Traditional and Modern Understandings of Mental Illness in Bhutan: Preserving the Benefits of Each to Support Gross National Happiness*

*Joseph D. Calabrese** and Dr Chencho Dorji****

> While poverty alleviation and other material development measures are consistent with physical well-being, the misery of mental conditions that is independent of material living conditions cannot be addressed by favourable material circumstances alone (Thinley, 2007).

For most non-Bhutanese who are aware of the country, Bhutan is associated with happiness. Bhutan's Gross National Happiness policy, which implies a critique of one-sided economics-dominated development goals, has become well known around the world. For example, the United Nations recently adopted Resolution 65/309, initiated by Bhutan, to include measures of happiness and well-being as indicators of development (United Nations, 2011) and the government in the UK has also expressed an interest in "happiness economics" (Layard, 2006). However, even in

* We wish to acknowledge and thank the Ministry of Health of Bhutan and the Jigme Dorji Wangchuck National Referral Hospital for their permission to conduct the study. We also thank the British Academy for the Humanities and Social Sciences for awarding us an International Partnership and Mobility grant, which supported our collaboration. Other funds were received from University College London. Finally, we thank Dasho Karma Ura and the staff of the Centre for Bhutan Studies and GNH Research.

** Dr Joseph D. Calabrese is Head of the Medical Anthropology Section at University College London, a Chartered Psychologist of the British Psychological Society, and a Volunteer Psychologist at the Jigme Dorji Wangchuck National Referral Hospital (JDWNRH).

*** Dr Chencho Dorji is Consultant Psychiatrist, JDWNRH, and Technical Advisor to the National Mental Health Programme, Bhutan.

Bhutan, there are people who, through no fault of their own, or of their social system, are at a special risk for unhappiness. These are the Bhutanese who suffer from mental illnesses.

The pursuit of appropriate mental health treatment in Bhutan must bring together and balance the need for the most advanced and appropriate medical and psychotherapeutic interventions with the need to avoid the disruption of very useful cultural traditions that are already in place in Bhutanese communities. A crucial question, in view of this priority, is: which conditions are modern psychiatric and psychological treatments the best for and which conditions are adequately addressed with traditional approaches, including traditional medicine (*gSo-ba Rig-pa*), shamanic ritual treatment, or Buddhist rituals and practice?

In this paper, we approach this question as clinicians who have worked with Bhutanese psychiatric patients and as researchers of international mental health and traditional healing practices. Our goal is to view mental health and mental illness in Bhutan through the lens of Medical Anthropology (with its broad cross-cultural perspective), in terms of our clinical training and practice in Clinical Psychology and Psychiatry, and in terms of Bhutan's Gross National Happiness policy and the related idea of "development with values." The latter ideas resonate with anthropological critiques of the dominant narratives of international development, which often naively equate progress with Westernization.

Medical anthropology is a discipline that studies health and illness in many different cultural contexts around the world. It takes each local context very seriously, paying close attention to cultural differences in illness patterns and treatment needs and how these relate to local concepts of the person and existence. The default position for modern clinical sciences is that there is one correct answer to a particular problem: the approach developed by modern Western science.

The default position in anthropology is that there may be several "correct answers": several paths to effective intervention, especially in the areas of mental health and mental illness in which understandings of pathology sometimes reflect deviation from local cultural or moral norms rather than a medical illness. However, the question of which interventions work best for a particular illness in a particular context is ultimately an empirical question, requiring careful study of illness and intervention in the local context.

Our main research question of which mental health conditions are best treated with modern psychiatric and psychological treatments and which with traditional approaches can be broken down into several sub-questions. The important health policy questions we address in this paper include:

1) Is increased support for modern psychiatric treatment in Bhutan an indication of unnecessary Westernization or is it needed to help sufferers out of misery and into a productive, happy life?
2) Do we find similar types of mental illness in Bhutan (a country in which modern ways of understanding mental illness are still very new) as we do in other countries, or are mental illnesses here unique?
3) Do Bhutanese patients respond to the standard psychological and psychiatric treatments? Or do we need to radically alter our treatment approaches?
4) Are there local healing practices already in place that may be useful? For which types of mental illnesses are they useful and for which are they not?
5) How can we best support the goals of Gross National Happiness for those people with mental illness?

The Lives of People with Mental Illness in Bhutan

In our research and broader clinical experience with Bhutanese patients, we find that Bhutanese people having severe forms of psychiatric disorder can become marginalized

and neglected. They are sometimes stigmatized with words like "*choelo*," or "psycho," especially if their symptoms make them act strangely or people see them going into the "*choelo gi* ward." Like people with mental illness around the world, their problems are often not understood by those around them, who may simply tell them "it's all in your head" and lose patience when they are not able to immediately change their behaviour. Some families become burned-out in trying to manage them, and may even seek to abandon their ill relative, while some families show great compassion in continuing to seek treatment.

In our work at the Jigme Dorji Wangchuck National Referral Hospital, we have encountered patterns of psychiatric illness that would be familiar to most clinicians trained in modern psychiatry or clinical psychology. This includes patients who were from very remote areas of Bhutan who have little knowledge of modern psychiatric concepts and categories of mental illness.

We encounter many Bhutanese with stress and anxiety, including panic attacks, in which anxious thoughts and activation of the sympathetic nervous system trigger a "fight or flight response" in the body, causing heart palpitations, dizziness and other symptoms that cause the person to fear they are having a fatal heart attack or are "going crazy." We even encounter obsessive compulsive disorder, such as the case of a woman from rural Bhutan who kept washing the family's clothes over and over again, never drying them or letting anyone wear them.

We find psychotic disorders, including those who hear voices (auditory hallucinations) or become extremely confused or who are very socially withdrawn or paranoid. In one of the more tragic of these cases, we treated a man from a rural village who became acutely psychotic and stabbed his wife to death in response to command auditory hallucinations, after which he felt great remorse (we should clarify that most people with psychotic disorders are not violent). We also find

depressive disorders that go beyond normal sadness, with symptoms including extremely low self-esteem and hopelessness, loss of enjoyment or interest in activities, excessive sleeping, or suicide attempts.

There are also Bhutanese with bipolar affective disorder, in which manic episodes may lead to excessive anger, euphoria, out-of-control sexual behaviour, or simply racing thoughts and the non-stop talking that we call "pressured speech." We encounter dissociative disorders, sleep disorders, sexual dysfunction, personality disorders, and even some recent cases of eating disorders. We also encounter Bhutanese with epilepsy and other neurological conditions throughout the country.

Alcoholism is a major problem in Bhutan. According to the National Statistics Bureau (Dorji, 2012), deaths from alcohol-related liver disease increased steadily from 2003 to 2009 and in 2009, alcoholism became the top cause of death in the Jigme Dorji Wangchuck National Referral Hospital. The most deaths related to alcohol-related liver disease occurred in the 35-49 age group. The adult deaths due to all other causes occurred mostly in the age group 65-79. Alcohol abuse is thus a major cause of early death in Bhutan. Alcohol abuse also contributes to domestic violence and divorce for many patients we have seen and one person's alcoholism often impacts the mental health of his spouse and children.

In short, we find the entire range of major mental illnesses listed in the DSM-5 or the ICD-10 (the manuals most commonly used to diagnose psychiatric illness globally). However, mental illnesses often go unrecognised due to the lack of understanding of these conditions among the population, especially in the rural areas. Either they are unaware of concepts like panic attacks or bipolar disorder or they are in denial that they have a problem. For example, as we write this paper, we currently have a woman in the detox ward who reports that she drinks three bottles of *ara* per day, but also claims that she only drinks a little.

The specific presentations of these illnesses reflect their Bhutanese context in many ways. Because severe mental illnesses may go untreated for many years, we see many cases of catatonia (in which the individual is frozen in a motionless state for extended periods and may be mute and unresponsive). Catatonia has become rare in many other countries in which psychiatric care is more established.

Another aspect of illness presentation in Bhutan that differs from standard presentations in the West is that psychological distress is more often manifested as somatic symptoms, such as bodily pains or gastrointestinal complaints, rather than in psychological or emotional terms. This phenomenon, called "somatization," is very common throughout Asia and in non-Western societies generally (Kirmayer, 1984).

A related concept to somatization, and also very prevalent in Bhutan, is "conversion disorder." Conversion disorder occurs when the somatic presentation involves motor or sensory symptoms, for example blindness or paralysis (as in the case example we describe below), that suggest a neurological disorder or another medical condition. In either situation, no medical condition can explain the symptoms … test results come back normal.

In Bhutan, perhaps a third of patients who come to district hospitals with apparently physical symptoms actually have psychological problems that are expressed as somatic symptoms. Simply treating their somatic symptoms without getting at the underlying social and emotional distress that is being expressed with the body can result in a significant waste of time and resources.

A Case of "Paralysis"

To give an example from our work in the Department of Psychiatry, we recently received a female patient who was seemingly paralyzed from the waist down. Many expensive medical tests and other examinations were done but they found nothing wrong with her physically. She had been in the

hospital for over a month and the most advanced medical science did not have answers for how to help her.

When we received the patient in the Department of Psychiatry, we immediately formed an idea of what was happening. For one thing, we saw all the attention that this woman's husband was giving her, supporting her and carrying her. We also noticed that she had an atypical indifference to her predicament of loss of functioning in her legs. She remained cheerful and seemingly unconcerned about her paralysis.

We quickly determined that this was a conversion disorder, in which psychological distress is "converted" into a physical symptom. She had some psychological distress that was being expressed through the body rather than through emotional complaints. And it seemed to us that the large amount of attention that this lady was receiving from her husband was rewarding the behaviour, keeping the symptom going. In behavioural terms, he was reinforcing her performance of the sick role.

We asked the husband to begin to allow his wife to do more on her own and to only show her lots of affection and attention when she attempted to walk. The patient also had a long discussion with one of our trained psychiatric nurses, to whom she expressed the nature of her distress: her husband is a soldier who patrols the dangerous southern border area and she was afraid he would be killed. We worked to increase the woman's acceptance of her husband's job and suggested that if she was functional at home, he would be less distracted in his work, and thus safer. Nursing staff also encouraged the patient to begin moving her legs while on the bed and, soon after, with much encouragement, the patient was able to begin walking again. She was discharged soon after this.

So here we see an example in which psychological forms of intervention, based on an understanding of the social context

and relationships of the patient, were much more effective than expensive biological tests and treatments. For this reason, an adequate understanding of mental health and behavioural medicine is crucial for general medical education and practice in Bhutan as well as specialist education in psychiatry.

Understandings of Mental Illness in Bhutan

Medical Anthropologists have found that people around the world typically describe the causes of illness in one of two ways. Naturalistic explanations find the causes of illness in the impersonal forces of nature, such as germs, parasites, accidents, injury, imbalances, or, most recently, genetics. Personalistic explanations, however, find the causes of illness in the acts or wishes of a person, such as a witch, or a nonhuman being, such as a ghost, an evil spirit, or a deity (Foster, 1976). Common explanations for illness in personalistic medical systems include the capture of one's soul or being possessed or otherwise affected by a nonhuman spiritual entity. Personalistic explanations tend to externalise the problem, seeing its origin as outside the individual patient, and they seek solutions outside the patient, such as in the shaman's negotiations with spirits to release the captured soul.

Bhutan has two main naturalistic systems for interpreting illness: modern allopathic medicine and *gSo-ba Rig-pa* or traditional medicine. The personalistic system, focused on spirits, ghosts, black magic, demons, and deities, is also very prominent. We have found that personalistic explanations are the most typical explanations applied to mental illnesses by patients we encounter in Bhutan. We commonly hear phrases like "her soul has been affected" or there is "spiritual interference." Patients and their families actively seek answers in terms of a violation of some spiritual rule. Astrologers or oracles consulted by patients or family members may confirm that the patient has been witched or that a local deity has been angered and has cursed the patient. Or the patient may exhibit behaviours that suggest

possession by a spirit, such as a *gshin-'dre* (the spirit of a person who has died).

Spiritual forces are typically seen to be at work in the situations we would call mental illnesses and ritual treatments are often sought as the primary response. This might take the form of consulting Buddhist monks, a shamanic ritual in which the person's lost soul is returned by placing a spider on his or her head, or even, if one is Southern Bhutanese, the sacrifice of a chicken to the Hindu Goddess Durga (we recently encountered this as an intervention for a case of depression). This tendency to see mental illnesses in personalistic/spiritual terms creates challenges for the provision of modern psychiatric services. Though rituals generate hope and may be useful in other ways, we often only see patients with severe psychiatric illnesses after they have spent years getting ritual treatments that have not worked, resulting in a chronic mental illness.

A Catatonic Boy

We have found that the spiritual understanding of illness is very persistent in Bhutan even when modern psychiatric methods have effectively treated the problem. Last year, a boy with catatonic schizophrenia was brought to the ward by his father. The boy's body was very stiff, he was very unresponsive, and he could only speak in a whisper.

The boy's father was very loving and was trying everything he could, but he interpreted the boy's condition exclusively in religious terms. He thought the illness was caused by the spirit of a dead person. So he kept seeking *pujas*, healing rituals, to cure his son. He is a Southern Bhutanese, so he began with Hindu *pujas*. Then, when these did not work, he added Buddhist *pujas*. When these did not work, he became Christian and sought a solution in the Church. Then, in desperation, he finally brought his son to the hospital. But he still had trouble accepting that his son's condition was due to mental illness. He kept asking about problems with the boy's

nose, which of course could not have caused his son's catatonic state.

We put the son on psychiatric medication. Several weeks later, we saw the father and son when they came in for a follow up appointment. The son was looking much better. He was able to smile and talk and was not stiff any more. The medications were working. However, the father continued to ask us questions about spirituality, such as whether his mixing of different religious traditions was the thing that was responsible for the illness. He did not seem able to understand or accept that the problem was due to the long-untreated mental illness and that the psychiatric medication was what was helping his son. A year later, this inability to understand resulted in a relapse of catatonia due to the discontinuation of the son's psychiatric medication.

Karma

The other extremely prevalent traditional way of explaining illness and misfortune in Bhutan is in terms of *karma*. From the perspective of Medical Anthropology, *karma* is fascinating in the way it combines elements of a personalistic explanation (one's own actions in a previous life that have set up karmic ripples causing illness or misfortune) as well as elements of a naturalistic explanation (due to the fact that the "law of karma" or the "karmic cycle" are often discussed as a sort of impersonal natural law).

Meaning literally "action" or "doing", *karma* is a theory of causation in which one's actions in this life cause the form of one's subsequent rebirth. One's misfortunes in this life can also be attributed, through the law of *karma*, to doings in one's previous existence. For example, if one is blind, this may be attributed to an immoral act in a previous life that involved one's eyes. The sociologist Max Weber (1958) called *karma* the "most consistent theodicy ever produced by history." He was using the term "theodicy" to refer to a resolution to the basic human problem of unequal suffering in the world.

The initial question the non-Bhutanese first author had in relation to karmic explanations of illness was whether locating the cause of one's illness or misfortune in a prior existence implied personal responsibility that might result in stigmatization. Does saying that a person is blind or mentally ill because of his or her actions in a past life result in blame attached to the person's current incarnation? In other words, does it result in blaming the victim for his or her own misfortune? Or does it absolve the person of responsibility and stigma by shifting the blame to some unknown past incarnation?

We find that most Bhutanese we have asked about this feel that *karma* does not blame the victim. Saying that a person has an illness because of *karma* seems to go hand in hand with compassion for that person. It is also interpreted as a comforting explanation for the sick person. This is in line with a chapter by Charles Keyes (1983), in which he wrote: "In practice, karmic explanation of present misfortunes carries both for Buddhists and for Hindus, few if any connotations of personal responsibility." *Karma* is construed as "an impersonal force … the law of karma… over which one has no control." So it seems that, in general, one is not blamed in this life for one's actions in a past life, so *karma* does not seem to contribute a lot to the problem of stigma.

Karma also seems to inhibit interpersonal resentment in some cases. For example, a Bhutanese man we interviewed who is blind said that seeing his blindness in terms of "his" own actions in a past life means that he does not blame his parents for the condition (his blindness was attributed by doctors to a nutritional deficiency, so he could have blamed his parents for not feeding him better).

From the perspective of Medical Anthropology, *karma* serves as a "culturally embedded therapeutic emplotment" (Calabrese, 2013): a shared narrative account of human existence that contributes to a unique sort of Bhutanese mental health, making unequal suffering and misfortune

comprehensible while preserving a vision of a just universe. It is thus an important resource for the preservation of mental health and interpersonal harmony in Bhutan.

Traditional Approaches to Treatment

There are three main traditional approaches to healing in Bhutan, each with a different relationship to mental illness: ritual treatment by a shaman, traditional medicine (*gSo-ba Rig-pa*), and Buddhist monastic rituals.

Shamanic healing

Most of the alternative treatments for mental illness used by patients we have encountered in the National Referral Hospital involved shamanic ritual healing rather than *gSo-ba Rig-pa* medicines or procedures, aside from the occasional use of a traditional medicine, such as wild bear bile, as a home remedy. From the traditional point of view that would prescribe *pujas*, mental illness is often understood in terms of the action of spirits, angry deities or black magic.

Bhutanese acknowledge a variety of types of spirits that they share the country with, including *lha* (gods of various sorts), *tsen* (local spirit), *gyalpo* ("king" of malicious spirits), *gshin-'dre* (spirit of a dead person), *soendrey* (spirit of a living person that wanders around and causes illness at night), *lu* or *nagas* (subterranean snake spirits), *dud* (spirits living in dark, secluded places), *mamo* (demon spirit), and many others. Spirits may capture the life force of the person, especially when the person is frightened while travelling through the spirit's domain, or a spirit may possess a person's body.

People may compare the ill person's symptoms with characteristics of a person who has died to identify the *gshin-'dre*. For example, "if the person suffers from symptoms similar to labour pain, it is a sure sign of spirit attack of a woman who had died in the locality from child delivery complications. Likewise, if a person fell from a tree or tripped over a ladder, it is the spirit of someone who has died from a

similar accident" (Peday, 2010:24). Other characteristics of the symptoms may suggest a different type of spirit, for example if the symptoms only occur at night, this may indicate a *dud*.

The aim of most rituals is to negotiate with the attacking spirit, make offerings of food to it, and convince it to release its hold on the victim. The shaman may go into a trance in order to communicate and negotiate with the unseen entities. In one such ritual that is often encountered in Bhutan, hours of shamanistic performance in trance culminates in the location of a spider, which is placed on the head of the patient to signify that the life force has been returned.

These rituals reflect the rich cultural heritage of Bhutan and they may result in the alleviation of symptoms, especially when the illness is due to somatised distress, dissociative or conversion disorders, or psychosomatic conditions. From an anthropological perspective, rituals often involve sophisticated manipulations of suggestibility, expectation, and consciousness accomplished through music, dramatic performance, and the symbols and meanings embedded in the ritual (Kaptchuk, 2011; Calabrese, 2013).

Rituals and astrology seem to be important modes of maintaining positive psychological well-being and a healthy Bhutanese identity. Many Bhutanese share stories of a severe illness that was miraculously cured by a shaman's performance. We have heard such stories from many reputable sources, including medical doctors, who turned to a shaman in desperation and were later at a loss to explain how the cure was accomplished. We do not know how to evaluate these reports. However, we have not encountered cases in which a severe, chronic mental illness such as a psychotic disorder was effectively treated using rituals alone. We have encountered many patients who were brought to the Department of Psychiatry after years of *pujas* had not helped and many of these people, as a result, have become

chronically mentally ill. So we encourage the use of *pujas* but not as the primary treatment for a severe mental illness.

Traditional medicine

The Bhutanese system of traditional medicine, called *gSo-ba Rig-pa*, is often described as a humoral system that focuses on problems with one or more of three pathogenic agents: *rLung* ('Air'), *mKhris-pa* ('Bile') and *Bad-kan* ('Phlegm'). These are manifestations of desire, hatred and delusion. At a very basic level, illness is seen as deriving from ignorance, *ma-rigpa*, which gives rise to the three poisons of desire, hatred and delusion that are manifest in the three pathogenic agents.

However, *gSo-ba Rig-pa* is more complex than this account would suggest. For one thing, the causes of illness are not limited to the three humors; there are also various forms of illness caused by spirits, which demonstrates that shamanic traditions and traditional medicine share a similar view of the universe as peopled with both seen and unseen beings. *GSo-ba Rig-pa* is thus not an exclusively naturalistic system in the anthropological sense. It encompasses a personalistic focus on spiritual forces that can cause illness.

Illness is diagnosed in this tradition through pulse readings, analysis of urine, examination of the eyes and tongue, and interview of the patient. Bhutan was historically known as *Lho-menjhong* or "Land of Medicinal Herbs" and *gSo-ba Rig-pa* treatments include traditional herbal medicines as well as diet and behaviour recommendations, acupressure with golden or silver needles, bloodletting, cupping, nasal irrigation, and herbal baths or steam baths. The reputation of one traditional herb, the fungus *Cordyceps*, approaches that of a panacea for many Bhutanese, with many incredible healings reported for a variety of ailments, though not for mental illness in our data. Practitioners also prescribe spiritual healing practices, including meditation and other faith related practices, for spirit-caused mental illness (Wangchuk et al., 2007).

We interviewed several prominent *drungtsos* (traditional doctors) at the Institute of Traditional Medicine. When asked about *gSo-ba Rig-pa* approaches to mental illness, they said they did not really have standard approaches for this sort of illness. They said they do not typically treat patients for mental illness and there are no traditional specialists for mental illness at the institute. However, they did say that mental illnesses would usually be understood as reflecting a problem related to *rLung* (wind or air). In addition, one *drungtso* is developing a form of Buddhism-based counselling and another is attempting to clarify the use of traditional medicines for mental illness.

Psychiatric illnesses are most commonly attributed to a problem with *rLung* (wind) or a spiritual force. A *drungtsho* who has been observing patient care in the psychiatric ward in Thimphu compared depression to a deficit of *rLung* and mania to an excess of *rLung* and viewed psychosis as a spirit related illness, which might be treated with an herbal mixture called *be-me-la*. According to the Institute of Traditional Medical Services, *be-me-la* is used for "insanity, restlessness, loss of memory, accelerated respiration, thoracic pain and mild epilepsy." The herbal ingredients of this medicine are *Myristica fragrans*, *Terminalia chebula*, *Terminalia bellirica*, *Phyllanthus emblica*, *Shora robusta*, *Aquillaria agallocha*, *Bubalis bubalis*, *Ferula foetida Regel*, *Syzygium aromaticum*, *Bambusa textiles*, *Elettaria cardamomum*, *Carthamus tinctorius*, *Amomum subulatum*, *Carum carvi*, *Santalum album*, *Pterocarpus santalinus*, *Cedrella toona*, *Mucuroa recurva*, *Allium sativum*, and *Geranium tuberaria*.

However, our analysis of the medicines used by the Institute of Traditional Medical Services reveals that, in addition to *be-me-la*, there are two other medicines also used for "insanity": *a-gar-20* and *a-gar-8 pa*. In addition, the medicine *sems.bde* (which contains the word for "mind" in its name) is used for "mental diseases," *khrag.sman-11* is used for "hallucination," *go.snod.snum.tsugs* is used for "disturbed mind," and *Rin.chen.byur.dmar-25* is used for "brain diseases" and

"nervous disorders." A comparative analysis of the composition of these medicines revealed that six out of the seven contain *Myristica fragrans*, five contain *Aquillaria agallocha*, and four contain *Cedrella toona*. *Myristica fragrans* is the nutmeg tree and nutmeg is psychoactive in high doses because it contains myristicin, a monoamine oxidase inhibitor.*Aquillaria agallocha* is the source of agarwood, which has been found to be a central nervous system depressant (Okugawa et al., 1993). *Cedrella toona* seems best known within a traditional medicine context as an astringent and for the treatment of dysentery.

A monoamine oxidase inhibitor is a type of substance that has been used as a medicine in modern psychiatry, most commonly to treat depression. It acts by inhibiting the enzyme monoamine oxidase, which breaks down the neurotransmitters dopamine, serotonin, and norepinephrine, thereby increasing their availability in the brain. Currently, another class of antidepressant – selective serotonin reuptake inhibitors – are more favoured in psychiatry because they are safer to use and have fewer side effects. Central nervous system depressants also have many uses in modern psychiatry and the use of *Myristica fragrans* and *Aquillaria agallocha* in *gSo-ba Rig-pa* seems to indicate a sound knowledge of the psychopharmacological properties of plants. However, a modern psychiatric practitioner would feel very limited if he could only use a monoamine oxidase inhibitor and a general central nervous system depressant to treat all mental illness.

Our clinical involvement has indicated that, apart from the occasional use of a traditional medicine as a home remedy, we do not encounter a lot of psychiatric cases at the National Referral hospital that have previously been treated primarily with *gSo-ba Rig-pa*. Much research remains to be done on the efficacy of *gSo-ba Rig-pa* treatments generally, however. Many of the *gSo-ba Rig-pa* medicines are compounds combining many plants, and it may be the case that the interaction of

various plants in the same medicine may produce an unanticipated efficacy.

Buddhism

The practice of Buddhism is intimately related to mental well-being and the alleviation of suffering, approaching this goal through the elimination of psychological attachments and aiming for eventual release from the cycle of rebirth, *samsara*. The practices of ordinary followers focus on the cultivation of compassion and kindness and other activities that bring *sonam* or merit. More advanced practitioners may develop skills in various forms of meditation that refine the mind and help them progress toward enlightenment.

In their pursuit of the goals of non-attachment, Buddhist practitioners have developed many insights and techniques for training the mind that have been acknowledged by Western psychologists to reflect a deep understanding of human mentality. Techniques of cultivating mindfulness have been particularly useful as applied in psychotherapy for patients from many diverse backgrounds and with a variety of psychological problems. Kabat-Zinn (1994) defines mindfulness as "paying attention in a particular way: on purpose, in the present moment, and non-judgmentally." It involves increasing awareness and acceptance of internal experiences (e.g., thoughts, feelings, memories, bodily sensations) while decreasing attachment to these experiences (i.e., seeing oneself as separate from one's pain, thoughts, feelings, memories). Mindfulness thus works against compulsive, addictive behaviours and this is crucial for Bhutan at this point in history, in which alcoholism is destroying many lives and many families. From the perspective of cognitive psychotherapy, mindfulness helps the patient detach from negative automatic thoughts they may experience (such as "I'm worthless" or "I must have a drink"), accepting them simply as thoughts that arise in the mind rather than assuming they reflect reality. Thus mindfulness training is a particularly appropriate and potentially very useful mode of psychotherapeutic intervention in Bhutan.

The spiritually-motivated practice of compassion and kindness in Bhutan, along with the interpretation of life in terms of *karma*, results in a generally very sane and peaceful society. Cows and dogs nap in the middle of busy roads, seeming to know that automobile drivers will avoid the bad *karma* that would come from hitting them, and even taxis beep and slow down to avoid hitting a pigeon. Human life and animal life seem to mean more here than in many other places. This way of seeing life as valuable and prioritizing compassion is another important resource for mental health at a societal level that Bhutan would do well to preserve.

The Development of Modern Psychiatric Treatment in Bhutan

The newest approach to mental illness in Bhutan is modern psychiatric treatment. Bhutan launched its mental health system only in 1997, with the opening of the Psychiatry unit at Jigme Dorji Wangchuck National Referral Hospital. Modern mental health practices were introduced into communities that had relied solely on traditional forms of treatment. Initially, only a few patients with suspected psychiatric disorders were referred to the unit and none came at their own initiative. Bhutanese knew little about psychiatry and those that did refused to see a psychiatrist because of the stigma attached. People believed that seeking treatment meant that they were "mad" or "insane." However, the number of patients seeking treatment slowly increased as people witnessed improvements with treatment.

Modern psychiatric disciplines understand mental illness not in terms of spirits or soul loss but in terms of a combination of biological, psychological and social factors. This is known as the "biopsychosocial" model (Engel, 1977). Many forms of mental illness have been linked to imbalances of chemicals in the brain called neurotransmitters. These substances are involved in communications between brain cells, which influence our moods and our thinking. Infections, injuries, genetic predispositions, or abuse of certain psychoactive substances may create biological vulnerabilities to mental

illness for some people. Psychological and social factors, such as trauma, stress, loss, abuse, neglect, the development of dysfunctional habits, and even cultural factors like the widespread acceptance of excessive drinking, may also contribute to the development of a mental illness, especially in people who have an underlying biological vulnerability. Social factors such as stigma and discrimination also exacerbate the symptoms of mental illness. The biopsychosocial model may thus be understood as having both naturalistic and personalistic elements in its understanding of illness, though the personalistic influences are limited to other human beings acting in non-magical ways.

Initially Bhutanese psychiatric patients were kept in the general ward, and doctors and nursing staff were ambivalent, as they had little prior experience in managing these cases. However, in 2004 for the first time in Bhutanese history, a separate psychiatry ward with ten beds was established in Thimphu, with two psychiatric nurses that were trained abroad. The nation's first psychiatrist reported in 2004 that over 1,500 patients with mental illness had attended the psychiatry unit up to that point (Dorji, 2004). Among these patients, 40% had depression, 31% had anxiety and stress-related disorders, 8% had epilepsy, 7% had alcoholism and 6% had psychotic disorders.

Today, the ward has 18 beds but there are still only 2 psychiatrists and a few psychiatric nurses for the entire country. There are no clinical psychologists, social workers, or occupational therapists, and very little psychotherapy of any kind. The system relies heavily on medication, with some psycho-education for drug and alcohol patients who are detoxing. A study of patients admitted to the inpatient unit between 2004 and 2011 (Pelzang, 2012) indicated that the most common psychiatric diagnosis was an alcohol use disorder (33.5%), followed by bipolar affective disorder (15.3%), psychotic disorders (11.8%) and depression (8.6%). These were followed by dissociative disorders (including

conversion disorders), anxiety disorders, epilepsy, and somatoform disorders. Patients admitted for dissociative (conversion) disorders were found to be predominantly students, primarily female, between 10 and 19 years old. This study found that the annual number of admissions steadily increased from 127 in the first year to 376 in the seventh year and the study notes an increase in "difficult patients," particularly young male substance abusers.

Patients are usually brought to the ward by their families and the policy is that a family member must be admitted with the patient to help manage the patient and also to learn more about the patient's illness and rehabilitation. Involuntary admissions are common. However, the ward is not locked and restraints and seclusion are rarely applied. Patients on the inpatient ward meet with the multi-disciplinary staff three times per week during ward rounds. These meetings focus on the patient's status, response to medication, and readiness for discharge or referral to rehab (in the case of substance abusers). Clinical staff members also discuss treatment planning. Alcoholic patients in denial of their problems may be challenged to change their behaviour before it is too late. Psychology has recently been added as a discipline through volunteers brought in by Health Volunteers Overseas and Bhutanese are beginning to be trained in psychology and counselling.

The first author's experiences of providing psychotherapy in the outpatient and inpatient units reveal many challenges. Most patients encountered will not come for a second appointment, let alone several weeks of regular therapy, so sessions must focus on essential psychoeducation, normalization and removal of stigma, and provision of the most useful illness management skills. The hope is that the patient uses the skills, learns that they work, and returns for more advanced training. However, this rarely happens. The WHO-AIMS report (World Health Organization, 2007) found the average number of outpatient contacts per user to be one. At this point in Bhutan's history, it seems that patients

expect a "quick fix" from the hospital rather than an on-going psychotherapeutic relationship and this severely hinders what can be accomplished with psychotherapy. However, in some cases a relationship can be developed and the first author has done multi-session work with couples, psychotic patients, children, and alcoholic patients.

The Department of Psychiatry at Jigme Dorji Wangchuck National Referral Hospital is a context in which modern understandings of mental illness and traditional understandings in terms of spirit possession, soul loss and black magic meet on a daily basis. However, we find that we are able to treat psychiatric illnesses effectively even when there is a significant difference between how the doctors understand the illness and how the patients understand it. We will illustrate this with one final case example.

A Woman Possessed by a gShin-'dre

A middle aged lady was brought to the psychiatric ward. Her family stated that she had not slept in eight days. She did not want to stay in the house and was leaving to go walking. What was more troubling was that she began speaking in someone else's voice, saying she had been mistreated. The patient runs a hotel in central Bhutan. She had worked very hard during a three day conference at the hotel and became sick. In her altered voice, she was identifying details of a girl who had died, who worked at another hotel. The patient wanted to wash her face over and over and the family equated this with the fact that the dead girl was thrown into a river. So the pattern the family saw was that of possession by a *gshin-'dre*– a dead spirit. At a certain point, she was asking for a lot of food but was never going to the toilet. The family interpreted this as the behaviour of a "hungry ghost" and noted that she would eat very fast, in a very greedy manner. She became aggressive with her husband and mother and the family stated that two men could not hold her. She was heard to say "Until now, I have been working hard. Nobody knew what I was going through. Now I will make you work."

This case can be interpreted in terms of what anthropologists and cultural psychiatrists have learned about spirit possession in other places. Spirit possession is a phenomenon found in many societies. The classic anthropological finding in this area is that it seems that it is those people who are under stress or who feel a lack of power that become possessed by a spirit. Women become possessed much more frequently than men, especially in societies in which women do not have a lot of power to elicit attention and aid with their own voice. So they begin to speak with another voice and this elicits attention.

Let's look at an example from another society. The *zar* cult is found in areas of North and East Africa and the Middle East. In these areas, Islamic religious life is dominated by men. Women have a passive role of submission. The word *zar* refers to a spirit that possesses people, most often women, causing illness. A good amount of mental illness cases in this location are attributed to *zar* possession. The spirit attack often coincides with a husband's opening moves to marry a second wife. This may happen if the first wife has not given birth to a male heir.

The woman becomes possessed and begins to speak in the voice of the *zar* spirit. The spirit manifests itself through her body and makes known its demands, in return for which it should agree to restore her health and refrain from further jeopardising her well-being. The spirit often demands luxurious clothes, perfume, and valued foods from the woman's husband. Only when these demands are met, as well as the expenses involved in mounting a *zar* dance, will the symptoms disappear.

The anthropologist I. M. Lewis (1966) argued that this female affliction operates as a deterrent against the husband's abuse and neglect of the wife in a marriage relationship which is heavily biased in favour of the man. *Zar* possession allows women, who otherwise have no power, to express their grievances and gain some redress. Spirit possession thus

provides women with a culturally sanctioned medium for articulating their distress. Our understanding in psychiatry is that they do not do this consciously. It is not simply an act. People know what sorts of behaviour will elicit support from the group. Their mind generates a personality – a voice – that can express their emotions in a manner that will gain the attention of the community. This happens unconsciously. It involves a dissociative state with similarities to a conversion disorder (such as the disorder experienced by the lady with "paralysis" described above).

Anthropologists have described this phenomenon of spirit possession in many societies. Bourguignon and Evascu (1977) reviewed ethnographic descriptions from a large representative sample of 488 societies and found that 52% of the societies have beliefs that an individual's personality can be replaced by that of a possessing spiritual being. This situation is so well known that it is described in both the ICD-10 and the DSM-5. The DSM-5 (American Psychiatric Association, 2013) includes spirit possession experiences under Dissociative Identity Disorder when they cause significant distress or impairment. The ICD-10 (World Health Organization, 2010) includes "trance and possession disorders" under the category of Dissociative and Conversion Disorders and defines them as "Disorders in which there is a temporary loss of the sense of personal identity and full awareness of the surroundings. Include here only trance states that are involuntary or unwanted, occurring outside religious or culturally accepted situations."

So it seems that our *gshin-'dre* case (and potentially many other such cases) may be understood as an overworked woman's symbolic cry for help in a voice that people in her community will take notice of: the voice of an invading spirit. Like the case of "paralysis" we described above, it may be seen as an expression of psychological distress through other means. This woman's treatment at the hospital involved use of mood stabilizing medications and rest in the ward, surrounded by a very supportive and attentive family, which

eventually brought her out of the episode and back to her original personality. Thus a condition understood by her family in terms of spirit possession was effectively treated using the methods of modern psychiatry and psychology. The first author was able to visit the patient later at her family's hotel and she was looking very well, was grateful for her treatment, and invited him to stay at her hotel.

Mental Illness and Social Change in Bhutan

Mental health problems have been exacerbated by social change in Bhutan, including the effects of rural to urban migration, changes in traditional modes of earning a living, changes in schooling and expectations for employment, and changes in family structure (for example, the separation of extended families and the growing prominence of nuclear families). One of our main research questions over the long term is: What is the impact of development and social change on mental health in the context of Bhutan?

From our perspective, working at the Department of Psychiatry, we see an increase in cases of alcoholism and domestic violence, youth violence and addiction, and those who have become unemployed or isolated from their families. These are often the result of new urban lifestyles, wage labour, lack of job opportunities, separation of extended families, and changing gender roles. NGOs have developed to work with female victims of domestic violence (RENEW) and with substance abusers (Chithuen Phendey Association).

Alcohol has been used in Bhutan since pre-Buddhist times to appease deities and within the Buddhist ritual context has been considered one of the five precious elements or *duetsi* and is offered in a cup made from a human skull (Dorji, 2007). In everyday life, alcohol has been widely embraced as a necessary ingredient of social interaction or to mark important events, such as the *chhangkhoy* (a special homemade rice-based fermented drink) that is served after the birth of a child or the *Marching* used to evoke deities' blessings when embarking on any new ventures.

> For different occasions alcohol is called different names: as *tshogchang*, *zomchang* and *febchang*, it is served to welcome guests; as *lamchang*, it sees off guests; as *tochang*, it is drunk with meals; as *jhachang*, *tashichang* and *tendechang*, it helps celebrate events such as marriages, promotions and acquiring new properties; as *menchang* and *tasachang*, it is taken to sick people; as *zimchang*, it induces sleep. The list goes on and on (Dorji, 2007: 66-67).

There was thus a pre-existing drinking culture in Bhutan. However, the local alcoholic beverages took a lot of work to prepare from food grains, which limited the quantity of alcohol available. In addition, most traditional drinks, aside from the more powerful *Ara*, had an alcohol content of less than five percent. Development brought mass production, importation, greater alcohol content, easier transportation throughout Bhutan, disposable income, and new modes of sociality (e.g. drinking in bars after work). Opening a bar became a popular form of livelihood and there are currently more than 3,000 licensed bars in the country. The current situation is one in which cheap and high-percentage alcoholic beverages are readily available and in which consumption is often not tied as closely to traditional ritual occasions.

We see the results in the psychiatry ward. We often struggle to bring to the patient's attention the fact that he or she is close to death from alcoholic liver failure. We read them their liver tests and clarify how many times above normal their enzyme levels have become. We send them to the medical ward to visit end-stage liver patients. In too many cases, it is too late. Their brains have become too damaged and the power of alcohol too strong for them to change their behaviour. The addiction has taken its hold permanently and there will be no hope of recovery for many.

Conclusions

On the whole, the range of major mental illnesses identified by Western psychiatry exists in Bhutan, though the specific presentation of these illnesses may reflect local beliefs and understandings. We also find that Bhutanese patients often respond to standard psychiatric and psychological treatments. This is the case even given the fact that many Bhutanese are not aware of the viewpoints and categories of Western psychiatry and, instead, tend to understand mental illness in terms of spirit attack, soul loss, or *karma*.

We find that local healing practices also play a role in treatment. Shamanic rituals may be very effective for certain mental illnesses that have a behavioural or social basis rather than a strongly biological basis, such as conversion disorders, dissociative disorders, or possession states. Traditional medicine may be helpful in the long-term management of certain chronic physical illnesses, though its uses for psychiatric illness (if any) have yet to be clarified. Buddhism and *karma* undoubtedly play a central role in the maintenance of mental health and the prevention of certain forms of disorder at a societal level by emplotting human existence in such a way that illness and misfortune are made comprehensible within a just universe. Buddhism has also contributed much to our psychological approaches on a global scale through its advanced understanding of mindfulness. In addition, many Bhutanese draw on these spiritual traditions to extend compassion to others, and this could form the base for a flourishing of compassion-based psychotherapeutic interventions in the future.

However, for many psychiatric illnesses, such as psychotic disorders, bipolar affective disorder, or severe alcohol withdrawal requiring medical detoxification, modern psychiatric care provides the only treatments available that have been found to be effective. For this reason, increased support for modern psychiatric treatment in Bhutan is not an indication of unnecessary Westernization; it is vitally needed

to help sufferers out of misery and into a productive, happy life.

A common saying in Bhutan is "*men chu rim dro*" or "medical treatment should go hand in hand with performing the religious rites and rituals." Modern psychiatric services and traditional approaches to well-being can co-exist and work together cooperatively if we understand the specific strengths and limitations of each.

At this point in Bhutanese history, shamanic healing and Buddhism are easily available. However, the modern psychiatric system remains dramatically under-resourced, which creates an on-going barrier to effective treatment of those at a special risk for unhappiness in Bhutanese society. Stigma is another significant barrier to seeking treatment for many people, who are hesitant to seek psychiatric services for fear that they will be labelled "psycho." People with mental illnesses are not "psychos," they are human beings who are experiencing problems that human beings everywhere experience. We have found ways to help these people with their problems and expanding access to these forms of help can only enhance Bhutan's quest for Gross National Happiness.

References

American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders*, 5th Edition: DSM-5. Washington, DC: American Psychiatric Publishing.

Bourguignon Erika and Thomas L. Evascu (1977). Altered States of Consciousness within a General Evolutionary Perspective: A Holocultural Analysis. *Cross Cultural Research*, Vol 12, pp.197–216.

Calabrese, Joseph D. (2013). *A Different Medicine: Postcolonial Healing in the Native American Church*. New York: Oxford University Press.

Dorji, Chencho (2004). Achieving Gross National Happiness Through Community-based Mental Health Services in Bhutan. In K. Ura and K. Galay (eds.), *Gross National Happiness and Development: Proceedings of the First International Seminar on Operationalization of Gross National Happiness*. Thimphu: CBS, pp.599-628

_____. (2007). The Myth Behind Alcohol Happiness. In Centre for Bhutan Studies (ed.), *Rethinking Development: Proceedings of the Second International Conference on Gross National Happiness*. Thimphu: CBS, pp.64-77

Dorji, Lham (2012). *Alcohol Use and Abuse in Bhutan*. Thimphu: National Statistics Bureau.

Engel, George L. (1977). The Need for a New Medical Model: A Challenge for Biomedicine, *Science*, Vol 196, pp.129–136.

Foster, George M. (1976). Disease Etiologies in Non-Western Medical Systems. *American Anthropologist*, Vol 78, pp. 773-782.

Kabat-Zinn, John (1994). *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life*. New York: Hyperion.

Kaptchuk, Ted J. (2011). Placebo Studies and Ritual Theory: A Comparative Analysis of Navajo, Acupuncture and Biomedical Healing. *Philosophical Transactions of the Royal Society B: Biological Sciences*, Vol 366, pp.1849-1858.

Keyes, Charles F. (1983). Introduction: The Study of Popular Ideas of Karma. In C. Keyes and E. Daniel (eds.), *Karma: An Anthropological Inquiry*. Berkeley: University of California Press.

Kirmayer, Laurence J. (1984). Culture, Affect, and Somatization: I & II. *Transcultural Psychiatry*, Vol 21, pp.159-188 and 237-262.

Layard, Richard (2006). *Happiness: Lessons from a New Science*. New York: Penguin Books.

Lewis, Ioan M. (1966). Spirit Possession and Deprivation Cults. *Man*, Vol 1, pp.307-325

Okugawa H, Ueda R, Matsumoto K, Kawanishi K, Kato A. (1993). Effects of Agarwood Extracts on the Central Nervous Systems in Mice. *Planta Medica*, Vol 59, pp.32–36.

Pedey, Karma (2010). Fighting Fireballs and Spirits. *Faces of Bhutan*

Pelzang, Rinchen (2012). The Pattern of Psychiatric Admissions in a Referral Hospital, Bhutan. WHO South-East Asia *Journal of Public Health*, Vol 1, pp.52-58

Thinley, Jigmi Y. (2007). What is Gross National Happiness? In Centre for Bhutan Studies (ed.), *Rethinking Development: Proceedings of the Second International Conference on Gross National Happiness*. Thimphu: CBS&GNHR, pp. 3-11

United Nations (2011). *Happiness: Towards a Holistic Approach to Development*. UN General Assembly Resolution 65/309. A/RES/65/309, 25 August 2011.

Wangchuk, Phurpa, Dorji Wangchuk, and Jens Aagaard-Hansen (2007). Traditional Bhutanese Medicine (gSo-ba Rig-pa): An Integrated Part of the Formal Health Care Services. Southeast Asian *Journal of Tropical Medicine and Public Health*, Vol 38, pp.161-167.

Weber, Max (1958). *The Religion of India*. Hans H. Gerth and Don Martindale (Eds. and trans.). New York: Free Press.

World Health Organization (2007). *WHO-AIMS Report on Mental Health System in Bhutan*. WHO and Ministry of Health, Thimphu.

_____. (2010). *International Statistical Classification of Diseases and Related Health Problems* 10th revision. http://apps.who.int/classifications/icd10/browse/2010/en#/F40-F48

Suicide Trends in Bhutan from 2009 to 2013

Kuenzang Lhadon[*]

Abstract

This paper focuses on the increasing trend of suicide in Bhutan over a period of five years from 2009-2013, and argues that there is a need of immediate attention from the government or any other relevant organization to set up a helpline, or to put in place any strategy to prevent/reduce it. For a small country like Bhutan, an average annual suicide growth rate of 9.4 percent is an alarmingly high one. A descriptive analysis of this time series data is used to generate comparison of suicide cases by region, gender, occupation and age group to identify which of the groups need the most attention.

Introduction

Using the definition of suicide by Emile Durkheim (1897), which states suicide as cases of death that is a result of the act of the victim himself/herself, imposed with the full knowledge of what the result will be, this paper attempts to analyse suicide in Bhutan using the records maintained by the Royal Bhutan Police from 2009 to 2013. Though there is a general feeling among the Bhutanese population that suicide has been increasing over the years at a noticeable rate, especially among youth, there is no research work carried out to substantiate this belief. There is also no strategy put in place, either by the government or by relevant organizations, in preventing it and helping out those with suicidal ideation.

Bhutan is a small country with strong social fabric and family relationships; however, from general observation, this trend of strong social support is declining. As per the 2010 GNH Survey, 14.7% and 9.1% of the people said that there is no

[*] Dy. Chief ICT Officer, Centre for Bhutan Studies and GNH Research. Correspondence: kuenza83@gmail.com

one to help during financial problems and emotional problems respectively as shown in Table 17. It will be interesting to observe the change in a few years time from now. Taking into account factors such as opening up to the modern world, its effect on Bhutan's culture of extended family and social cohesion, the author attempts to make a deduction of suicide cases by gender, region, age, and occupation to argue that Bhutan must give immediate attention to address the suicide problem.

Except for sporadic news coverage ('Suicide case on the rise in the country' by The Bhutanese on July 3 2013; '11 year old commits suicide' by Kuensel on August 19 2013; 'Who says youth are happy?' by Bhutan Observer on July 18 2013), no in-depth analysis has been done on suicide cases in Bhutan until now due to limited access to case files[1], which is understandable due to sensitivities involved[2]. Furthermore, in Bhutan, it wasn't until recently that people reported mental illness as a form of sickness that was diagnosed and treated in the hospitals.

However, in 2015 the government commanded that an extensive research must be carried out on suicide. It has already started with the appointment of Department of Public Health in the Ministry of Health as the lead agency. Using the same data used for this paper, they plan to carry out a survey using structured questionnaire involving the family members of the suicide victims. Looking at this scenario, there may be successive research on it, for which this paper may serve as a starting point. Moreover, it hopes to help combat this issue by at least identifying vulnerable groups in terms of gender, age, occupation, and region. It also takes note of the social factors such as family relationship and social support in terms of

[1] When a research on suicide was carried out for all the countries in the Indian Subcontinent, Bhutan was excluded on the basis of lack of data (Khan 2006).

[2] Therefore, I would like to thank the RBP for allowing me to have an access to the annonymised dataset on suicide cases in Bhutan for the current study.

social isolation and feeling of helplessness to help understand causes of suicide in a broader sense.

The rest of the paper is divided into four parts: Literature review; Results showing the analysis of the suicide data from 2005 to 2009; Conclusion discussing the results and recommendations; and Limitations and what similar future research should focus on.

Literature Review

Several research (Lie & Liou 2012; Pool 2009; Lewinson et al. 2001) showed that social factors play an important role as a trigger, especially for adolescents in committing suicide. It means that the family members and all members of the society have a role to play in how it can be prevented. Furthermore, it shows that suicide rates are continuously increasing. It is the second leading cause of death worldwide for people aged 15 to 24 with 1.5% of deaths accounted to suicide (Pool 2009), the first leading cause of death being vehicle accidents. Analysis of the worldwide trend of suicide rates from 1950 to 2009 by WHO (2008) showed that 782 thousand deaths in year 2008 were attributed to suicide and the rate of suicide for the whole world is 11.6 per 100,000 inhabitants. Lithuania is the country with the highest suicide rate in the world with 34.1 per 100,000 inhabitants, but it is increasingly becoming common in Asia; already, female suicide rate is highest in South Korea with 22.1 in 100,000 inhabitants (Varnik 2012). Asia alone accounts for 60% of suicides in the world (Beautrais 2006) affecting a minimum of 60 million people yearly. For example, it is predicted that 60 people die every month in Malaysia (National Registry Malaysia 2011).

According to the above research works, majority of people who commit suicide have some form of mental disorder such as anorexia, bipolar disorder, and schizophrenia. They are also people who suffer from social isolation, have no close friends, and have communication problems with family and friends, and lack a sense of belongingness. Out of the

different mental problems, Robert Pool (2009) argues that people suffering from anorexia are more likely to commit suicide, which in his view is because they are more likely accustomed to pain and do not fear death as others. This supports the theory that Joiner (2005) proposed explaining why some people kill themselves; he claims that they must meet two conditions besides feeling depressed and hopeless: First they must have a serious feeling of wanting to die and second they must be capable of doing it. He justifies that despite the serious desire to die, it is not an easy thing to do and therefore, people who have a serious desire to die attempt to kill themselves a few times, in order to develop themselves up to it. It also explains why people suffering from anorexia are the ones who mostly commit suicide. He further explains that people who had painful or scary experiences are daring in taking their own lives, such as soldiers and police. But what is worrying is his statement that there will be suicide in our society as long as people feel isolated and feel that they are a burden to others. It means there is a need to keep a continuous watch by individuals, as a family member or a friend on those who are at risk; furthermore, it means there must be an active social helpline put in place by the government, checking continuously on groups of people who are prone to suicide.

Studies by Stein et al. (1992) and Zemaitiene and Zaborskis (2005) showed that it is those who think it is their right and therefore okay to kill themselves that have suicidal thoughts, and therefore, it is important to assess the attitudes towards suicide. Moreover, according to Zemaitiene and Zaborskis (2005), suicide has become more accepted in the society than before. For example, there is no strong belief system in the society that taking one's life is punishable or sinful. Though Bhutan is largely a Buddhist country and Buddhists believe that human body is the most precious form of life because it is only in this form that there is an opportunity to pursue dharma and therefore get enlightened, there is no social stigma pertained to it. The research on Japan's high suicide rates by Ozawa-de Silva (2008) supports this idea as he

shows that the high rates of suicide in Japan is due to its culture of tolerance and acceptance of suicide. From the point of view of preventing suicide, before this attitude spreads to others, it is very important that this attitude is identified and treated (Stack & Kposowa 2008). The society's value system, belief and attitudes are important (Clearly and Brannick 2007), and therefore, one of the things that Bhutan could do to help in bringing down suicide rate is to maintain this belief system and keep the community intact. In a way, Bhutan seems to have an accepting attitude in general for suicide. For example, the Penal Code of Bhutan mentions only the 'Complicity in suicide' whereby it states that:

> A defendant shall be guilty of the offence of complicity in suicide, if the defendant aids, abets, counsels or procures the suicide of another person.

This raises the question, 'will considering suicide a crime under the court of law help bring it down?' This is not in any way a suggestion to stigmatize it to the extent where family members of the culprit will be shunned and looked down by the society, such as the case in India where families are ostracized and viewed with suspicion and therefore have implications such as on the 'marriage prospects of the girls in the family' (Khan 2002, p. 105). However, if there were such a law, there would be less number of suicide attempters and therefore, less suicide cases. In fact, National Registry Malaysia (2011) has found that Buddhist college students had higher acceptance of suicide as compared to Malay and Muslim college students. It suggests that Buddhists have an accepting nature of social phenomena, or that Bhutanese society is losing the strong social system of volunteerism, of helping strangers, and taking other's suffering as a concern. In other words, it seems to suggest that Bhutanese are becoming more individualistic, though compared to many developed countries, Bhutan still has so many social norms intact because of its vision of Gross National Happiness. More action-oriented solution would be to set up a 24 hours helpline where a professional counselor is appointed to help

those in suicide risk. But it must be advertised and promoted nationwide by making everyone understand that it takes calls anonymously and there is no need to show one's identity. This can be a start in combating this fatal social sickness, and later on more systematic and better institutes can be established.

Results

This study used the suicide record from the Royal Bhutan Police from 2009 to 2013. The different variables available for analysis were 'name of the police station', 'date', 'time of occurrence', 'place of occurrence', 'dzongkhag', 'age', 'gender' and 'occupation'. However, some information were missing for some variables, and therefore, there is a varying number of cases for different variables. The result of the study is presented by: (i) Gender, (ii) Age, (iii) Economy, (iv) Occupation, and (v) Region.

i) Gender

Self-reported suicide attempts are higher for females than males but completed suicides are higher for males than females (Schmidtke et al. 1996; Vijayakumar et al. 2004; Helliwell 2006). Wichstrom and Rossow (2002) showed that in Norway, though female suicide attempts were higher than male, in the same year, in fact number of male committing suicide was three times more than female. Similarly, in Sri Lanka suicide data for the years 1991-1995 shows that number of males was three times more than females (Ratnayeke 1998). However, in India the available literature reported different trends. For instance, Sarma and Sawang (1993) reported that there is no such gender difference in the suicide cases in India. Others reported that there is a male majority (Sarma and Sawang, 1993) and some others reported female majority (Bannerjee et al. 1990). Since there is no recent study to refer to, no conclusion can be drawn but Khan (2002) argues that despite the inconsistent reporting, the male to female ratio does not seem to be higher than 3:1, which in his opinion is because the men are seen as a role model upon which the family's prestige is judged. Even in the

case of Bhutan suicide case is higher for male compared to female. Out of a total of 378 cases of suicide, 254 are male and 124 are female with a male to female ratio of 2:1 as shown in Table 1.

Table 1. Suicide case by gender

Gender	Frequency	Percent
Female	124	32.8
Male	254	67.2
Total	378	100.0

ii) Age

While it is found that suicide is higher among the elderly people in the West (Khan, 2002), it is not the case in the Indian subcontinent, at least not in Sri Lanka, India and Pakistan; in fact, one-fourth of suicides are by people under the age of 30 years (Ratnayeke 1998; Venkoba 1983; Khan and Reza 2000). The current study shows that in Bhutan, out of 365 cases, 184 are under the age of 30 years. A detailed result is shown in Table 2. According to Khan (2002), this could be because of the lower average life expectancy in the Indian Subcontinent compared to the West, and the culture of elderly being treated with a position of privilege and respect, cared for and looked after by their families. It could be true in the case of Bhutan as well. The elderly in Bhutan remain active throughout their lives, largely devoting their time in practicing dharma. They see retirement as a time for spiritual pursuit, much waited for in the lifetime. Out of the total of 356 suicides from 2009 to 2013, only 10 are above the age of 70.

Table 2. Suicide by age category

agecat	Freq.	Percent
<20	76	20.82
21-25	60	16.44
26-30	48	13.15
31-35	47	12.88

36-40	33	9.04
41-45	19	5.21
46-50	19	5.21
51-55	15	4.11
56-60	13	3.56
>61	35	9.59

Table 3. Suicide by age and gender

	Gender		
agecat	F	M	Total
<20	40	36	76
21-25	16	44	60
26-30	10	38	48
31-35	14	33	47
36-40	12	21	33
41-45	7	12	19
46-50	4	15	19
51-55	4	11	15
56-60	4	9	13
>61	8	27	35
Total	119	246	365

Research shows that youth suicide rates have been increasing in many industrial countries over the last 50 years; for example, the youth suicide rate in the U.S. tripled (Cutlet et al. 2000), especially between the mid 1950s and mid 1970s, which according to them is due to the increasing divorce rate. Putnam (2000) argues that since 1960, trust and sense of belonging in the U.S. decreased mainly due to the influence of television in that era. The population at most risk in Malaysia as well as for the whole world are those in the age group of 16-25 years (Ng 2011), which means it is mostly the college students. Westefeld et al. (2006) and Glover (2000) argue that

college students are at higher risk because they are in a transition in life, either in the midst of making a career choice or life's decisions apart from the academic pressures. Moreover, it is also at this age that individuals go through traumatic emotional pressures of romance and relationships resulting into loneliness and hopelessness making them feel suicidal (Tam et al. 2011).

iii) Economy

There is positive association between unemployment and suicide (Lewis and Sloggett 1998; Jin et al. 1994; Gunnell et al. 1999; Aihara and Iki, 2002). For example, the longitudinal study carried out in the U.S. by Kposowa (2001) shows that the unemployment increases the risk of suicide, more for male than female. Similarly the study on Italian suicide rates shows that the effect of unemployment is higher on male than females (Preti & Miotto 1999). Another study carried out in Denmark found that it is an important factor for males but not for females (Qin et al. 2000). A study carried out in Japan using the prefecture based data for the years 1993 to 2009 showed that unemployment is a significant factor but the effect is stronger for men by a factor of three (Schaede 2013). Aside from these varying findings, there does seem to exist a positive association between economic factor (especially unemployment) and suicide. Several research have found that it increases the suicide risks significantly. For example, a Swedish study by Johansson and Sundquist (1997) empirically shows that unemployment increases the risks of suicide substantially. Similarly, the report on mental health (World Health Organization 2003) states that the risk of mental disorders, and therefore, the risk of suicide is higher among the poor, homeless and unemployed, as well as persons with a lower educational background. This is true in the context of Bhutan. The data shows that the majority of the victims were of the lower occupational rung such as cook, driver, mechanic etc. which could mean that they had stress related to financial problems or social stress as a result of not having resources to 'achieve desired goals or maintain the current level of social functioning' (Yur'yev et al. 2011, p.236).

iv) Occupation

The classification of occupation is done based on the different occupations of the victims as listed in the records maintained by the Royal Bhutan Police. It is not the same as the occupational groups classified for the Labour Force Survey (published by the Ministry of Labour and Human Resource) and the Statistical Yearbook (published by National Statistics Bureau) because they have classified the different categories of jobs into broad categories that will not give a detailed picture of the occupation of the victims. Out of 208 people from 2009 to 2013, taking into account two ambiguous occupations, which only mentions the organizations they worked for and does not mention their specific job titles, it is fair to mention that only one officer level individual has committed suicide and it is worth noting that all others are drivers, labourers, housewives, farmers, students etc. However, no investigation was carried out to check the suicide risk associated with an occupation group by controlling other factors such as age and gender. A detailed classification of the data is shown in Table 4 and Table 15. Stack (2001) notes that there is no clear relationship between occupation and suicide because of the lack of data for many occupations but states that the stress associated with the different kinds of occupations may contribute to the suicide risk. However, this does not seem to hold true in the case of Bhutan. In the case of Bhutan the suicide risk seems more associated with poverty and financial problems than with the occupational stress.

Table 4. Suicide by occupation

Occupation	Freq.	Percent
Farmer	64	30.77
Student	57	27.40
Private employee	23	11.06
Labourer	15	7.21
ESP and driver	10	4.81

RBP/RBA	10	4.81
Civil servant	7	3.37
Corporate employee	7	3.37
Housewife	6	2.88
Unemployed	5	2.40
Monk/nun/gomchen	4	1.92
Total	208	100.00

v) Region

Many research (Bhui, Dinos and McKenzie 2012; McKenzie 2012; Borges, Orozco, Rafful, Miller, and Breslau 2012; Liu, Liao, Lee, Kao, Jenkins, and Cheng 2011) have hypothesized that the race, ethnicity and religious background have a big role to play in an individual's suicide ideation, his/her attitude towards it, and therefore the suicide risk associated with people of different ethnicity. For this paper, Bhutan is divided into four different regions: East, West, South, and Central. It is divided depending on the different languages spoken by the people in these different areas. People in the East speak Sharchop, those in the West speak Ngalop (Dzongkha), those in the central speak Bumthapkha/Mangdepkha and those in the South speak Lhotshamkha and are mostly of Nepalese origin. And by dzongkhag wise, the highest number of suicide cases is in Samtse (with 8.75 suicide rate in 10,000 population), which is the southern part of Bhutan. However, when this result was crosschecked using the data from Gross National Happiness Survey 2010, it shows that the highest number of people with suicidal ideation and suicidal attempts are not from this dzongkhag (see Table 12).

Table 5. Suicide by region

Dzongkhag	Freq.	Percent
South	170	44.97
East	107	28.31

West	81	21.43
Central	20	5.29
Total	378	100

Table 6. Suicide by dzongkhag

Dzongkhag	Frequency
Samtse	60
Chukha	41
Sarpang	38
Thimphu	38
Tashigang	34
Mongar	22
Paro	16
Tashiyangtse	16
Tsirang	16
Dagana	15
Pemagatshel	15
Samdrupjongkhar	14
Punakha	13
Wangduephodrang	12
Zhemgang	10
Lhuentse	6
Bumthang	5
Trongsa	5
Haa	2
Gasa	0
Total	378

Table 7. Number of suicide per 10,000 populations in each dzongkhag

Sl. No.	Dzongkhag	Suicide case per 10,000 population
1	Samtse	8.75
2	Sarpang	8.65
3	Trashiyangtse	7.89
4	Tsirang	7.54
5	Trashigang	6.21
6	Pemagatshel	6.09
7	Dagana	5.65
8	Mongar	5.14
9	Punakha	4.82
10	Chhukha	4.79
11	Zhemgang	4.77
12	Paro	3.82
13	Samdrupjongkhar	3.55
14	Lhuentse	3.49
15	Thimphu	3.41
16	Wangdue	3.31
17	Trongsa	3.23
18	Bumthang	2.72
19	Haa	1.52
20	Gasa	0.00

Table 8. Suicide in different years

Year	Freq.	Percent
2009	72	19.05
2010	57	15.08
2011	65	17.2
2012	88	23.28

2013	96	25.4
Total	378	100

Table 9. Number of respondents who said that they had seriously thought of committing suicide in their lifetime

Ever seriously thought of committing suicide	Freq.
Yes	359
No	6,778
Total	7,137

Source: GNH Survey 2010

Table 10. Number of respondents who said that they had seriously thought of committing suicide in the past 12 months

Seriously thought of committing suicide in last 12 months	Freq.
Yes	224
No	122
Total	346

Source: GNH Survey 2010

Table 11. Number of respondents who said that they had attempted suicide in their lifetime

Ever attempted to commit suicide	Freq.
Yes	59
No	278
Total	337

Source: GNH Survey 2010

Table 12. Number of respondents from different dzongkhags who said that they had thought of committing suicide in the past 12 months

Dzongkhag	Freq.	Percent
SamdrupJongkhar	26	11.61
Chukha	20	8.93
PemaGatshel	20	8.93
Bumthang	19	8.48
Trongsa	18	8.04
Tashigang	17	7.59
WangduePhodrang	16	7.14
Punakha	15	6.70
Dagana	11	4.91
Mongar	11	4.91
Zhemgang	11	4.91
Samtse	9	4.02
Paro	6	2.68
Thimphu	6	2.68
Lhuntse	5	2.23
Haa	4	1.79
Sarpang	4	1.79
Tsirang	4	1.79
TashiYangtse	2	0.89
Total	224	100

Source: GNH Survey 2010

Table 13. Suicide in 100,000 population

Year	Suicide in 100,000
2009	11
2010	8
2011	9
2012	12
2013	13

Conclusion and future research

More than billion people live in the Indian subcontinent sharing similar values of culture and tradition and the fact that 100,000 people kill themselves in these countries every year is a tragedy that needs urgent attention (Khan 2002). In line with his argument, Bhutan must give priority to the suicide prevention, both by mental health professionals, individuals, policy makers and the government.

According to WHO research, the problem of suicide has shifted from Western Europe to Eastern Europe and now it is shifting to Asia. This seems to have caught on Bhutan too with a continuous increase of suicides every year. The average annual growth rate of suicide in Bhutan is 9.4 and suicide in 100,000 population is 11 in 2009, 8 in 2010, 9 in 2011, 12 in 2012, and 13 in 2013 (as shown in Table 13). For each year the number of suicide for male is more than female, and by age category, it is highest for youth below the age of 25 years. By occupation, the highest is farmer followed by students, and, by region, the highest is in the South, followed by the East. The data suggests that there is a positive association between economy and suicide, where most of the victims are people who had been working in lower rung of the government, corporate or private organisations. Therefore, even though there may be need for further analysis in the future to check the validity of these findings, it will serve as a start for research in this area. The findings from this paper suggests that the attention on prevention of suicide must first be given to those who are economically

poor, those having low social support, low self esteem with feeling of hopelessness and people with mental stress and, taken all these factors together, males are more at risk and they need more attention.

The world over, suicide rate is reported to be higher in urban centers than in rural areas due to crowding and social isolation, which can vary with age and sex of individuals across countries (Vijayakumar et al. 2004). But this is contrasted by the studies in India, China, Sri Lanka and Taiwan which shows that suicide rates in rural area is higher than urban areas with suicide in rural areas in China as high as three times that of urban areas (Philips et al. 1999). For this paper, no separate analysis was carried out for urban and rural areas and it could be an interesting future research. Despite the importance of social factors (especially family members' support and trust) in the suicidal risk, the data collected by the Royal Bhutan Police, used for this paper, did not have the marital status of the victims and this could be another area of research for future.

Method employed to commit suicide could have been another area of analysis, but it was omitted in this paper deliberately with the thought that it could be read as a way of encouragement by giving ideas on how to commit suicide. However, if this would help in the prevention of suicide by identifying the different methods and how best to conceal or make them unavailable to those in risk, it could be studied in the future.

Appendix

Table 14. Classification of dzongkhags into different regions

Sl. No.	East	West	Central	South
1	Tashigang	Haa	Bumthang	Samtse
2	Tashiyangtse	Paro	Trongsa	Tsirang
3	Samdrupjongkhar	Thimphu	Zhemgang	Sarpang
4	Pemagatshel	Wangdue		Dagana
5	Mongar	Gasa		Chukha
6	Lhuentse	Punakha		

Table 15. Classification of occupation

Occupation	Category
Accountant	Civil servant
Employee of National Land Commission	Civil servant
Employee of NRDCL	Civil servant
Teacher (Tsebar LSS)	Civil servant
VHW (Village Health Worker)	Civil servant
Ward boy, Punakha Hospital	Civil servant
Mess boy	Civil servant
BPC Staff	Corporate employee
Foreman, KHPC	Corporate employee
Mechanical Technician, Operator Division, Power house	Corporate employee
Care taker (Dungna LSS)	ESP and driver
Care taker (Royal guest house)	ESP and driver
Cook	ESP and driver
Driver	ESP and driver
Driver	ESP and driver

Driver	ESP and driver
Driver (Municipal of Mongar)	ESP and driver
Driver of PHPA	ESP and driver
Driver, National Land Commission	ESP and driver
Driver, Haa Court	ESP and driver
Driver, Karma feed	ESP and driver
Driver, Nima Construction at Yurung	ESP and driver
Driver, PHPA-I	ESP and driver
Dry sweeper, Samtse College of Education	ESP and driver
Excavator operator, DANTAK	ESP and driver
School cook	ESP and driver
Cow herder	Farmer
Farmer	Farmer
Tshogpa	Farmer
H/wife	Housewife
Daily wage worker	Labourer
labourer	labourer
PWD labour	Labourer
PWD labour	Labourer
Gomchen	Monk/nun/gomchen
Monk	Monk/nun/gomchen
Monk of Tashichhodzong	Monk/nun/gomchen
Nun, Wangsisina	Monk/nun/gomchen
Accountant, K.C. Hotel	Private employee
Baby sitter	Private employee
Business, Druk Photo Shop, Gelephu	Private employee
Cook NT Hotel, Thimphu	Private employee

Cook of IMTRAT Hospital	Private employee
Electrician	Private employee
Employee of Bhutan Ply Wood	Private employee
Employee of PCAL	Private employee
HRO, Bhutan Silicon, Tashi Head Office, Pling	Private employee
Janka Resort (House keeping)	Private employee
Pipe fitter of PCAL	Private employee
Private employee of Naksel Hotel	Private employee
Security guard, KK steel	Private employee
SonamYarphel Automobile, Rurichu	Private employee
Staff, BFAL, Pasakha	Private employee
Store keepr, BOD, Tashi Commercial Corporation	Private employee
Taxi driver	Private employee
Teacher at Daycare Centre	Private employee
Waitress	Private employee
Masson, Dorji construction Babesa, Thimphu	Private employee
Ex RBA	RBP/RBA
Ex-RBA	RBP/RBA
Ex-RBA	RBP/RBA
RBA	RBP/RBA
RBA	RBP/RBA
RBP	RBP/RBA
RBP	RBP/RBA
RBP	RBP/RBA
RBP, Paro Division	RBP/RBA
RBP, WT operator	RBP/RBA
CE student Sherabling HSS	Student

Class VII, Woochu LSS, Paro	Student
Ex student Damphu HSS	Student
Ex-student, Nima HSS	Student
PGDE, Samtse College of Education	Student
Student	STUDENT
Teacher (Teaching practice at Gonpa Singma LSS)	Student
Trainee of Civil Engineering, Final year	Student
Trainee, VTI, Sershong	Student
Jobless	Unemployed
Jobless (class 12 pass out from Kelki HSS and looking for job)	Unemployed
School dropout	Unemployed
Unemployed	Unemployed

Table 16. Suicide in 100,000 populations in different Asian countries per year

Country	Year	Rate (per 100,000)	Reference
Australia	2010	10.5	Australian Bureau of Statistics
China	1999	13.9	Värnik, P. (2012). Suicide in the world. *International journal of environmental research and public health*, *9*(3), 760-771.
India	2009	10.6	Radhakrishnan, R., & Andrade, C. (2012). Suicide: an Indian perspective. Indian journal of psychiatry, 54(4), 304-319.
Japan	2009	19.85	OECD (2011), "Suicide",

			in *Health at a Glance 2011: OECD Indicators*, OECD Publishing
New Zealand	2007	11.7	Värnik, P. (2012). Suicide in the world. *International journal of environmental research and public health*, *9*(3), 760-771.
Singapore	2006	10.3	Värnik, P. (2012). Suicide in the world. *International journal of environmental research and public health*, *9*(3), 760-771.
Sri Lanka	2009	19.6	de Silva, V., Hanwella, R., & Senanayake, M. (2013). Age and sex specific suicide rates in Sri Lanka from 1995-2011. *Sri Lanka Journal of Psychiatry*,*3*(2), 7-11.
Thailand	2002	7.8	Värnik, P. (2012). Suicide in the world. *International journal of environmental research and public health*, *9*(3), 760-771.

Table 17. Number of people available for help during financial and emotional problems

Have financial problems	Percent
None	14.74
1 to 2	27.4
3 to 5	30.5
6 to 8	13.22
More than 8	13.05
Don't know	1.09

Have emotional problems	Percent
None	9.13
1 to 2	21.63
3 to 5	23.89
6 to 8	17.02
More than 8	27.38
Don't know	0.94

Source: GNH Survey 2010

References

Aihara, H. and Iki, M. (2002). Effects of socio-economic factors on suicide from1980 through 1999 in Osaka prefecture, Japan. *Journal of Epidemiology*, 12, 439–449.

Beautrais, A. (2006). Suicide in Asia. *Crisis*, 27, 55–57.

Bhui, K. S., Dinos, S. and McKenzie, K. (2012). Ethnicity and its influence on suicide rates and risk. *Ethnicity & health*, *17*(1-2), 141-148.

Borges, G., Orozco, R., Rafful, C., Miller, E. and Breslau, J. (2012). Suicidality, ethnicity and immigration in the USA. *Psychological medicine*, *42*(06), 1175-1184.

Clearly, A., & Brannick, T. (2007). Suicide and changing values and beliefs in Ireland.*Crisis*, 28, 82–88. doi:10.1027/0227-5910.28.2.82.

Cutler, D.M., Glaeser, E. and Norberg, K. (2000). Explaining the Rise in Youth Suicide. *National Bureau of Economic Research.* http://www.nber.org/chapters/c10690.pdf.

de Silva, V., Hanwella, R. and Senanayake, M. (2013). Age and sex specific suicide rates in Sri Lanka from 1995-2011. *Sri Lanka Journal of Psychiatry*, *3*(2), 7-11.

Durkheim, E., Spaulding, J. A. and Simpson, G. (2010). *Suicide*. Simon and Schuster.

Foo, X. Y., Alwi, M. N. M., Ismail, S. I. F., Ibrahim, N. and Osman, Z. J. (2012). Religious commitment, attitudes toward suicide, and suicidal behaviors among college students of different ethnic and religious groups in Malaysia. *Journal of religion and health*, 1-16.

Glover, R. (2000). Developmental tasks of adulthood: Implications for counseling community college students. *Community College Journal of Research and Practice*, 24, 505–514.doi:10.1080/10668920050137273.

Gunnell, D., A., Lopatatzidis, D., Dorling, H., Wehner, H., Southall and Frankel, S. (1999). Suicide and unemployment in young people: Analysis of trends in

England and Wales, 1921– 1995. *The British Journal of Psychiatry*, *The Journal of Mental Science*, 175, 263–270.

Helliwell, J. F. (2007). Well-being and social capital: Does suicide pose a puzzle? *Social indicators research*, *81*(3), 455-496.

Hendin, H., Vijayuakumar, L., Bertolote, J. M., Wang, H., Phillips, M. R., and Pirkis, J. (2008). Epidemiology of suicide in Asia. *Suicide and suicide prevention in Asia. Geneva: World Health Organization*, 7-18.

Jin, R.L., Shah, C.P, and Svoboda, T.J. (1995). The impact of unemployment on health: A review of the evidence. *Canadian Medical Association Journal* ,153, 529–540.

Joiner Jr, T. E., and Silva, C. (2012). Why people die by suicide: further development and tests of the interpersonal-psychological theory of suicidal behavior. *Meaning, mortality, and choice: the social psychology of existential concerns*, 325-336.

Johansson, S.E. and Sundquist, J. (1997). Unemployment is an important risk factor for suicide in contemporary Sweden: An 11-year follow-up study of a cross-sectional sample of 37,789 people. *Public Health*, 111(1), 41–45.

Khan, M.M, & Reza, H (2000).The pattern of suicide in Pakistan. *Crisis,* 20, 67–70.

Khan, M. M. (2002).Suicide on the Indian subcontinent. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *23*(3), 104.

Kposowa, A.J. (2001). Unemployment and suicide: A cohort analysis of social factors predicting suicide in the US National Longitudinal Mortality Study. *Psychological Medicine*, 31(1), 127–138.

Lewis, G. and Sloggett, A. (1998). Suicide, deprivation and unemployment: A record-linkage study. *British Medical Journal* , 317, 1283–1286.

Lie, H., Liou, J.C. (2012). Suicide Behavior among Junior High School Students in Philippines and Indonesia Associated with Social Factors. *GSTF Journal of BioSciences*, 2, 92-97. doi: 517612251-3140-2.1.28.

Liu, I. C., Liao, S. F., Lee, W. C., Kao, C. Y., Jenkins, R., & Cheng, A. T. A. (2011). A cross-ethnic comparison on incidence of suicide. *Psychological medicine*, *41*(6), 1213-1221

McKenzie, K. (2012). Suicide studies in ethnic minorities: improving the science to help develop policy. *Ethnicity & health*, *17*(1-2), 7-11

Ng, C. (2011).Befrienders offers to be the pal you can count on via Facebook. *The Star Online*

Ozawa-de Silva, C. (2008). Too lonely to die alone: Internet suicide pacts and existential suffering in Japan. *Culture, Medicine and Psychiatry*, 32, 516–551.doi:10.1007/s11013-008-9108-0

Preti, A. and Miotto, P. (1999). Suicide and unemployment in Italy, 1982–1994. *Journal of Epidemiology and Community Health*, 53(11), 694–701

Putnam, R.D. (2001). Social capital: Measurement and consequences. In J.F. Helliwell (ed.), *The Contribution of Human and Social Capital to Sustained Economic Growth and Well-Being* (Ottawa: HDRC and OECD) (Proceedings of an OECD/HRDC conference, Quebec, March 19–21, 2000).

Qin, P., Agerbo, E. and Mortensen, P.B. (2003). Suicide risk in relation to socioeconomic, demographic, psychiatric and familial factors: A national register baseline study of all suicides in Denmark 1981–1997. *The British Journal of Psychiatry: The Journal of Mental Science*, 177, 546–550.

Ratnayeke L. (1998) Suicide in Sri Lanka. *Suicide prevention: The global context.* New York: Plenum, 1998.

Schaede, U. (2013). Sunshine and Suicides in Japan: revisiting the relevance of economic determinants of

suicide. *Journal of the German Institute for Japanese Studies Tokyo*, *25*(2), 105-126.

Schmidtke, A. (1996). Attempted suicide in Europe: Rates, trends and socio-demographic characteristics of suicide attempters during the period 1989–1992. *Results of the WHO/ EURO Multicentre Study on Parasuicide Acta Psychiatrica Scandinavica*, 95, 327–338.

Stack, S., and Kposowa, A. (2008). The association of suicide rates with individual-level suicide attitudes: A cross-national analysis. *Social Science Quarterly*, 89, 39–59.

Stein, D., Witztum, E., Brom, D., DeNour, A., and Elizur, A. (1992). The association between adolescents' attitudes toward suicide and their psychosocial background and suicide tendencies. *Adolescence*, 27, 949–959.

Tam, C., Lee, T., Har, W., & Chan, L. (2011).Perception of suicidal attempts among college students in Malaysia. *Asian Social Science*, 7, 30–41. doi:10.5539/ass.v7n7p30.

Värnik, P. (2012). Suicide in the world. *International journal of environmental research and public health*, *9*(3), 760-771.

Vijayakumar, L., Nagaraj, K., Pirkis, J., and Whiteford, H. (2005). Suicide in developing countries (1): frequency, distribution, and association with socioeconomic indicators. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, *26*(3), 104.

Westefeld, J., Button, C., Haley, J., Kettmann, J., Macconnell, J., Sandil, R., et al. (2006). College student suicide: A call to action. *Death Studies*, 30, 931–956. doi:10.1080/07481180600887130

World Health Organisation. (2003). *Investing in mental health*. Geneva: World Health Organization. Available at http:// www.who.int/mental_health/media/investing_mnh.pdf

World Health Organisation (2011). *Causes of Death 2008: Data Sources and Methods*: Department of Health Statistics and Informatics, World Health Organization: Geneva, Switzerland, 2011. Retrieved from

http://www.who.int/gho/mortality_burden_disease/global_burden_disease_DTH6_2008.xls .

Yur'yev, A., Värnik, P., Sisask, M., Leppik, L., Lumiste, K., and Värnik, A. (2013). Some aspects of social exclusion: Do they influence suicide mortality? *International Journal of Social Psychiatry*, *59*(3), 232-238.

Zemaitiene, N., and Zaborskis, A. (2005). Suicidal tendencies and attitudes towards freedom to choose suicide among Lithuanian schoolchildren: Results from three cross-sectional studies in 1994, 1998, and 2002. *BMC Public Health*, 5, 83–91. doi:10.1186/1471-2458-5-83.

Ahom-Bhutan Relations with Specific Reference to Royal Bhutanese Embassy Visiting Ahom Capital in 1801

J. N. Phukan

Abstract

This paper is confined to the period when the Ahom power came into contact with Bhutan. This happened towards the beginning of the seventeenth century when the Ahom kingdom annexed Kamrup and Darrang to the north of which lay the territory of Bhutan.

Thereafter, for more than a hundred years the relations with Bhutan were primarily dealt with by the Darrang Raja who was made a tributary Raja by the Ahom king. However, whenever required, the Raja was assisted by Ahom force to deal with situation.

Towards the end of the eighteenth century, there were troubles in the Ahom kingdom. Among these were the Moamaria uprising that spread even to lower Assam. The rebellious prince of Darrang Krishna Narayan with his supporters took the help of Burendazes, mercenary soldiers from Bengal. When Capt. Welsh came to Assam to take them back, many of them with Krishna Narayan took shelter in the bordering areas of Bhutan and created troubles there.

Bhutanese authorities made appeal to the Barphukan of Guwahati. To ascertain the situation he sent an embassy to Bhutan in 1801. In return, the King of Bhutan sent a royal embassy to the Ahom court that arrived at Jorhat, the Ahom capital in 1802. The envoys were well received by the King and the Prime Minister. They brought many presents that were valuable at that time. The Ahom and the Prime Minister also sent valuable presents to the Bhutan King.

In this paper, I have devoted to this embassy in the background of Ahom history.

Assam

In very early times it was known as Pragjyotisa. How and when this name came to be applied is a subject of scholarly issue. But it was more legendary than historical.

Later at least since the fourth century C.E. it came to be known as Kamarupa, often prefixed by Pragjyoisa as Pragjyotisa-Kamarupa. This name continued. Even after the Ahom occupation of Kamarupa in the seventeenth century as the name Kamarupa or its shortened form Kamrup, continued to be applied to a portion of territory and was called Kamrup Desh, meaning 'Kamrup Country' as found in the chronicles and in land-grant charters of Ahom kings. The British retained the name in the District of Kamrup. This name still persists as the name of two districts - Kamrup (Metro) and Kamrup (Rural). Guwahati, the capital of Assam is within Kamrup (Metro).

The present name Assam is associated with the Ahom whose rule in the Brahmaputra Valley continued uninterrupted for six hundred years from 1228 C.E. to 1826 C. E. This period of history is the most memorable, and the Ahom left an indelible imprint on life, society and culture of Assam. It was during this period that Assam acquired a distinctive personality and identity.

Before delving into the subject, a short introduction to the Ahom and their history in Assam will be discussed for better screening and appreciation. The indigenous sources of information on Ahom-Bhutan Relations will be introduced as most foreign sources are known to those who are acquainted with the history of the Kingdom of Bhutan.

Indigenous Sources

The most important sources for information for Ahom-Bhutan relations are the historical records of the Ahom kings known

as *Buranji*. *Buranji* is form of chronicling of important events that happened during the reign period of each king. They are therefore a kind of royal chronicles or annals recorded by trained scribes appointed by the royal court. In Assam, these chronicles or *Buranji*s were written on oblong strips of bark of a tree called *agar* wood. Occasionally, records were also written on tightly woven *muga* cloth. We may note that previous to the advent of the Ahom to the Brahmaputra valley, no such chronicle writing system ever existed. Hence, for pre-Ahom period in Assam there was no chronicle.

When the Tai, later to be known as Ahom, came to the Brahmaputra valley, Tai language, later called Ahom language, was their mother tongue. And therefore all *Buranji*s were compiled in the Ahom language. Much later, from about the beginning of the seventeenth century, when the Ahom became much acquainted with the Assamese language and started speaking that language, *Buranji*s came to be written in Assamese as well. However, *Buranji* writing in Ahom language continued. Even copper-plate documents were also inscribed in Ahom. Because of these circumstances, we get *Buranji*s written in both Ahom and Assamese languages. This nature of Buranji writing is applicable to the later part of the Ahom rule in Assam.

In addition, there are literary source of the genealogical account of the Koch royal family of Darang known as *Darang Raj Vangsavali* in which some account of relations of the Koch kings of Darang are written.

On the Bhutan side, I admit my ignorance about any chronicle or records maintained by the royal court or by any regional chief in Bhutan on the relations with the Ahom kings or with their subordinate chiefs. If any such records are available, these will certainly much valuable and throw light or allow historians to make comparative study with the Ahom records.

The Ahom, also called Tai Ahom, are ethnically a Tai people. The Tai peoples are very widespread in several countries in Mainland Southeast Asia - Thailand, Laos (PDR), Vietnam, Myanmar, China's southern region. They are known by different appellations, groups and sub-groups - Thai, Lao, Shan, Dai, Zhuang, Li, etc. In India, they are living in Assam and Arunachal Pradesh.

Of the Tai in India, the Ahom are the largest in number of population approximately 2.5 million, while the smaller groups like the Khamti, Phake, Aitom, Khamyang and Turung each having a few thousand only. All the Tai people have their own language - the Tai language, now classified as Tai-Kadai. This language is basically uniform in all the groups. However, there are regional, sub-regional and local variations due to isolation and influence of other language speakers among whom they have been living for long. A hundred years ago H. R. Davies who travelled several thousand miles among the Tai wrote, "Spread over such a large extent of country, there are naturally diversities of dialect in the language, but Shans from very different countries can understand each other." Majority of them are Buddhists, but there are Tai who are not Buddhists.

The Ahom in Assam

As per their own chronicles, early in the thirteenth century C.E. a large group of Tai people from Mong Mao kingdom made their advance to the Brahmaputra valley under the leadership of a prince named Siu-ka-pha. This group, according to the chronicles, comprised of nobles, priests, men, women, children, fighting men, ordinary persons who served the nobles and officials. Altogether they were nine thousand persons. They had two elephants, one male and one female; three hundred horses.

Mong Mao has now been identified with present Mong Mao located in the Shweli Valley in south-western Yunnan. It is today included in the Dehong Tai-Singpho Autonomous Prefecture with its capital in Mangshi (in Chinese), or Mong

Khwan in Tai. This group traversed the upper Irrawaddy and the upper Chindwin regions. Obviously they followed an ancient route that linked the northeastern India with south-western China. The powerful Mao kingdom had its political influence on both sides of the Upper Irrawaddy. On arrival at the Doi-Kao-Rong, now known as Patkai, they founded a small domain they called *mong*. After crossing the Patkai, they advanced along the river courses of the Buridihing, Brahmaputra and Dikhow, and founded several small domains. Finally, Siu-ka-pha settled at a place called Cheraidoi, modern Charaideo, in Sivasagar where he built his capital. Siu-ka-pha was the first king. He passed away there in 1268 C.E. and was buried there.

At the beginning, their kingdom was confined to a comparatively small area. The tract over which the Ahom founded their kingdom was inhabited by the Barahi and the Moran, two small Mongoloid tribes who lived on highland and did dry cultivation. It was therefore no difficulty in subduing them by tact and diplomacy rather than by fight.

Evidently the Ahom gave preference to river basins of the tributaries of the Brahmaputra and settled there. As they were long accustomed to wet-rice cultivation in low-lying areas by engaging male buffalo they had their houses built on raised platform several feet above the ground. They found the territory most suitable for their settlements. They confined to this region for more than 250 years. In course of time, this area was turned into a most prosperous and wealthy region.

The kingdom made spectacular expansion during the reign of Siu-hum-mong (1497-1539). By that time the Ahom power attained considerable strength and prosperity to deal with its troublesome neighbours, the Chutiyas on the north-east and the Kacharis on the south. Siu-hum-mong's army defeated both the Chutiyas and the Kacharis, and turned their territories into Ahom provinces under Ahom governors. During the reign of this king, the Ahom kingdom was also pushed to the west along the Brahmaputra as far as the

Karatoya river. The Koch ruler Biswa Singha submitted but was allowed to remain as tributary. This caused the Koch army to invade the Ahom kingdom by Biswasingha's son Naranarayan. (Ahom kingdom at the beginning of the seventeenth century).

In the meantime, the Muslim power, the Afghan in Bengal became alarmed at the west-ward advance of the Ahom. Armed conflict started with them. However, the advance of the Mughal towards the east has overtaken the Muslim power in Bengal. The further advance of the Mughal has drawn the Ahom into serious armed conflict with former leading to a long drawn struggle with them till the closing years of the seventeenth century. It was in 1681 that the Mughal army was finally pushed out of the main valley marking the Manah river as the extreme western limit on the north bank, and the Nagarbera Hills on the south of the Brahmaputra. (Ahom kingdom at the close of the seventeenth century).

From 1701 to 1760 Assam under the Ahom rule enjoyed unmatched prosperity. This led to development of art, culture, language, architecture, building activities. It was during this period that many of the great historical monuments - tanks, temples, stone bridges, royal palaces, etc were constructed. The kings turned into great patrons of Hinduism, built Hindu temples, granted men and landed property to the Gossains and other Hindu preachers. In fact, most of the historical monuments now existing in Assam had been built during this period.

However, the last fifty years of the Ahom rule that ended with the British occupation of Assam or the Ahom kingdom during 1824-26 was most tragic. Internal troubles caused by the Moamaria and external invasion of the Burmese led to complete failure leading to a collapse. The Ahom rulers failed to restore peace. Thus it ended the Ahom power - the tragic end of the royal Ahom dynasty that ruled uninterrupted for 600 years.

At present, the Ahom have their concentration in the present districts of Sivasagar, Jorhat, Golaghat, Dibrugarh, Tinsukia, Dhemaji, Lakhimpur, and in pockets of Sonitpur, Nagaon and Morigaon.

Ahom-Bhutan Relations

Assam and Bhutan, officially the Kingdom of Bhutan, have been neighbouring lands for centuries. It is therefore most natural that there had been contact and relations between Assam and Bhutan since early times. But the nature of contact and other details are not available to us. According to known traditions, the Bhutia people visited several religious sites connected with the Buddha. One such known place is Hajo, another was Singari in Sonitpur. From the British sources of the nineteenth century and historical accounts of the Koch kingdom, we can get some idea about Assam-Bhutan relations existing before the Ahom occupation of Darrang and Kamrup when it came within Ahom historical profile.

Along the frontier between Bhutan and Assam where the Bhutan hills slopes down to the plains, there stretches a long narrow tract of fertile land which varies in breadth from 15 to 25 km. Cotton, rice, other staples are grown here, and also valuable woods are in abundance. It is because of this, the importance of this tract was greatly appreciated both by Bhutan and Government of the plains. This tract was segmented into divisions usually called “Duar”. In the Assam frontier, there were seven duars -five in Kamrup frontier and two in Darrang frontier. The Kamrup duars were Bijni, Chapakhamar, Chapaguri, Baksa and Gharkola. The two Darrang duars were Bariguma and Killing. To the east of Darrang, there was the Kariapar Duar. It was through Kariapar that trade between Assam and Tibet passed.

The rise of the Koch power under Biswa Singha had its impact on the frontier as many Kachari, Mech and Koch people were occupying the lower tract. So long as the Koch enjoyed political power in Koch Bihar under King

Naranarayan, the frontier problems arising out of duars, though occasionally led to armed clash, were settled.

But, the division of the Koch kingdom in two parts in 1581and followed by bitter rivalry between the rulers of the two paved the way for the entry of the Afghans and the Mughals into Koch politics. The division of the Koch kingdom automatically led to divided jurisdiction over the divided kingdoms. The territories lying to the east of the Sonkosh passed under the eastern Koch kingdom first under Raghu Dev and then to Parikshit. In 1612, the Mughal invaded Parikshit's kingdom and after his defeat, he was taken to Delhi, and his kingdom was annexed to the Mughal empire.

Circumstances leading Ahom Contact with Bhutan

On the annexation of the dominion of Koch Raja Parikshit to the Mughal empire, one of his brother named Balinarayan fled and took protection under Ahom king Pratap Singha in 1615. In 1616, he was installed over a part of the kingdom between the Barnadi (north of Guwahati) and the Bharali as the tributary Raja of Darrang with the title Dharmanarayan and took up his residence at Darrang.

From this time onwards, Assam's relations with Bhutan were primarily handled by the Darrang Raja; whenever the Darrang Raj required the support, he was backed by the Ahom Government. Soon a dispute arose due the occupation of the land of the Duars up to the Gohain Kamal Ali by Bhutan. At one time, it culminated into an armed clash. It was settled by a written agreement (this agreement is not available now. Col. Adam White states that Mr. Davis Scott as the Agent of the Governor-General found the treaty with Bhutan from pera kakat of Jado Ram Majindar who was living at Guwahati. A search could be made for it in the Bhutanese archives) that an annual payment of tribute in articles to be paid by Bhutan to the Ahom Swargadeo in lieu of the cessation of this territory. However it was also stipulated that these *duars* would be surrendered to the

Ahom Government for four months, from *Ashar* to *Ashin* i.e. from 15th June to 15th October.

Thus by the middle of the seventeenth century, Bhutan came into possession of the *duar*s and the plains territory as far as the Gohain Kamal Ali.

However, towards the end the seventeenth century, the Ahom came into conflict with Bhutan when in 1688, an Ahom officer who had gone to collect taxes for four months had been resisted. An engagement took place with greater loss on the Ahom side. Subsequently the conflict was compromised by payment of money by the Bhutias. There was again trouble when a Choudhury of Assam who was sent to collect taxes from Kariapar Duar area was killed. When the Barphukan dispatched a strong force to punish those guilty, they paid money compensation and the matter was closed. There had been again some trouble in the Kariapar area for non-payment of taxes towards the close of the century. But the Ahom Government enforced them to pay.

From this time till about 1775, Assam-Bhutan relations were without trouble and regular payment of dues was sent to the Ahom Government.

During the period of disturbances caused by the Moamaria uprising, the Bhutias carried off to their hills Assamese subjects. The Bhutan *duars* offered a ready asylum to many Moamaria rebels against whom the Ahom government took strong measure to suppress them. The *Duars* also offered asylum to princes and nobles who rebelled against the Ahom Government. Thus when in 1792-93, Capt. Thomas Welsh defeated the rebellious prince of Darrang Krishna Narayan and his ally Haradatta Choudhury of Kamrup, both and their followers took shelter in the Killing Duar. Similarly, a great number Burkendazes, who were recruited by Krishna Narayan, refused to return to Bengal but took refuge in Bhutan and conducted sporadic incursions into Assam. It was reported the Dev Raja of Bhutan assisted Krishna

Narayan with Bhutanese soldiers. All these development strained the Assam-Bhutan relations.

Following these development, the Ahom Government through the Barphukan of Lower Assam, deputed the first formal embassy to Bhutan in 1801 to adjust the strained relations. This embassy was composed of two envoys - Pangkaj Choudhury of Pubpar and Kanchiga Lekharu of Kharang. However, the details of their mission are not available. As a result of this the Deva-Dharma Raja of Bhutan sent two (*Jingkaps*) royal envoys named Jiva and Dindu with letters and presents; and two other *Jingkap* (envoys) named Khupa and Burukdewa sent by chiefs known as *Jadung*. It is reported that one letter was written in Persian and the other in Bengali.

Royal Bhutan Envoys in the Ahom Capital at Jorhat

In 1802 C.E. the four Bhutanese J*ingkaps* (envoys) arrived at Guwahati in company with the Ahom envoys. On arrivals of the Bhutan envoys, the Barphukan made camps for their stay and all arrangements to take them to Jorhat upstream the Brahmaputra on large boats.

Here we recount the details of the embassy for several reasons. It is here we find many details of transactions and protocol, and of presents which we do not get elsewhere. Hence we would like to post these before this learned gathering.

After their arrival, they were kept at a camp built for them at Sarbaibandha, near Jorhat, the capital. After sometime, they were first given audience by the Buragohain Dangariya (Prime Minister) whom they were introduced by an officer. On the Buragohain's direction Bansbariya Biswambar Kataki enquired in the native dialect (*chou kham*) of the Bhutan ambassadors thus,

> Whether at time of their departure, their lord the Deva-Dharma Raja was in enjoyment of peace and

> happiness exercising his protection over his subjects living in the plains as well in the hills, with his Lema, Jongpung, Jadung, Tangsur Subha, Gelans.

The Jingkaps replied,

> Our Deva-Dharma Raja was living in happiness by the grace of Kali-Thakurani when we left our country. We are not in a position to say what has transpired in the meantime.

The Buragohain then said,

> It is also our desire that the Deva-Dharma Raja should be enjoying prosperity and happiness.

To the question about the time of departure, the time of arrival, and whether they faced any danger or difficulty on the way,

They replied,

> ami desh sari asilo Pous mase, Chaitra mase ethai pailam. pathe kisu bhoi pailam na. (We left our kingdom in the month of Pousa; we arrived here in month of Chaitra. We did not face any trouble on the way.

After hearing letter addressed to the Prime Minister, the latter asked the royal Bhutan envoys thus,

> The contents of the letter are understood. Tell, what is conveyed orally.

The envoys then stated,

> The Deva-Dharma Raja has commanded us to say that seven hundred Gelans had previously solicited the permission of the Swargadeo to settle in the area

> bounded by the Gohain Kamal Ali, for the purpose of rearing areca nut and betel vine. The Gelans accordingly settled there. But the people living on the other side of the road have transgressed the line, and have captured our men after crossing the road. Our King solicits the favour of the Swargadeo's protecting the former boundary.

The Prime Minister replied,

> All right, the envoys will be given a reply to this message of their Lord at the time of their departure.

The envoys were then given flowers and sandal paste, the customary offerings marking the end of their meeting.

The envoys presented the Buragohain the gifts they carried with them from.

The gifts brought for the Prime Minister were:

Gomcheng or China Silk- 1 long piece
Kilmij - 1 *than* or long piece
Dwaraka Cloth - 4 pieces
Sandal Wood (White) - 1 piece
Sandal Wood (Red) - 1 piece
Chamar of musk-deer - 4 nos.

Sometime later, the four Bhutan envoys *(Jingkap*) were presented before His Majesty Ahom king Kamaleswar Singha by a high officer- the Choladhara Phukan. Following the established protocol, the Majindar Barua, on behalf of His Majesty, put necessary questions.

The first question was

> whether at the time of their departure the Deva-Dharma Raja, the ruler of Bhutan was living in peace and prosperity, by protecting his subjects along with

> his Lemas, Jongpungs, Jadungs, Tongchur-Subhas and Gelans

Having heard this, the envoys replied,

> At the time of our departure, the Deva-Dharma-Raja was living in peace and plenty through the favour of Kali-Thakurani. We cannot say what has transpired in the meantime

The Swargadeo then said,

> It is also our desire that the Deva-Dharma Raja should live in happiness and prosperity.

They were then asked about the time of their departure thus,

> In which month did they leave their country? When did they reach Guwahati? How long it was since they arrived at this place?

They replied thus,

> We started from our country in the month of *Pausa*; we reached Guwahati in the month of *Phagun*, and we arrived here in the month of *Chaitra*. We did not experience any danger in our journey.

The Majindar Barua read out the letter that they carried. The Ahom king heard it and said,

> I have understood the purport of the message in the letter. Please tell me the oral message sent by Deva-Dharma Raja.

To this, the envoys replied,

> The true intent of our Raja's message has been communicated in his letter. But in addition, he

> directed us to say that seven hundred *Gelan*s had previously prayed for and obtained permission from the *Swargadeo* through the Barphukan of Guwahati to settle in the area bordering on the Gohain-Kamal Ali, for the purpose of taking betel-nut and betel-leaf, by singing religious songs. But some subjects of *Swargadeo* have now violated the boundary line, ravaged the villages and committed many oppressions. Our Raja prays for the restitution and protection of old limits.

The Ahom king then said,

> The *Mahamantri Buragohain Dangriya* will communicate his reply to this prayer at the time envoys' departure. They should now retire to their camp and wait there.

While staying in their camp, the envoys were entertained with recreations of different types.

Prime Minister granted leave to depart the Bhutia Embassy:

He said thus,

> Well, Jiva, Dindu, Khupa and Burukdewa, I now grant you permission to return to your country. Tonight you stay at your camp and start homeward tomorrow. We have given our reply in our letter to Raja Deva-Dharma. The Raja will know everything from our letter. As for the verbal message, the Nawab of Guwahati (that is Barphukan) has been commanded to settle the matter. Our *Kataki* (envoy) named Anai will proceed with you to Guwahati and will speak to the Barphukan. After interviewing the Barphukan, the Bhutia envoys will depart to their kingdom.

Presents brought by the Bhutan Envoys

Presents sent by the Deva-Dharma Raja to the Ahom Swargadeo

Metal objects:

Silver pot containing several smaller caskets inside -1 no.
Steel Sword with sheath having silver linings interspersed with gold and precious stones - 1 no.

Clothes:

Waist-belt of *Kocha* cloth - 1 no.
Jema of red *kuchi* - 1 no.
Red *Gomcheng-Mechi* - 1 roll
Red *Dwaraka* cloth for wearing on the body - 3 pieces
White *Dwaraka* cloth - 2 pieces
Red *Gomcheng* -1 roll
Black *Gomcheng* - 1 roll
Light-Red *Gomcheng* - 1 roll
Firinghee Light-Red Coloured *Gomcheng* - 1 roll
Satranj - 1 piece
Namdang Cloth with four broad laces - 1 piece.
Kilmij cloth - 1 piece
Dinga Blanket - 1 piece
Khulu Blanket -12 pieces
Red Blanket -15 pieces
Pipranga Blanket - 15 pieces

Animal:

Chamar from Kariapar - 60 nos.
Black *Methon* -1 no.
Toka Gumuni Cow - 2 nos.
Horse - 1 no.
Red *Tangon* Pony - 1 no.
Blackish Piebald Pony harnessed with saddles, bridle, other fittings - 1 no.

Presents from Tongsu Subha

Animal:

Piebald Pony - 1 no.

Clothes:

Golden Red *Gomcheng* - 1 piece
Red *Dwaraka* - 2 pieces
Blanket - 1 piece
Soft Red *Thonga* - 1 piece
Blanket for sitting - 1 piece
Dinga Kheh or Chinese Blanket -1 piece
Rug made of fur very smooth - 1no.
Chamar - 3 nos.

Presents from Jadung of Shalikheria

Animal:

Tangon Pony -1no.

Clothes:

Namdang Cloth - 1 piece.

Presents of 2 Envoys - Jiva and Dindu

Gold *Gomcheng* Cloth - 2 pieces.
Blanket - 9 pieces.
Red *Dwaraka* -1 piece.

Presents of 2 Envoys - Khupa and Burukdewa

Namdang cloth - 3 pieces.
Blanket - 4 nos.

Presents sent by the Ahom Swargadeo to Raja Deva-Dharma Raja

Metallic Articles:

Lime-pot made of 5 *tolas* of gold with jewel inset - 1 no.
Tobacco Receptacle made of 4 t*olas* of gold - 1 no.
Peak of 3 *tolas* of gold used in *japi* with Japi - 1 no.
Ahom *Jara* (Casket) made 106 and half *tola* of gold - 1 no.

Silver Betel-pot of 72 and a one-fourth *tola* - 1 no.
Silver *Khadaban* weighing 34 *tola* - 1 no.
Silver cup pinned on a conical support weighing 27 *tola* - 1 no.
Copper Sarai (Tray) inlaid with silver - 1 no.
Brass Dish with support - 1 no.
Knife set with gem - 1 no.
Knife with Ivory handle inlaid with brass -15 nos.
Knife with handles of buffalo-horn inlaid with silver -15 nos.
Fan made of Peacock Feather -2 nos.
Ivory Box - 1 no.

Poppy Seed -4 bags

Ivory Wreath - 4nos.

Cloths:

Turban made of very fine texture - 1 no.
Cheleng cloth with embroider in four margins - 1 piece.
Satin Cloak of *laljang* stuff of sugarcane colour leaf - 1 no.
Cotton Girdle with embroidered lines - 1 no.
Dhuti of fine silk - 1 piece
Japi with gold points and flowered at places - 1 no.
Cotton Kerchief - 1 piece.
Patding embroidered - 1 no.
Double-fold cloth with embroideries - 1 pair.
Baswal or Loin Cloth - 1 piece.
Tangali or Girdle embroidered - 1 piece
Silk *Dhuti* - 1 piece.
Satin Frock-Coat of sugarcane coloured leaf -1 piece.
Cotton Napkin - 1 piece.

Presents sent by the Buragohain

Turban of fine yarn of 16 cubits long - 1 no.
Large Double-Sheet corners embroidered lined with strips -1 no.
Boswal - 1 piece.

Tangali Embroidered - 1 piece.
Napkin Spotted - 1 no.
Dhuti of fine silk - 1 piece.
Satin Frock-Coat with flower work - 1 piece.
Knife with ivory handle inlaid with brass - 3 nos.
Knife with plain horn handle -4 nos.
Palm leaf *Japi* with silver summit and embroidered trimmings - 1 no.
Wreath made of ivory - 2 strings.
Ivory pot of poppy seed - 2 nos.
Ivory Box - 1 no.

Presents to the Bhutan Envoys

To Jiva:

Yellow Turban - 1 no.
Jema (Cloak) of White *Patuka* - 1 no.
Juria Kapor (cloth) of yellow colour - 1 piec
Kamarbandha (Girdle) - 1 piece.
Ear-ring of 2 and a half *tolas* of gold - 1 pair.
Bangles with gold works in three places -1 pair.

For expenses: 30 rupees and 2 gold *mohar*s.

To Dindu: similar presents as above.

To Khupa and Burukdewa each:

Turban of yellow colour - 1no.
Cotton *Jema* (Cloak) - 1 no.
Khania Kapor (cloth) of yellow colour -1 piece.
Cotton *Patuka* - 1 piece
Ear-ring made of one and half *tola* of gold - 1 pair.
Silver Bangles of 10 *tola* weight - 1 pair.

For expenses to Khupa and Burukdewa each: 20 rupees (*taka*) and gold *mohar* 1.

Here we are facing the problem of exact identification of articles named in the Buranji because many of these are not in use today; it has become old-fashioned both in Assam and

Bhutan. In addition, Bhutanese names appear in Assam Buranjis in their Assamised form.

Identification of terms or titles for instance *Jingkap*, *Subha*, *Gelan*, Jadung, etc. are difficult to follow their status, power and function.

Even the weight measured in *tola*, *taka*, *mohar*, etc are not in use now. They need conversion in current system.

Location of places found in the Buranjis is also necessary to understand the past situation.

Thus all these need to be defined appropriately so that these are to be understood in present day context.

From what has been accounted above, it appears that there had been occasional frictions between the two parties - Ahom and Bhutan, but they were always accommodative in their approach. It was perhaps there was no ambition of one to absorb the other. One was the hill polity and the other was plain polity. The peoples of the two polities had different ways of life, language and culture, and even religion. Two different political systems worked. Co-existence was the principle.

References

Barua, Harakanta Sadar Amin (1962). *Assam Buranji* (ed.). S.K.Bhuyan, Guwahati.

Barua, Golap Chandra (ed. & tr.) (1930). *Ahom Buranji*. Calcutta.

Bhuyan, S.K. (ed.) (1960). *Assam Buranji*. Guwahati.

_____. (ed.) (1962). *Deodhai Asam Buranji*. Guwahati.

_____. (ed.) (1958). *Kamrupar Buranji*. Guwahati.

_____. (ed.)(1960). *Satsari Assam Buranji*. Gauhati University

_____. (ed.) (1963). *Tungkhungia Buranji*. Guwahati.

_____. (1949). Anglo-Assamese Relations. Guwahati.

Das, Mrs. Smriti (1998). *Assam-Bhutan Relations with Special Reference to Duars from 1681 to 1949*, Ph. D. thesis (unpublished) of Gauhati University.

Datta, S. K. (ed.) (1938). *Assam Buranji*. Guwahati.

Devi, Mrs. Lakshmi (1968). *Ahom -Tribal Relations* (A Political Study). Guwahati.

Francis Hamilton (1940). *An Account of Assam* (ed.). S. K. Bhuyan, Guwahati.

Gait, Edward (1926). *A History of Assam*, 2nd edition.

Khatun, I.S. Mumtaza (2014). *External Relations of the Ahom Government* (1228-1826). Delhi.

Mackenzie, Sir Alexander (1884). *A History of Relations of the British Government with the Hill Tribes of the North East Frontier of Bengal*. Calcutta.

Robinson, William (1841). *A Descriptive Account of Asam*. Calcutta.

Wade, John Peter (1927). *An Account of Assam* (ed.). Benudhar Sharma, North Lakhimpur.

Estimating the Gender Gap of Adults' Education and Health in Bhutan

Chhimi Dem[*]

Abstract

Several studies in developing countries suggest that narrowing the gender gap in education and health has both economic and social benefits. Bhutan is an important country to study gender because, traditionally and by law, women and men enjoy equal status. This paper explores the gender gap in formal education and mental and physical health among adults in Bhutan.

The 2010 cross-sectional survey data collected for Gross National Happiness (GNH) Indicators by the Centre for Bhutan Studies (CBS) in all the 20 districts of Bhutan (n=6510 individuals) was used**.** It regressed formal education and various indicators of health against gender, region, age, income, and religion. Then the differences in levels of schooling and health between women and men in the eastern

[*] Adminstrative Officer, Centre for Bhutan Studies and GNH Research. Correspondence: chhimidem@gmail.com. Thank you to Karma Wangdi of CBS for data on land ownership registration; Ugyen Dorji of Out-patient Referral Division of Jigme Dorji Wangchuck National Referral Hospital for data on transport of patients abroad for treatment; and, Tshoki Zangmo of CBS for help on factor analysis for GHQ variables. RENEW and NCWC for their support with materials on gender especially on Bhutan; for this, I would like to thank Yeshey Wangmo and Chhoeki Penjore. Thank you to Kuenga Wangmo and Pema Chhomo for editing on an early version of this article. Thank you to Tshewang Lhamo of NCWC for her valuable comments. My sincere gratitude and thank you Professor Dr. Ricardo Godoy, Professor of International Development at Heller School for Social Policy and Management, Brandeis University, for providing valuable insights and feedbacks for this article. I could never thank you enough for giving me your time on reviewing this article.

region, which is reputed to be the most remote and least developed region are examined.

The gender gap persists. Men have 27% more years of schooling than women, 4.80 fewer reported sick days during the previous 30 days, 1.63 fewer negative emotions, and a 10% lower probability of reporting mental distress than women. Men in the eastern region are 6% less likely to be educated than women of their same region. However, men in the eastern region are 7% less likely to report having a stressful life than women of their own region.

Despite the tradition of gender equality and the laws supporting gender equity in Bhutan, this study finds that women lag behind men in schooling and health. The country needs to implement policies to narrow the gender gap.

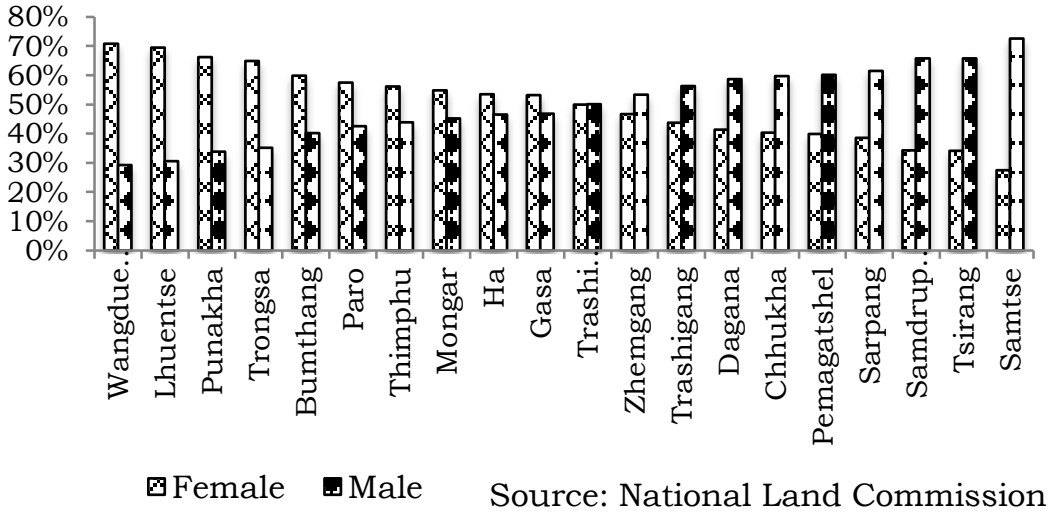
Introduction

The adult gender gap in morbidity and education in developing nations has received widespread attention because it captures equity in canonical indicators of well-being (Seguino, 2002, p. 260; Chen, 2004, p. 11; Kodoth & Eapen, 2005, p. 3278; Niimi, 2009, pp. 3-4; Kelkar, 2011, p. 65). Studies in industrial and developing nations suggest that the gender gap persists and that economic development does not necessarily reduce the gap (Undurraga et al., 2012, p. 26; Swaminanthan et al., 2012, p. 63; Maertens, 2011, p. 61; Mills & Begall, 2010, pp. 84, 88; Unni, 2009, p. 112; Godoy et al., 2006).

Bhutan is a particularly interesting country to study gender gap concerns because, by law and tradition, women and men are assigned equal status. The Constitution of Bhutan (2008) assigns equal rights to women and men and the Five-Year Plans since 1981 have done the same. The equal status of women and the elimination of discrimination and violence that may exist against women and girls in Bhutan are ratified in the Constitution of Bhutan (2008) and were further improved by government agencies and supported through

social, economic, political, and legal frameworks (National Commission for Women and Children [NCWC], 2008). Realizing the importance of gender equality for development, all five-year plans, which started in 1981 has included women issues and focused on gender equity (Gross National Happiness Commission [GNHC], n.d., p. 89). Traditional inheritance norms favour women and the Inheritance Act of 1980 ensured equal rights to inheritance by sex. Figure 1 showed the proportion of land ownership registered by gender at each district level.

Figure 1. Land ownership registration by gender and districts



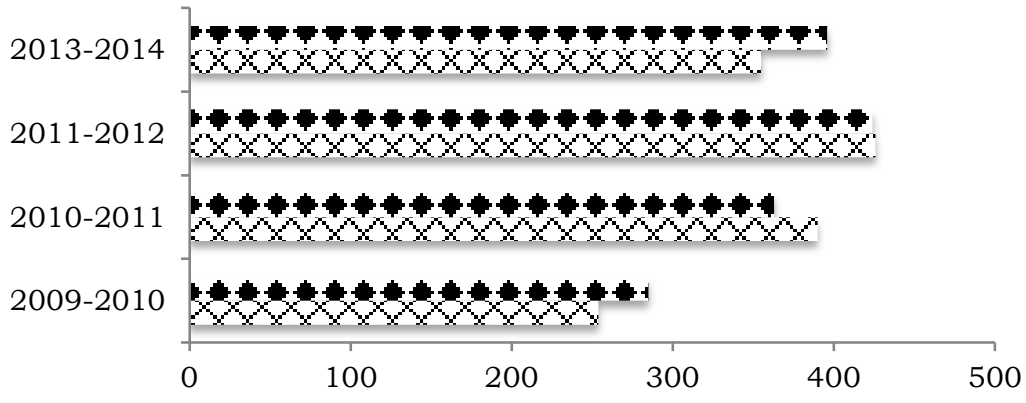
Source: National Land Commission

Recently the Domestic Violence Prevention Act, 2013 was passed, though earlier the provisions of criminal law generally covered such crimes. At the same time, provisions that specifically prohibit sexual harassment in the workplace were included under the Labour and Employment Act of Bhutan 2007. In addition, advocacy and awareness on gender issues and women's empowerment was initiated in 2005 by the National Commission for Women and Children (NCWC), Respect, Educate, Nurture and Empower Women (RENEW) and SNV Bhutan along with United Nations Development Assistance Framework (UNDAF). Gender mainstreaming

((UNDG), 2006) was further strengthened in 10th Five-Year Plan, which marked the development of Gender Screening Tool in 2010, later merged with Gross National Happiness Screening Tools.

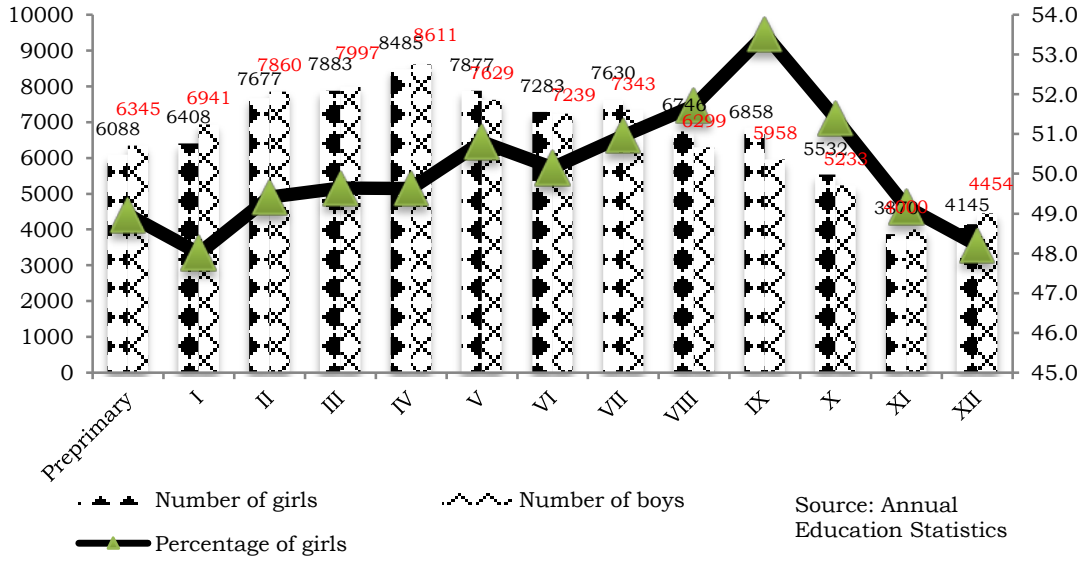
Current studies provide ambiguous evidence about gender equity in Bhutan. Research showed that there was no discrimination in access to education (NCWC, 2008, p. 39) nor was there a preference for boys over girls (NCWC, 2008, p. 45), that was further supported by research that said there was equal access to education and that, the "number of boys and girls at the primary and secondary level" (RENEW, 2007, p. 26) were equal, yet both studies and NCWC & Social Development Team South Asia Region (2013: 15) mentioned that women lagged behind men at the tertiary level, but Sinha (2009: 27) found parent's preference for boys especially in their investment in higher education. The study mentioned that women had greater freedom and equality in most areas of social interaction (NCWC, 2008, p. 55), but Black and Stalker (2006, pp. 11, 31) mentioned that although women and men shared household chores, women still faced gender bias in language usage and in some religious beliefs as well as worked longer hours. Likewise, several reports on gender studies in Bhutan concluded that there was "no overt discrimination and that institutionalised forms of discrimination against women does not exist" (Helvetas-Bhutan, 2010-2013, pp. 1, 3; Ramachandran, 2008, p. 6; NCWC, 2006). Furthermore, Figure 2 and Figure 3 presented the equal access to education and health by sex.

Figure 2. Total number of patients above 18 years received treatment outside country



Source: Outpatient Referrral
Jigme Dorji National Referral Hospital

Figure 3: Number of students enrolled by sex, girls as a percentage of all students, by class, 2013



Source: Annual
Education Statistics

This study improves on previous studies by using a larger sample to investigate the gender gap of adults in several indicators of education and mental and physical health. This study is based on the hypothesis that there will be no gender gap in school achievement or health (H1), but that the gender gap will widen in eastern Bhutan, where some of the remotest areas of the country exist and where poverty rate is high (H2) (National Statistic Bureau [NSB] & World Bank, 2013, pp. 10, 11). In rural areas men and women do not have same access to education and health care because women might be kept home to help in domestic works and must walk hours to get to hospitals and schools (Jayaraman, Ray, & Wang, 2014, p. 52; Ghosh & Choudhuri, 2011, pp. 77, 78; Mukherjee & Karmakar, 2008, pp. 74, 75). NCWC & Social Development Team South Asia Region (2013: 15) and Unni (2009: 114) showed that girls at a very young age are burdened by household chores and other inequalities such as taking care of their siblings and thereby, girls miss the opportunity of furthering their studies. Similarly, even if both men and women have equal opportunities to access education and health, the girls' performance in school will be lower and their health might be weaker compared to other regions due to their gender disaggregated related works at home (Hannum, Kong, & Zhang, 2009, pp. 10, 15).

For estimation, this study uses

[1] $Y_i = \alpha + \beta_1 Male_i + \beta_2 Eastern_i + \pi C_i + \varepsilon_i$

If hypothesis 1 is true, then this implies that the coefficient for β_1 will be zero since there will be no linear correlation nor will there be gap among men and women in Bhutan as both men and women would be equally educated and healthy.

To test hypothesis 2, it uses

[2] $Y_i = \alpha + \beta_1 Male_i + \beta_2 Eastern_i + \beta_3 Male*Eastern_i + \pi C_i + \varepsilon_i$

If hypothesis 2 is true, then it implies that the coefficient for β3 will be positive because if you are in the east and you are a man you will be less educated as compare to elsewhere in the country. If the gap is bigger in the east then β3 should be bigger.

In this model, Y is education, positive emotion, negative emotion, stress, mental well-being, health and sick days. The subscript *i* is for individual and C is for control variables such as age, income and religion. ε_i is the error term associated with the measurement of the variables. The parameters estimated are indicated by β. For sensitivity analysis, this study uses alcohol and stratification.

Method

This study uses secondary cross-sectional survey data for Gross National Happiness Indicators collected by the Centre for Bhutan Studies (CBS) through personal interviews across the 20 districts of the country between March to December 2010.

The sample selection within districts considered both urban and rural areas by adopting the sampling carried out for Bhutan Multiple Indicator Survey (BMIS) by the National Statistical Bureau (NSB). A subsample was drawn by reducing the sample to 55% of the BMIS sample to interview one person aged 15 years and above from each selected household. The dataset contains 7142 individuals (women=3708; men=3426 and the missing value for sex variable is 8). This study restricted the analysis to individuals over 18 years of age (women=3,348; men=3,161) since it focused on adults. This study used Stata/SE 12.1 for the statistical analysis. Table 1 contains definition of the variables used in the regressions and Table 2 contains summary statistics.

Table 1. Definition and coding of variables for people in Bhutan among age 18 and above in 2010 (n=6510)

Name of variable	Question in survey	Definition/coding
	Outcome variables:	
Education	What is your highest level of education?	Formal education includes structured courses offered in modern schools. Formal education=1 Non-formal education=0
Stress	During the last year, would you describe your life as (very stressful=1, moderately stressful=2, somewhat stressful=3, not at all stressful=4 and don't know=8)?	Stress during the last year is defined as: very stressful=1 (11.09%), moderately stressful=2 (13.81%), somewhat stressful=3 (30.18%), and not at all stressful=4 (44.92%). Therefore, created dummy variable where 1=stressful and 0=Not at all stressful
Emotions	During the past few weeks, how often have you felt the following moods/emotions?" The scale used in survey was often=1, sometimes=2, rarely=3 and never=4. Recoded negative emotions; 1=never, 2=rarely, 3=sometimes and 4=often based on the high (often and sometimes) and low (rarely and never) logic.	Emotional experience of positive or negative emotion a person often felt during the past few weeks; A positive emotion based on factor analysis includes calmness, empathy/ compassion, forgiveness, contentment and generosity. Negative emotion included anger, guilt, selfishness, jealousy, disappointment, sadness, frustration, fear and worry. Excluded 'pride'.
Severe mental distress (GHQ-12)	Please consider the last four weeks and answer the following questions by selecting and circling one of the four answer options using twelve general health	Mental health wellbeing during the last four weeks using 4 to 1 scale Created binary scoring where two least

Table 1 - continued

	questions i.e. been able to concentrate; on what you're doing; lost much sleep over worry; felt you were playing useful part in things; felt capable of making decisions about things; felt constantly under strain; felt you couldn't overcome your difficulties; been able to enjoy your normal day-to-day activities; been able to face up to your problems; been feeling unhappy and depressed; been losing confidence in yourself; been thinking of yourself as a worthless person; and been feeling reasonably happy all things considered.	symptomatic answers score 0 and the two most symptomatic answers score 1 i.e. 0-0-1-1
Sick days	Thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?"	Number of sick days in the past 30 days preceding the survey
	Explanatory variables	
Male	Note sex of the respondent where male=1 and female=2	Sex of a person is a dummy variable with 1 as male and 0 as female.
Eastern region	See Appendix A	Eastern is considered as districts in eastern part of the country. Eastern=1 (32.41%) Otherwise=0
	Control variables	
Age	What is your age?	Age of a person in whole years
Income	Approximately how much cash income did you	Income of respondent in the past twelve months in

Table 1 - continued

	receive during the past twelve months from each of the following sources?	Nu. Income consists of wages/salary, own business, own farm enterprise, remittances, pensions, rental/real estate, inheritance, sale of land or other assets and others.
Religion	What is your religion with 1 as Buddhism, 2 as Hinduism, 3 as Christianity, 4 as others and 9 as none"	Religion of a person where Buddhism=1 and otherwise=0 since 85.77%=Buddhism, 13.07%=Hindu and 1.16% =Christianity.
	Sensitivity Analysis	
Stratification	Rural=1 Urban=2	The stratification refers to rural and urban stratum Rural=1 Urban=0.
Alcohol	In your entire life, have you ever consumed any kind of alcohol?"	Consumption of any kind of alcohol in entire life Yes=1 No=0.

Table 2: Description and summary statistics of outcome and explanatory variables for people in Bhutan among people age 18 and above in 2010 (n = 6510)

Name	**Definition [See Table 1]**	**Mean**	**SD**
	Outcome variables		
Education	Formal	1 = 33.39 %	
	Non-formal	0 = 66.61 %	
Stress	Stressful	55.08 %	
	Not at all stressful	44.92 %	
Emotions	Positive emotion	6.88	3.03
	Negative emotion	13.00	5.20
Severe mental distress	High	19.22 %	
	Low	80.78 %	
Sick days	No. of sick days in the past 30 days	2.77	6.48
	Percentage share of zero observations	71.80 %	

Table 2 - continued

	Main explanatory variables		
Male	Sex of a person; Male Female	 1 = 48.57 % 0 = 51.43 %	
Eastern region	District in eastern part of the country Eastern Otherwise (See Appendix A)	 1 = 32.41 % 0 = 67.59 %	
	Control variables		
Age	Age in whole years	41.537	14.919
Income	Income of respondent in the past twelve months in Ngultrum (Nu / BTN)	91679.97	22201.6
Religion	Buddhism Other	85.47 % 14.53 %	
	Sensitivity Analysis		
Stratification	Rural = 1 Urban = 0	77.78% 22.22%	
Alcohol	Yes = 1 No = 0	64.66 % 35.34 %	

Note: SD stands for standard deviation and n stands for number of observations. Ngultrum denoted by (Nu) or BTN is the currency of Bhutan and equal in value to the Indian Rupee. 1 Nu = USD 60.75[1].

Results

Table 3a and Table 3b in Appendix show the regression results for both hypotheses. Table 3a includes age as control variable, and Table 3b includes age, income and religion as control variables.

Hypothesis 1

Education:

Results from Table 3a column I (A-H1) suggest that adult men are 27% more likely to be formally educated than adult women of the same age (p=0.001). The results of column II (A-H1) suggest that even after controlling for income and

[1] Retrieved July 8, 2014, from http://www.rma.org.bt/ (Website of Royal Monetary Authority, Bhutan)

religion, men are still 25% more likely to be formally educated than adult women (p=0.001).

Stress:

The results in column I (B-H1) and II (B-H1) suggest that men have lower probability of being stressful than women. For example, in column I (B-H1), men are 6% less likely to be stressed than women. Likewise, column II (B-H1) observes a 6% lower probability of men describing their life as stressful than women even after controlling for other variables (p=0.001).

Sick days:

Column I (C-H1) from Table 3a suggests that in Bhutan, the number of healthy days for men are 4.80 days more compared to women of the same age (p=0.001). It means, women have been sick and bedridden by 4.80 days more in the past 30 days preventing them from performing their normal activities. Column II (C-H1) suggests that with additional control variables, men are still sick 4.60 fewer days from illness than women of their same age (p=0.001).

Positive emotion:

The results in column I (D1-H1) and II (D1-H1) suggest that men are more likely to feel positive emotion than women. For example, column I (D1-H1) shows that men have 0.28 more positive emotions than women (p=0.001) when other variables are held constant (column I D1-H1; coefficient=0.24, p=0.001).

Negative emotion:

The results in Column I (D2-H1) and II (D2-H1) suggest that men have lower negative emotion then women. For example, in column I (D2-H1), men have 1.63 (p=0.001) fewer negative emotions compared with women of their own age during past four weeks. After controlling for other variables (column IID2-H1; coefficient=-1.56, p=0.001) men still have 1.56 fewer negative emotions than women.

Severe mental distress:

The results in column I (E-H1) and II (E-H1) suggest that men have lower probability of experiencing severe mental distress than women in the last four weeks. For example, in column I (E-H1), men have a 10% lower probability of severe mental distress than female of their same age in the last four weeks (p=0.001). The results suggest that even after controlling for income and religion, men are still 9% less likely to suffer from severe mental distress than women (p=0.001).

Hypothesis 2

Education:

Results from Table 3a, column I (A-H2) suggest an important interaction effect between gender and people living in the eastern region. Men in the eastern region have a 6% lower probability than women in the eastern region of achieving formal education (p=0.011; column IA-H2); after adding control variables, the interaction effect remains negative and insignificant, but drops to 4% (p=0.089; column IIA-H2). That is, men in the eastern region have a 4% lower probability of achieving formal education than women of the eastern region.

Stress:

Results shown in Table 3a, column I (B-H2) suggest that men who live in the eastern region have a 7% lower probability of describing life as stressful than women living in the eastern region in the last one year (p=0.007; column IB-H2); after adding control variables, the interaction effect remains same and significant (p=0.004, column IIB-H2). That is, men in the eastern region have 7% lower probability of describing life as stressful during the last year than women of the eastern region.

Sick days:

Column II (C-H2) suggests an interesting interaction effect between gender and people living in the eastern region since

it becomes negative when controlled for covariates but it is not significant (columnII C-H2; P=0.869). However, without control covariates, study sees positive interaction between gender and people living in eastern region (p=0.947). For instance, as shown in column I (C-H2), men living in the eastern region are 0.06 (p=0.947) more likely to be sicker than women living in the same region. Column II (C-H2) suggests that after adding control variables, men living in eastern region have 0.17 fewer days in bed from illness in the past 30 days than women of the eastern region (p=0.869).

Positive emotion:

Table 3a, column I (D1-H2) suggests that men living in the eastern region have often felt positive emotion of 0.08 higher than women living in the same region during past one year (p=0.605; column ID1-H2). However, after adding control variables, the interaction effect drops to 0.05 (p=0.712; column IID1-H2) and both are not significant.

Severe mental distress:

Results from Table 3a (column IE-H2) suggest that men in eastern region have 1% higher probability of associating with high mental distress than women during the past one year but is not significant (p=0.506).

The sensitivity result (not shown here) found an important interaction effects when controlled for covariates including stratification as compared to Table 3b column II (A-H2). For instance, men in the eastern region have 5% lower probability of achieving formal education than women of the eastern region and it is significant (p=0.037) but do not support urban areas having more morbidity than rural areas or consumption of alcohol having a strong effect on mental wellbeing and stress level of women.

Discussion and Conclusions

In this section it discusses the unexpected results of the study, limitations, possible policy implictions and future directions.

Unexpected results

This study found three unexpected results for hypothesis 2 to support the gender gap in education and health, where hypothesis 2 is that the gender gap will widen in eastern Bhutan. Firstly, men in the eastern region have 6% lower probability of having schooling than women of their age and it is significant. However, it becomes insignificant and drops to 4% after adding control variables but it remains signification when controlled for stratification in sensitivity analysis. This is probably because of gender bias in education spending as well as parents facing opportunity cost and risk in educating their children where the parents either have to forgo child labour or child mortality (Eswaran, 2002, p.444). Similarly, gender bias "vary sharply between households at different levels of adult literacy" (Lancaster et al., 2008, p. 134) and this is particularly true of "household spending on education" (Lancaster et al., 2008, p. 134), which is "more likely to prevail in households with low levels of adult educational attainment than in more literate households" (Lancaster et al., 2008, p. 135). Moreover, poverty differed with stratification and low household income associated with low education but it might change with time depending on the status of household and external factors such as economic and social or development taking place in the locality (Holmes & Jones, 2009, pp. 1, 4). Likewise, siblings' composition and its gender influence one's educational attainments according to Chaudhuri and Roy because "with limited resources, a rise in the number of children in the household reduces the probability that a child would graduate from the primary and upper primary school" (2009: 220).

The second unexpected result of this study is that men are 7% less likely to describe their life as stressful than women of their same age. This is probably because women generally have "higher morbidity rates than men" (Mastekaasaa, 2000, p. 1827). In addition, studies found association between women's low physical activity and higher consumption of alcohol with stress, negative and mental psyches (Verma et al., 2011, p. 4; Raikkonen et al., April, 2007, p. 874). It is also

because women with low-income or low household income are more associated with depression, anxiety and stress (Habarth et al., 2009, pp. 208, 218).

Lastly, the men from the east compared to women of their region experienced 0.95 lower negative emotions and the coefficient becomes larger on adding control variables but both are highly significant. This is because women are more likely to speak about their emotional strains in terms of health, household work and negative emotions like anger and depressions than men (Verma et al., 2011, p. 6; Jang, 2007, pp. 536, 537-543; Chaplin et al., 2008, p. 8; Evans & Steptoe, 2002). Simon and Nath (2004: 150) have also found in their study that men report positive feelings more often than women and women report negative feelings more often than men.

Limitations

This study has five limitations:

Firstly, there might be systematic measurement error in the sense that there might have been response burden because the interviewee might have become tired by the length of the interview (this survey was supposed to have taken four hours) and probably might have given shorter answers to finish the interview soon. In addition, the survey excluded speech disability because of the lack of speech experts among the enumerators. Secondly, there is selection bias since the sample was drawn on household and it excluded institutional households. Thirdly, there is omitted variable bias as mentioned in the discussion; it does not consider any of parents' spending and tradeoffs or opportunity cost or siblings' compositions. There is no data on pregnant women when studies found that women go through postnatal depression and postpartum period and that reproductive health is important for studying mental and emotion psyches since depression ranked 4th for women in global burden of disease (World Health Organization [WHO] & UNFPA, 2008, p. 2). Fourthly, there might be over and underestimation bias in

dependent variables such as mental health and sick days. Physical and mental health is measured through self-report, which may lower reliability of the data. Finally, without knowing about family background and history (Malhotra & Mather, 1997, p. 625) and drop outs, one cannot understand the sudden adults' gender gap in education when they have equal access in both education and healthcare and, especially when women almost outnumber in primary and secondary education. One might assume that the drop out might be due to personal issues and poverty.

Policy implications

There is a strong and positive association between gender and education and health in Bhutan from the primary results of this study (see Table 3a and b). This gender gap in education will likely have direct implications on the economic, social and human development but also says a lot about different gender needs. One should also remember that rule, policy and institution also cause gender discrimination (Sechrist& Delmar, 2009, p. 608). The implications here are that policy efforts to remain gender neutral or promote gender equality are not enough or clear since the results presented in this study suggest that women are falling behind men in those fields that require education, and similarly, eastern men are falling behind women in education when variables are not controlled. For instance, this explains why women are behind men in the general occupation section in Bhutan. An alternative intervention is needed to engender the laws and policies to gender needs and ensure gender equity. Moreover, the country has already transitioned to democracy and it is inevitable that priority be given in bridging the gap since half of the population of the country is women. This is because the development community shares a common understanding that there will be less effectiveness and cost consequences if development policies and actions fail to consider gender inequality and address gaps between men and women (Abu-Ghaida & Klasen, 2002, p. 4). Likewise, when controlled for stratification, men, especially from eastern region have lower schooling than women and it is statistically significant. One

way to improve this would be through increasing capacity in the school since Chen (2004) found that in case of schools with a high percentage of male, female percentage automatically increases and vice-versa. The other way would be through additional tertiary school to lessen the gap since studies have found that "female school enrollment is sensitive to the costs associated with formal education" (Chen, 2004, p. 12).

This study supports the notion that men are less likely to be sicker than women. This implies that women will be kept away either from work or school for approximately 4.80 days a month due to sickness. It will affect the family life and psychological wellbeing as well as produce economic implications. However, one needs to focus on diminishing the gender gap in women's association with sickness and mental health because the growth of the country in terms of economic and social wellbeing will be affected in the long run. Additionally, it will give rise to inequality since women, as it is, are entrenched in poverty (ILO, 2009, pp. 23-24) and it will lead to rural poor women becoming poorer and getting trapped in the poverty cycle (Magnoli, 2000, pp. 4-5). Moreover, women suffering from depression are generally not influenced by external factors (You & Conner, 2009, p.5) but status of one's socioeconomic condition and low education are related to anxiety or mental and physical health whereas lack of resource was related to worries and fears, which eventually cause sadness (Kessler et al., 1993, p. 91; Thoits, 2010, p. S44; Jose, 2011, p. 101). One way to improve would be having social support to prevent women from consuming alcohol and drugs in order to cope with negative emotion (Jang, 2007, p. 542). The other way would be through "mainstreaming gender studies into biomedical programmes" (Vlassoff, 2007, p. 57) to improve health issues and contribute to the "prevention of illness and the mitigation of negative health outcomes" (Vlassoff, 2007, p. 57).

Future directions

This may be the case with Bhutan but the scope of this paper does not allow drawing conclusions on this topic. Despite limitations, this study does become a basis for encouraging future studies using cross-sectional analysis and if possible, even longitudinal models in support of the present studies or to explore issues of gender gap related to parents' spending on their children to detect intra-household discrimination and test the idea that there is no gender discrimination as claimed in many studies. Similarly, one way to improve the mental health would be through studying unemployment since Aslund et al. (2014: 5) found that unemployment is associated with more stressful emotions and lesser mental psychological wellbeing and it is also associated with increased sick leave. However, a comprehensive study of gender gap in education and women's tendency to be worse off in physical health than men and the study the causes for stress, emotions and mental psyches for women as well as looking at the effect of policies on gender differences might offer possible solutions to reducing these gaps.

References

(UNDG), United Nations Development Group. (2006). Resident Coordinator Annual Report (RCAR 2006). Retrieved June 3, 2014, from http://www.undg.org/rcar.cfm?fuseaction=N&ctyIDC=BHU&P=490

[GNHC], Gross National Happiness Commission. (n.d.). Fifth Five Year Plan. Retrieved July 11, 2014, 2014, from http://www.gnhc.gov.bt/wp-content/uploads/2011/04/05fyp.pdf

[NCWC], National Commission for Women and Children. (2008). Study of Gender Stereotypes and Women's Political Participation (Women in Governance) (pp. 1-74): National Commission for Women and Children [NCWC], Royal Government of Bhutan.

[NCWC], National Commission for Women and Children. ((2006)). 7th CEDAW Periodic Report.*National Commission for Women and Children for the Royal Government of Bhutan*.

[NCWC], National Commission for Women and Children, & Social Development Team South Asia Region, World Bank and AusAID. (2013). Bhutan Gender Policy Note (pp. 1-51).

[NSB], National Statistics Bureau, & Bank, The World. (2013). Bhutan Poverty Analysis 2012 (pp. 1-42).

[WHO], World Health Organization, & UNFPA. (30 January - 1 February, 2008). Maternal mental health and child health and development in low and middle income countries (pp. 1-34).

Abu-Ghaida, Dina, & Klasen, Stephan. (2002). The Costs of Missing the Millennium Development Goal on Gender Equity.*The World Bank, Washington D.C*.

Aslund, Cecilia, Starrin, Bengt, & Nilsson, Kent W. (2014). Psychosomatic symptoms and low psychological well-being in relation to employment status: the influence of social capital in a large cross-sectional study in Sweden. *International Journal for Equity in Health*, 1-10.

Black, Maggie, & Stalker, Peter. (2006). A situation analysis of children & women in Bhutan, 2006 (pp. 1-85). Thimphu, Kingdom of Bhutan.

Chaplin, Tara M., Hong, Kwangik, Bergquist, Keri, & Sinha, Rajita. (2008). Gender Differences in Response to Emotional Stress: An Assessment Across Subjective, Behavioral, and Physiological Domains and Relations to Alcohol Craving. *Alcoholism: Clinical and Experimental Research, 32*(7), 1242-1250.

Chaudhuri, Kausik, & Roy, Susmita. (2009). Gender gap in educational attainment: evidence from rural India. *Education Economics, 17(2,* 215-238.

Chen, Derek H. C. (April 2004). Gender Equality and Economic Development: The Role for Information and Communication Technologies. *World Bank Policy Research Working Paper* (3285), 1-34.

Eswaran, Mukesh. (2002). The Empowerment of Women, Fertility, and Child Mortality: Towards a Theoretical Analysis. *Journal of Population Economics, 15*(3), 433-454.

Evans, Olga, & Steptoe, Andrew. (2002). The contribution of gender-role orientation, work factors and home stressors to psychological well-being and sickness absence in male- and female-dominated occupational groups. *Social Science & Medicine, 54*, 481–492.

Ghosh, Biswajit, & Choudhuri, Tanima. (2011). Gender, Space and Development: Tribal Women in Tripura. *Economic & Political Weekly, XLVI*(16), 74-78.

Godoy, Ricardo, Reyes-García, Victoria, McDade, Thomas, Tanner, Susan, Leonard, William R., Huanca, Tomás, Vadez, Vincent, &Patel, Karishma. (2006). Why Do Mothers Favor Girls and Fathers, Boys? A Hypothesis and a Test of Investment Disparity. *Human Nature, 17, No. 2*, 169-189.

Habarth, Janice M., Graham-Bermann, Sandra A., & Bermann, Eric A. (March 2009). Coping in Context Community and Natural Resources in Low-Income Women's Environments. *Sage, 41*(2), 205-232.

Hannum, Emily, Kong, Peggy, & Zhang, Yuping. (2009). Family sources of educational gender inequality in rural China: A critical assessment. *International Journal of Educational Development, 29*(5), 474-486.

Helvetas-Bhutan. (2010-2013). Helvetas-Bhutan: Gender Strategy (2010-2013) (pp. 1-17).

Holmes, Rebecca, & Jones, Nicola. (August 2009). Putting the social back into social protection - A framework for understanding the linkages between economic and social

risks for poverty reduction.*Overseas Development Institute (odi), Background Note*, 1-12.

ILO. (2009). Gender equality at the heart of decent work: Sixth item on the agenda. (Vol. Report VI). Geneva: International Labour Office.

Jang, Sung Joon. (September 2007). Gender Differences in Strain, Negative Emotions, and Coping Behaviors: A General Strain Theory Approach. *Justice Quarterly, 24*(3), 523-553.

Jayaraman, Rajshri, Ray, Debraj, & Wang, Shing-Yi. (2014). Engendered Access or Engendered Care? Evidence from a Major Indian Hospital.*Economic & Political Weekly, XLIX*(25), 47-53.

Jose, Sunny. (2011). Adult Undernutrition in India: Is There a Huge Gender Gap? *Economic & Political Weekly, XLVI*(29), 95-101.

Kelkar, Govind. (2011). Gender and Productive Assets: Implications for Women's Economic Security and Productivity. *Economic & Political Weekly, XLVI*(23), 59-69.

Kessler, Ronald C., McGonagle, Katherine A., Swartz, Marvin, & Blazer, Dan G. (1993). Sex and depression in the National Comorbidity Survey I: Lifetime prevalence, chronicity and recurrence. *Journal of Affective Disorders, 29*, 85-96.

Kodoth, Praveena, & Eapen, Mridul. (2005). Looking beyond Gender Parity Gender Inequities of Some Dimensions of Well-Being in Kerala. *Economic and Political Weekly, 40*(30 (Jul. 23-29, 2005)), 278-3286.

Lancaster, Geoffrey, Maitra, Pushkar, & Ray, Ranjan. (2008). Household Expenditure Patterns and Gender Bias: Evidence from Selected Indian States. *Oxford Development Studies, 36*(2).

Maertens, Annemie. (2011). Does Education Pay Off? Subjective Expectations on Education in Rural India.*Economic & Political Weekly, XLVI*(9), 58-63.

Magnoli, Alessandro. (2000). Bridging the Gender Gap In Developing Regions. *Working Paper Series*.

Malhotra, Anju, & Mather, Mark. (1997). Do Schooling and Work Empower Women in Developing Countries? Gender and Domestic Decisions in Sri Lanka.*Sociological Forum, 12*(4), 599-630.

Mastekaasa, Arne. (2000). Parenthood, Gender and Sickness Absence.*Social Science and Medicine, 50*(12), 1827-1842.

Mills, Melinda, & Begall, Katia. (2010). Preferences for the sex-composition of children in Europe: A multilevel examination of its effect on progression to a third child. *Population Studies, 64*(1), 77-95.

Mukherjee, Anit N, & Karmakar, Krishanu. (2008). Untreated Morbidity and Demand for Healthcare in India: An Analysis of National Sample Survey Data. *Economic & Political Weekly*, 71-77.

Niimi, Yoko. (2009). Gender Equality and Inclusive Growth in Developing Asia.*Asian Development Bank, 186*, 1-48.

Raikkonen, Katri, Matthews, Karen A., & Kuller, Lewis H. (2007). Depressive Symptoms and Stressful Life Events Predict Metabolic Syndrome Among Middle-Aged Women.*Diabetes Care, Epidemiology/Health Services/Psychosocial Research, 30, No4*, 872-877.

Ramachandran, Nira. (February 2008). Underfed, Underpaid and Overlooked: Women, the Key to Food Security in South Asia. *The Gatekeeper Series of the Natural Resources at IIED, 136*, 1-34.

RENEW. (2007). Violence Against Women.

Sechrist, Gretchen B., & Delmar, Courtney. (2009). When Do Men and Women Make Attributions to Gender Discrimination? The Role of Discrimination Source.*Sex Roles, 61*, 607-620.

Seguino, Stephanie. (2002). Gender, Quality of Life and Growth in Asia 1970-1970.*The Pacific Review, 15*(2), 245-277.

Simon, Robin W., & Nath, Leda E. (March 2004). Gender and Emotion in the United States: Do Men and Women Differ in Self-Reports of Feelings and Expressive Behavior? *AJS, 109*(5), 1137-1176.

Sinha, Chaitali. (2009). Effects of Education and ICT Use on Gender Relations in Bhutan.*Information Technologies and International Development, 5*(3), 21-34.

Swaminathan, Hema, Lahoti, Rahul, & Y, Suchitra J. (2012). Gender Asset and Wealth Gaps: Evidence from Karnataka. *Economic & Political Weekly, XLVII*(35), 59-67.

Thoits, Peggy A. (2010). Stress and Health: Major Findings and Policy Implications. *Journal of Health and Social Behavior, 51*(S), S41-S53.

Undurraga, Eduardo A., Zycherman, Ariela, Julie Yiu, Jere R. Behrman, Leonard, William R., Godoy, Ricardo A., & Team, TAPS Bolivia Study. (2012). Mother's income and child nutritional status: Results from a randomized control trial in the Bolivian Amazon. *Tsimane' Amazonian Panel Study Working Paper*(80), 1-57.

Unni, Jeemol. (2009). Gender Differentials in Education: Exploring the Capabilities Approach. *Economic & Political Weekly, XLIV*(9), 111-117.

Verma, Rohit, Balhara, Yatan Pal Singh, & Gupta, Chandra Shekhar. (2011). Gender differences in stress response: Role of developmental and biological determinants. *Industrial Psychiatry Journal, 20*(1), 4-10.

Vlassoff, Carol. (2007). Gender differences in determinants and consequences of health and illness.*Journal of health, population, and nutrition, 25(1), 47*, 47-61.

You, Sungeun, & Conner, Kenneth R. (November 2009). Stressful Life Events and Depressive Symptoms: Influences of Gender, Event Severity, and Depression

History. *The Journal of nervous and mental disease, 197*(11), 1-12.

Appendix A

Districts not in eastern region	**Districts in eastern region**
Bumthang	Lhuntse
Chukha	Mongar
Dagana	Pemagatshel
Gasa	Samdrupjongkhar
Haa	Trashigang
Paro	Trashiyangtse
Punakha	
Samtse	
Sarpang	
Thimphu	
Trongsa	
Tsirang	
Wangdiphodrang	
Zhemgang	

Table 3a: Regression results with robust standard errors, the effects of male and region on education, stress, sick days, emotion and GHQ-12 of people age 18 and above in Bhutan in the year 2010 without controls (n=6,510)

Explanatory variables	**Dependent variables**											
	I											
	A. Education		**B. Stress**		**C. Sick days**		**D. Emotions**				**E. GHQ-12**	
							Positive		**Negative**			
	H1	**H2**	**H1**	**H2**	**H1**	**H2**	**H1**	**H2**	**H1**	**H2**	**H1**	**H2**
Male	**0.27*** (0.01)**	**0.28*** (0.01)**	**-0.06*** (0.01)**	**-0.04** (0.15)**	**-4.80*** (0.51)**	**-4.82*** (0.63)**	**0.26*** (0.07)**	**0.24** (0.08)**	**-1.63*** (0.12)**	**-1.32*** (0.15)**	**-0.10*** (0.009)**	**-0.10*** (0.01)**
Eastern	^	**-0.12*** (0.01)**	^	**0.15*** (0.01)**	^	**4.17*** (0.70)**	^	**-1.24*** (0.11)**	^	**0.94*** (0.19)**	^	0.06*** (0.01)
Male * eastern	^	**-0.06** (0.02)**	^	**-0.07** (0.02)**	^	0.06 (1,04)	^	0.08 (0.16)	^	**-0.95*** (0.27)**	^	0.01 (0.02)
Control variables												
Age	**0.01*** (0.0005)**	**-0.01*** (0.005)**	0.0007 (0.0004)	0.0007 (0.0004)	**0.20*** (0.01)**	**0.20*** (0.01)**	**0.01*** (0.002)**	**0.01*** (0.002)**	**-0.01*** (0.004)**	**-0.01*** (0.004)**	**0.004*** (0.0003)**	**0.004*** (0.0003)**
Income	^	^	^	^	^	^	^	^	^	^	^	^
Culture	^	^	^	^	^	^	^	^	^	^	^	^
Religion	^	^	^	^	^	^	^	^	^	^	^	^
R^2	0.207	0.208	0.012	0.013	0.013	0.013	0.041	0.041	0.031	0.032	0.047	0.047
Type of regression	Probit	Probit	Probit	Probit	Tobit	Tobit	OLS	OLS	OLS	OLS	Probit	Probit

*p≤0.05, ** p≤0.01, *** p≤0.001. ^ Variables left out on purpose. In the cell I report coefficient, and significance as well as standard errors, which are in parentheses. OLS = ordinary least square. n = number of observations. H1 = Hypothesis 1 and H2 = Hypothesis 2.

Note: The probit regression was estimated at the mean values of all Xs and not the marginal effect on the underlying Z variable i.e. probit regression giving changes in probabilities instead of coefficients.
Robust standard errors used in all regressions. Used Pseudo R^2 for probit and tobit regressions.

Table 3b: Regression results with robust standard errors, the effects of male and region on education, stress, sick days, emotion and GHQ-12 of people age 18 and above in Bhutan in the year 2010 with controls (n=6,510).

Explanatory variables	Dependent variables											
	A. Education		B. Stress		C. Sick days		D. Emotions II				E. GHQ-12	
							Positive1		Negative2			
	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	H1	H2
Male	**0.25*** (0.01)**	**0.26*** (0.01)**	**-0.06*** (0.01)**	**-0.03** (0.01)**	**-4.60*** (0.52)**	**-4.53*** (0.65)**	**0.28*** (0.07)**	**0.26** (0.09)**	**-1.56*** (0.13)**	**-1.21*** (0.15)**	**-0.09*** (0.01)**	**-0.09*** (0.01)**
Eastern	^	**-0.11*** (0.01)**	^	**0.15*** (0.01)**	^	**3.92*** (0.71)**	^	**-1.26*** (0.11)**	^	**0.85*** (0.19)**	^	**0.05*** (0.01)**
Male * eastern	^	-0.04 (0.02)	^	**-0.07** (0.02)**	^	-0.17 (1.05)	^	0.05 (0.16)	^	**-1.05*** (0.27)**	^	0.003 (0.02)
Control variables												
Age	**-0.01*** (0.0005)**	**-0.01*** (0.0005)**	0.0007 (0.0004)	0.0007 (0.0004)	**0.20*** (0.01)**	**0.20*** (0.01)**	**0.01*** (0.002)**	**0.01*** (0.002)**	**-0.01*** (0.004)**	**-0.01*** (0.004)**	**0.004*** (0.0003)**	**0.004*** (0.0003)**
Income	**3.30e-07*** (8.83e-08)**	**3.28e-07*** (8.82e-08)**	-3.91e-09 (2.83e-08)	-7.05e-09 (2.83e-08)	**-3.96e-06* (1.92e-06)**	**-3.97e-06* (1.93e-06)**	**5.27e-07*** (1.60e-07)**	**5.29e-07*** (1.60e-07)**	2.05e-07 (2.61e-07	1.60e-07 (2.58e-07)	**-2.72e-07*** (7.13e-08)**	**-2.721e-07*** (7.14e-08)**
Religion	**-0.07*** (0.01)**	**-0.07*** (0.01)**	0.02 (0.01)	0.03 (0.01)	1.11 (0.77)	1.12 (0.77)	**0.29** (0.10)**	**0.28** (0.10)**	**0.67*** (0.18)**	**0.75*** (0.18)**	0.20* (0.01)	**0.02*** (0.01)
R^2	0.227	0.227	0.012	0.013	0.014	0.014	0.044	0.044	0.033	0.035	0.054	0.054
Type of regression	Probit	Probit	Probit	Probit	Tobit	Tobit	OLS	OLS	OLS	OLS	Probit	Probit

*p≤0.05, ** p≤0.01, *** p≤0.001. ^ Variables left out on purpose. In the cell I report coefficient, and significance as well as standard errors, which are in parentheses.
OLS = ordinary least square. n = number of observations. H1 = Hypothesis 1 and H2 = Hypothesis 2.

Note: The probit regression was estimated at the mean values of all Xs and not the marginal effect on the underlying Z variable i.e. probit regression giving changes in probabilities instead of coefficients. Robust standard errors used in all regressions. Used Pseudo R^2 for probit and tobit regressions.