as the instrument of the classical ensemble. Later the bamboo was replaced with other types of hardwood for their ability to project a louder sound. There are many assumptions in terms of the origin of xylophone in Southeast Asia. The earliest record of a wooden xylophone appeared in the *Kalyani* stone inscription of Myanmar, where the Burmese xylophone, *Pattala* (see Figure 16) (Oxford Digital Library, "Watercolour Paintings of Burmese Life," n.d.), was sent to the court of Sri Lanka in the second century, and later circulated to other regions of the mainland

of Southeast Asia (Ministry of Hotels and Tourism, Union of Myanmar, 2006). For Cambodia, the wooden xylophone is the only instrument that was not carved on the stone relief of Angkor Wat, which was built in the 12th century. The Khmer have a legend of their xylophone *(Roneat)* based on the story of Lord Indra and his chariot, in which he ordered Pavessakam (Visavakaman) to build instruments based on the parts of the chariot. Pavessakam, then built a *Roneat* (wooden xylophone) to imitate the bent spokes of the wheel (Sam, 1988). The Thai had their theories of the xylophone based on the development of a pair of wood blocks called *"grap"* that singers use to accompany themselves while singing. They expanded the number of wood clappers and arranged them from low to high pitches in a horizontal alignment, then connected them together with a small braided string. Only Burmese, Thai, and Cambodian cultures share a similar appearance of the bamboo xylophone (bamboo bars of 21 to 24 arranged horizontally above the wooden boat shape resonator), which is distinct from other parts of Southeast Asia.

Figure 16.   *Burmese Pattala and a singer in the 19th century*

The exception is the Vietnamese instrument, where their xylophone bars maintain the bamboo shape of a tube without any carving. Arranged in vertical alignment, instead of laying horizontally as in other countries in the mainland, the central highland Vietnamese folk xylophone or *Trung* has bamboo tubes that are not carved flat as others. Instead, arranged in one to three columns, *Trung* is set vertically, having threads tying each row of the bamboo together on both sides of the bamboo tube, each row

of the two columns is arranged overlapping with the others. The number of bamboo tubes is varied, ranging from seven to 20 tubes. The *Trung* player uses two wooden sticks in performing the instrument (see Figure 17). In the northeast part of Thailand and Laos, a bamboo xylophone similar to the Vietnamese Trung is called *Pong lang.* In present day, *Pong lang* bamboo is replaced with other materials such as hardwood or metal.

Figure 17. *Trung, collection of Mr. Duc Dau (left) and Thai Pong lang (right)*

The other xylophone that is also different from xylophones of the mainland is the *Gender* instrument of the maritime. Instead of wooden bars, the *Gender wayang* of the Balinese gamelan ensemble has ten or 12 to 14 bronze bars that are laid on top of a bamboo tube. With two mallets striking on the bronze bars, the sound resonates inside the bamboo tube, projecting the color of a chime instrument, and at the same time resonating like a vibraphone (Kartomi, Ornstein, & Montagu, 2015). The table below presents the xylophone of each country in Southeast Asia, with their names, pictures, and number of bars (see Table 1).

Table 1.
Xylophones of Southeast Asia

Country	Xylophone	Image	Features
Myanmar	*Pattala*		24 bars; chamber ensemble
Thailand	*Ranat*		21 to 22 bars for *Ranat ek* and 18 bars for *Ranat thum; Pii phat* ensemble
Laos	*Lanat*		21 bars
Cambodia	*Roneat*		21 bars for *Roneat aek,* and 16 bars for *Roneat thung; Pinn peat* ensemble
Vietnam	*Trung*		Seven to 20 bamboo tubes; folk cultures
Indonesia	*Gender*		Ten/12 bars to 14 bars; gamelan ensemble
Malaysia/ Indonesia	*Gambang*		Five bars in Malaysia and 17-23 bars in Indonesia

Another popular bamboo idiophone instrument is the *Angklung* (see Figure 18) (Ariaty, 2018), originally developed in Java and circulated all over Southeast Asia. Physically, the instruments are different sizes of bamboo

tubes set vertically on one horizontal bamboo tube that serves as the base of the *Angklung*. The number of bamboo tubes varies from two to four, and each is carved to provide a certain pitch. The sound is produced by shaking the frame. When performed together as an ensemble, it can provide either a single melodic line or a melody with harmony.

Figure 18. *Angklung*

Other bamboo instruments of folk cultures include panpipe, bird flute, jaw harp, fiddle, lute, zither, pitched percussion, and xylophone. They function in specific types of folk ensembles as well as ensembles of ethnic tribes of the mainland and maritime of Southeast Asia (see Figure 19).

Figure 19. *Mixed ensemble of indigenous ethnic group in Ratanakiri, Cambodia*

Conclusion

Both bamboo and bronze musical instruments of Southeast Asia were evidently rooted in the early civilization. The instruments were circulated all over the region through trading and migration. The instruments' primarily role is

associated with rituals and sacred beliefs, norms and traditions of several cultures of Southeast Asia. Through the rise and fall of empires that forced migration of people from one culture to another, the instruments have been developed and have manifested themselves into several types of ensemble, and embracing new cultures founded on their originality. Many have been modified, and their functions have been adjusted to survive. Others are considered rare instruments, and are even extinct in their own countries, only remaining as artifacts in museums.

The changes of social and political systems and cultural revolution, as well as the impact of westernization and globalization, are the main factors that cause the development and decline of bamboo and bronze instruments. With the idea of modernization, some instruments have been developed to meet the new sonority of western influences. This can be seen in the example of chromatic instruments, for example, chromatic *kaen,* chromatic xylophones, chromatic gongs, chromatic *angklung,* and so on. On the other hand, the impact of urbanization and land development has brought the decline in the practices of several traditions, rituals, festivals, and ceremonies. This can be seen in the loss of cultural practices in the rural area where people have changed their social structures, occupations, and beliefs.

The ceremonies that once were used as a strong thread that tied the community totgether could not be practiced due to the displacement of community members to urban areas, changes in the perception of the younger generation that aims toward westernization, and the loss of the number of community elders that possess the knowledge of the heritage and tradition.

When there is no demand for the musical function, the instruments that are tied to the ceremonies cease to be performed; thus, they are fading away and becoming extinct. However, in the strong indigenous ethnic groups of Southeast Asia, where they have kept their social practices and maintained their belief in animistic cultures, the original practices and functions of the instruments can be continued.

References

Andaya, Leonard Yuzon. (2016). The social value of elephant tusks and bronze drums among certain societies in eastern Indonesia. *Bijdragen Tot De Taal-, Land-En Volkenkunde/Journal of the Humanities and Social Sciences of Southeast Asia, 172*(1), 66-89. Retrieved from http://www.jstor.org.unco.idm.oclc.org/stable/44324776.

Ariaty, Stephany. (2015). *Angklung.* Retrieved from *http://www.angklungpakradja.com/p/blog-page.html.*

Doustar, Martin. (2014). *Art of the bronze age in Southeast Asia: An exhibition held during Asian art in Brussels on June 4-8, 2014.* Retrieved from http://www.martindoustar.com/catalogues/ART-OF-THE-BRONZE-AGE-IN-SOUTHEAST-ASIA.pdf.

Fine Arts department of Thailand. ["*Taduang cave*"], Retrieved from http://www.era.su.ac.th/RockPainting/west/Tumtadung/index.html

Fraser-Lu, Sylvia. (1983). Frog drum and their importance in Karen culture. *Arts of Asia*, September/October. Retrieved from http://www.lasieexotique.com/page/LasieExotique-mag_frogdrums.html.

Han, Xiaorong. (2004). Who invented bronze drum? Nationalism, politics, and a Sino-Vietnamese archaeological debate of 1970s and 1980s. *Asian Perspectives*, *43*(1), 7-33.

Hayes, Janys. (2014). Drumming the future: Vietnamese drumming as a bridge between tradition and popular entertainment. *University of Wollongong Research Online*. Retrieved from http://ro.uow.edu.au/cgi/viewcontent.cgi?article=2623&context=lha-papers

Kartomi, Margaret J., Ornstein, Ruby, & Montagu, Jeremy. (n.d.). Gender (instrument). In D. Root (Ed.), *Grove Music Online*. Retrieved from http:////www.oxfordmusiconline.com/grovemusic/view/10.1093/

gmo/9781561592630.001.0001/omo-9781561592630-e-4002281145.

Khin, Maung Nyunt. (2001). *The Myanmar performing arts of the Pyu period*. Retrieved from https://nyiwin.wordpress.com/2010/07/12/the-myanmar-performing arts- of-the-pyu-period/

Loofs-Wisowa, Helmut. (1991). Dong Son drums: Instruments of shamanism or regalia? *Arts Asiatiques*, *46*.

Miller, Terry E., & Williams, Sean. (2017). *The Garland Handbook of Southeast Asian Music*. New York: Routledge.

Ministry of Hotels and Tourism, Union of Myanmar. (2006). *Musical instruments - xylophone (Pattala)*. Retrieved from http://fascinatingmyanmar.info/cultureandarts/musicalistruments/ musicalinstruments_xylophone.html.

Nicolas, Arsenio. (2009). Gongs, bells, and cymbals: The archaeological record in maritime Asia from the ninth to the seventh centuries. *Yearbook for Traditional Music*, *41*.

Okell, John. Hnyìn. In D. Root (Ed.), *Grove Music Online*. Retrieved from http:////www.oxfordmusiconline.com/grovemusic/view/10.1093/gmo /9781561592630.001.0001/omo-9781561592630-e-4002285787.

Oliver, J. (1956). Bamboo as an economic resource in Southern Asia. *Geography*, *41*(1), 49-56.

Oxford Digital Library. (2015). *Watercolor paintings of Burmese life*. Retrieved from http://www2.odl.ox.ac.uk/gsdl/cgi-bin/library?e=d-000-00---0orient01--00-0-0-0prompt-10---4------0-1l--1-en-50---20-about---00001-001-1-1isoZz-8859Zz-1-0&a=d&cl=CL1&d=ori ent001-aab.139. Accessed 31 March 2018.

Sam, Sam-Ang. (2010). *Music in the lives of the indigenous ethnic groups in northeast Cambodia*. Phnom Penh: Paññāsāstra University of Cambodia University Press.

_____. (November 12-15, 2009). *Cultural identity in the gong ensemble and practice of ethnic groups in Cambodia*. Paper presented at the International Conference on Economic and Social Changes and Preservation of the Gong Culture in Vietnam and the Southeast Asian Region, Pleiku City, Gia Lai Province, Vietnam.

_____. (October 10-12, 2004). *Bronze culture of Cambodia*. Conference on Cultural Values of Brass Percussion-Instruments in the Southeast Asia and Pacific Regions, Hanoi, Vietnam.

_____. (2002). *Musical instruments of Cambodia*. Osaka, Japan: National Museum of Ethnology.

_____. (1988). *The pin peat ensemble: Its history, music, and context* (Doctoral Dissertation). Available from ProQuest Dissertations & Theses Global. (303575753). Retrieved from https://unco.idm.oclc.org/login?url=https://search-proquest-com.unco.idm.oclc.org/docview/303575753?accountid=12832

Solheim II, Wilhelm G. (1990). A brief history of Dong Son concept. *Asian Perspectives*, *28*(1), 1988-1989.

Trautmann, Thomas R. (2015). *Elephants and kings: An environmental history.* Chicago: University of Chicago Press.