

Climate Change and National Security of Small States of South - Asia: A Case Study of Bhutan and Maldives: A Research Article

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Abstract: *National Security of smaller State is more vulnerable than bigger states due to their size and limited resources. Regardless of their size, most of the nations of south Asia are considered as small states because of their feature. Interestingly smaller states of South Asia have not any contribution in regards to degrade the environment. Instead of they are conserve the mother Earth by their National Climate Adaptation Programme .Due to higher emission of carbon in our environment, the global temperature is increasing in rapid way .It resulted rise of sea level and meting of glacier which pose a challenge for the existence of Smaller nations like Bhutan and Maldives of South Asia. This paper is an academic effort to highlight these issues and find out possible solutions through the collective actions and efforts of national, regional and global level.*

Keywords: Climate Change, Environment, National Security, South Asia, Vulnerable

1. Statement of the Problem

Traditionally security studies have essentially focused attention on the nation-state within a global or regional state system as the central domain of inquiry. National security has been defined as protection from external attack, primarily viewed in terms of military defence against military threats this view is based on the concept of maximizing national power in conflict situations and has led to the assumption that a nation can be secure only if it increases its power at the expense of other nations. This notion of national security suited stable nation states of the industrialized west but proved to be inadequate to explain the problem of security faced by heterogeneous and developing nation states like India.

Recent literature on national security strongly supports the thesis that the issues related to security cannot be effectively addressed without due focus on factors as societal, political and economic. Security is not just the absence of war or preparedness for war. It has non-military dimensions at Economic, Diplomatic, Environmental and Social Political levels.

An important area in the entire security debate is the place of people as the referent unit in security. For the common man security symbolize protection from the threat of disease, hunger unemployment, social conflicts, political repression and environmental hazards. Security thus is a psychological problem. It has two aspects.

- a) The absent of objective dangers and
- b) The absence of subjective fears whether or not they are justified.

National security as a concept has remained unquantifiable, the meaning of which is more readily sensed than defined. The unquantifiable characteristic of the concept of security acted as a negative factor in the development of a sound theory of security, the concept of national security must take into account the present day realities. Both the perceived and actual threats are important in national security perception

and approaches, In present times the main sources of conflict are of an intra-state nature. Security has to be understood by acquiring insights on various aspects through interdisciplinary studies That is particularly true in the understanding and analysis of non-military dimensions of security.

Seventy years after the end of colonial rules South Asia today a host of contradictory phenomena. The region today is perhaps the most conflict ridden part in the world. Perceived in this light, threats to the national security of south Asian states display elements of commonality although the significance of particular threats would obviously be different as between deferent countries .An effort to address this dismal situation must start with discerning a new paradigm for national security relevant to south Asia. South Asian states has been to prioritize and encapsulate the various threats to national security

In the region that come within the purview of external, internal and non-military threats to the individual states and of the region as a whole.

Most of the states of South Asia are considered as small states irrespective of their size, resources and population, these states enjoy equal status with other states. But due to the hierarchical nature of power in the regional system, the security interests and requirements of these states differ,. The factors that broadly affect the security of such small states are their size, sparse population, limited resource base, lack of cohesion of the population and internal conflict conditions, short of democratic structure, proximity to big neighbours and threats to their ecology. The factor impinge on the ability of these states is to make itself secure and provide security to its citizen. It is impossible for them to obtain security by using their own capabilities. They has to rely on assistance from neighbours and other states for their security matter. It thus requires substantial assistance and support provided both on a bilateral basis and multilaterally strategy through international institutions.

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The security problems of the small states of South Asia are not less important. Their security threats are associated with their small size, remoteness and insularity, environmental fragility and dependence on foreign source of finance. The security problems of small states of South-Asia are very serious because, poor economy which makes them unable to take proper plan for mitigate the challenge posed by climate change. Some developed small states have the ability to face the security threats themselves. The small states of South-Asia are known as 4th world nation. Due to poor economy, they are lagging behind so far as the development is concerned. Security is inextricably linked with development. Without development there is no security. To face the challenge of vulnerability and insecurity a nation must have sound economy. The result is that both Maldives and Bhutan's security cannot be detached from the security of the region because developments in its immediate and distant vicinity impinge on their interests. Their principal strategy is to gather international support and commitment to its security, along with protection to other small states. Although the security policy framework is based on multilateral-cum-bilateral approach, it is more on the multilateral support rather than on the bilateral support.

2. Nature and Scope of Study

The aim of the study is to provide a comprehensive understanding of environmental security challenges due to climate change of small states of South-Asia. The study is also covered the emerging issue, "ENVIRONMENT DEGRADATION" in the overall national security debate of smaller states of South-Asia. The study will particularly focus on the Environmental Security problems of Maldives and Bhutan. The study will attempt to re-conceptualize the Non-traditional understanding on the concept of Security by focusing on smaller states of South-Asia.

Key Hypothesis to be tested

The main thrust of the study is to examine the potentialities and possibilities of a comprehensive and co-operative Environmental security paradigm of smaller states of South-Asia. In the regard the basic premise is that one's own Security is intimately linked to the security of one's opponent. On this basic question a declaratory hypothesis has been developed to guide the entire research work to a formidable conclusion.

The tentative declaratory hypothesis is:

The emerging issue, "Environmental Degradation", "have the potentiality of brining about comprehensive security threat in conflict ridden region as a whole and future existence for smaller states like Maldives and Bhutan

Objectives of Study

The present study highlights the following two objectives:

- 1) The study will particularly focus on Bhutan and Maldives security challenges due to climate change and their smaller size.
- 2) The present study analyses the threat perceptions of Maldives and Bhutan in a comprehensive manner by

taking into consideration the external, internal and non-military threats to the security of the state.

3. Research Methodology

The entire research has been formulated within the historical and analytical method of study. In using this methodology care has been taken to avoid both the extremes, that is one-sided emphasis on objective condition and subjective interpretation divorced from abstract historical reality.

The study is based on both the primary and secondary sources. Books, articles, journals, news-papers, you tube videos and unpublished works have been referred as secondary sources of information. The primary sources comprises various governmental and non-governmental documents, reports and decisions, important states pronouncement and policy statements, parliamentary debates as well as speeches and writings of prominent world state man and leaders.

Security Challenges of Bhutan

High up in the Himalaya there is a tiny state named Bhutan that also called the land of thunder Dragon, the last living place of Sangri -La. Till sixties of just ending century, they have no contact with the outside world. They chose the policy of isolation in order to protect their nature and culture from the ill effects from outsider. However the stay between two regional super powers of Asia, it is vulnerable to take over. So, in 1971 the kingdom joined in UN.

The development path of Bhutan is unique. They have choice the development path by influencing by their rich culture and their spirituality which is Buddhism. Their holistic approach of development tries to carefully balance material needs with spirituality. According to Bhutanese material growth should be balance with environmental sustainability. And all of these should be balance with the framework of good governance. They rename this unique development policy GNH (Gross National Happiness) in place of GDP. It is an approach to development which is holistic, equitable, inclusive and sustainable.

As an early 1970 the fourth Dragon king Jigme Singye Wangchuck by giving happiness precedence over economic prosperity, first announced that Gross National Happiness is more important than Gross National Product. We must understand that entire GDP is the nation is only about 2 billion US dollar. But it is GNH, that they use their limited resources wisely. It is because of GNH that education is totally free both primary and secondary level and those who part of higher level. Similarly, health care is also totally free for all.

Because of GNH they well maintain their pristine environment which is gifted by their forefather. Endowed with the outstanding natural beauty, Bhutan prestige environment endowed with rapid mountains and deep valley offers eco-system that both rich and diverse. Their constitution requires that sixty percent of their country cap under forest cover. Bhutan present forest cover is more than 72% which is highest in Asia. More than half of the Bhutan is protected by law as a natural park, wildlife Sanctuary and

Biological corridor links with one pass to the next. Today, global community recognise Bhutan as a hot spot of world's ten most bio-diverse region.. Bhutan is considered one of a hot bio-diversity home of many endangered species. In 2009 Bhutan declare to become carbon neutral. But in actual means Bhutan is not carbon neutral but carbon negative. Their forests sequester 6.6 million tonnes of carbon dioxide each year. They generate only 2.4 million tonnes carbon dioxide. Therefore, they are net carbon sink at about 3.9 million tonnes of carbon dioxide every year. Bhutan commitment to conservation policy of environment is really bigger than the most. Conservation of environment is one of the important pillars of amongst four that that GNH approach of development. This unique approach is not only beneficial for the people of Bhutan but also all Hindu-Kush regions where one fifth of the world population lived. The glacier lakes and rivers flows from Bhutan provide them waters and clean air for breath.

Because of GNH they well preserve their unique culture and heritage. To save from the ill impact on their rich Buddhist culture from outsider, they have applied high value low tourism policy. Within Bhutanese culture development meant enlightenment of the individual. They think that enlightenment is blossoming of happiness.

Because of GNH, they have good governance. Bhutan is the only state in the world where democracy is established not because of the demands of the people but was imposed by the king against the will of the people.

Therefore, within their national boundary, Bhutanese people and government well preserve their nature and resources within a unique framework under holistic approach of GNH, which they called the development of values. But in the age of globalization where happiness is sought through consumption is a biggest threat for nation security of Bhutan.

Bhutan is situated Southern part of Tibetan plate. For centuries Bhutanese depends on agriculture and the agricultural output depends on glacier water which local people referred to as "White Gold". Global temperature is increasing more than our prediction and resulted melting of glacier in high rate. Glaciers are retreating rapidly and dramatically which increase the risk of catastrophic floods living below the valley. According to the experts all glaciers of Bhutan will be disappear completely of 2025 due to melting for rising global temperature. Bhutan largest glacier Lake Thorthormi full of waters and cannot hold any more water. There are more than 2600 glacier like Thorthormi. By contrast Lake Rapstreng fully forms lake. Between Thorthormi and Rupstreng there is only a small wall of thirty meters. Usually the water level rise of any one glacier melting, the pressure on the dam will increased, lower throw the lake Rupstreng, a super glacier lake with 53 million tonnes cubic water will burst and causing flood three times size compare to the flood of 1994. The Himalayan meltdown is creating hundreds of high altitude lake which contains massive amount of glacier water. At any movement an Earthquake can destroy all part of lower valley. In 1994, a dam near by glacier lake blast and flood killed 28 people and devastated the valley below. Many families lost their lives.

Today sixty percent Bhutanese depends on agriculture for their livelihood. Due to climate change agriculture is also bearing the brand. Climate change posing great dangers in sustainable development life and livelihood of the people of Bhutan. The cause of soil erosion and land degradation make the land holding getting smaller. Monsoon has become very erratic. During Monsoon flash flood, landslide and erosion also threatened property and critical infrastructure.

Major portion of national revenue is derived from hydropower sector. But looming a facts of climate change , including melting of glaciers, shifts in rainfall pattern swinging river flow, all of have negative impact for hydropower sector of Bhutan .

Measure to face the challenge

The government of Bhutan have taken several measures to address the adverse impact on climate change and glacier melting with support of least developed nation plan, and others donors as part of national adaptation programme of actions by UN inspiring the impact of climate change with pattern of organizations such as United Nations Development Plan, Global environment facilitators, WWF, Government of Austria.

The water level of Thorthormi Glacier Lake which is one of the Bhutan most dangerous glacier lakes was lowered to reduce the risk of floods. Adequate early warning system install in the down- stream Punakha valley. Bhutan government employed 350 workers to fight the possible catastrophes two years ago. They travelled nine days to work for safe their heavenly kingdom. Heavy machines could not use, so workers have to laboured hard to remove the boulders. Thorthormi seats at four thousand three hundred meters. The oxygen is limited and Working here is very risky here. The average temperature of the working place is only two degree Celsius. But the nature loving Bhutanese are very much committed to save their nation from catastrophically glacier meltdown.

In order to remain carbon neutral, growing emission will be mitigated by ensuring the protection of forest sink, and ensuring lower emission development part across all sector. However, Bhutan committed to continue co-active role to remain carbon neutral, while life and livelihood to the people and communities as rapid environment support of the international community will be essential for achieve the ultimate goal. Though a tiny state Bhutan has already taken pre-active, as it believes that there is an urgent need the principle of inter-generational equity. International community needs to be addressed long terms threat to water security, agricultural and food security and human settlement.

Sea Level Rise and Future Existence of Maldives

The Maldives is a topical island nation of southern part of Indian sub-continent, consisting of 1192 geographical disappeared coral reefs. It is the sixth smallest country in the world in terms of land area, estimated to be approximately two hundred and thirty five sq kilometres. Most most of the islands are too tiny and only ten islands is more than two and a half sq k. m. Maldives is the lowest laying nation of the world. Its highest natural point is less than two and a half

meter above the sea level. Only two hundred islands are suitable for human life and nearly half of the population lives in the capital city of Male which is less than one point two square k. m. in size. More than forty percent of population and their housing structures are being within hundred meter of coastline. Over last fifteen years more than ninety two percent islands flooded at least once and thirty seven islands flooded regularly or attest once a year. Due to its natural beauty, it is called “**Paradise of Water**” on Earth. Because of erosion half of tourist resorts have been lost last nineteen years of this century. Rapid increase of global temperature the sea level is rising and it pose a challenge to the existence of island nation from submerging sea before 2050.

The major portion of GDP of Maldives comes from tourism sector. Interestingly nearly ninety percentage of GDP depends on maritime bio-diversity, basically on coral reefs. In past Maldives has uniform climate entire the nation and throughout the year. But recent years Maldivian has also experienced unpredicted weather due to climate change. As results of the great Tsunami in 1998, ninety eight percent of coral reefs are died. Coral reefs are the major attractions for tourist therefore it directly impact on tourism sector. Climate change not is only threat for future existence of the island nations, but also impacts on present generations in various ways like:

Human Health

The changing nature of climate has direct impact on the Maldivian. Poor sanitation due to climate change of the island combined with decreasing rainfall is the major reasons of frequent out- break of many deadly disease during the dry season is a major concerned for health security. Climate change is the reasons of numerous health issues like out-break and aggravating much disease, emerging health concerns for people. Interestingly non-communicable diseases have been major health concerns for Maldivian in recent years. Climate change and air, land and water pollution is the major reason for non-communicable diseases. The major health issues that affected by climate change are mentioning as follows in national adaptation to climate change, 2009.

- 1) Heat waves are the major culprits for heart related problems like stress, strokes and cardiovascular disorder. Increasing air pollution is the major reasons of increasing asthma patients.
- 2) In last few years the life and livelihood of the major islanders become uncertain due to the problems of erosion and floods which is the results of rising sea level. It increase mental and psychological stress most of islanders
- 3) Diarrheal like water-borne diseases continue to cause increasing mortality among children and adults. In future the scenario will be more dangerous due to shortage of pure drinking water in the most of the islands due to climate change.
- 4) The climate change will directly impact on the production of the staple foods and it will create the problems of food crisis which will lead the risk of malnutrition and hunger.

Thus the changing nature of climate also a reason of threats on human health particularly due to poor sanitation combined with decreasing rainfall operates of much deadly disease particularly in living areas of rural community. Climate change is forcing numerous health issues; break out bacterial many others disease. Because of contamination of ground water, Children face skin disease.

Erosion

Most of the inhabited island is very small now due to erosion. A lot of agricultural plots has been destroyed and turns stones and sands which has create huge problem for the people depends on agriculture for their livelihood. Islands are losing huge area now. The weather is also become unpredictable. There is increase in rain of frequency of storm in the region. It caused the flooding in the islands. The erosion is going serious day by day. Around eighty percent islands are facing serious erosion and more than thirty percent lands are submerged including all kinds of property. Most inhabited place the Capital of Male is only 1.2 m. above the sea level which is extremely vulnerable.

Impact on Coral Reefs

Maldives is known as the paradise on Earth due to its natural beauty. Most of tourist visit Maldives for to watch the beautiful coral reefs. Before thirty years, the coral reefs near the male are full of life. But the rise of the temperature under sea water is the reason of diversification of coral reefs which has the direct impacts on the two major sectors of the nation’s tourism and fishery. Before great Tsunami 1998, the deeps water of the sea was full of different types of colourful fish and corals. But Ninety eights percent of coral reefs that existed before 1998 are already died. Damaged reefs are also less effective to first line of defence as well as flooding or rising sea level.

Vulnerability of Water and Agriculture

In many islands, people are facing the problems of fresh water. The ground water is not usable in many islands. Hence people are heavily depends on rain water for various domestic use. Most of the islands is heavily depends on rain for drinking water. The people collect rain water through tank, not only for the purpose of drinking but also for showing and bathing. Fresh water lands are badly affected by the Tsunami 2004 and unplanned urbanization. Due to unpredictable weather the northern islander of Maldives face shortage of drinking water during the dry season from April-May, at the same time most of the southern island faces the problem of flood in the same season.

It is a problem for farming as well. Using electric pumps now these days is directly affects on ground water. The agricultural production is also decreasing due to limited land and sand soil of island. Now islanders are heavily depends on horticultural crops. Inclusion of soil water in farming lands created problems for farmer. Rug weather during rainy seasons also created the problem of flood. Some time more than sixty percent agricultural land destroyed due to heavy rain and floods.

Impact on Economy

Fishing is the second largest activities of Maldivian. The nation lives for centuries with coconuts and fishing.

Maldives has no rapid resource besides the capital city of Male. The fishing industry is heavily depends on the existence of healthy coral reefs. But the sustainability of reefs is very much threading due to climate change. The number of fish that they able to catch is also lower than before, because the damage of coral reefs. It has effect the availability of fish.

Average 1.2 million tourist visits Maldives annually which also facing serious challenge for climate change.

Measures to Mitigate the Challenge

The economy and the way of lives of Maldivian completely connected with the sea. The tiny island nation which is just 5 feet above the sea-level, some study predict that the climate change could course sea level rise six feet above at the end of twenty first century that mean Maldives would come uninhabited and submerged under the sea after eighty years. On an official interview the vice president of Maldives said,

“Time is not with us .Time is against us. We are already living with the consequences of global warming”

The first democratically elected president of Maldives Mohamed Nasheed said an interview in 2008,

If, we do not act now. My island nation will be submerged by the rising sea. We have done nothing that has increase the temperature but now we have facing first burnt of it. At the end of the day we are talking about mass- murder.

My language has extreme, because this is extreme situation, and we have to herento get people a lesson”

Just after holding his presidential post Nasheed react on climate change, as central part of his agenda and trying to made attentions of international community by representing the less development island nations that facing same challenge for their survival.

Naheed arranged the cabinet meeting under the sea water to put the attention of international community just before the World meet in Copenhagen. He along with some smaller island nations, met series of leader in seeks of save their nations from sea level rise due to global warming. So, the president and vice-president of Maldives are working to promote the global warming issue back in home.

Coral is the Maldives natural defence. Realising its importance the government of Maldives planted new reefs and reground them under the sea. A few scientific researches have been done so far due to lack of University in Maldives. Realising the importance of study Holiday Privet Limited is funding a new research laboratory. Maldives will not exist without the reefs. To save the Paradise demands further research on local level.

As the lowest nation in the world, the government of the island nation, is now taking some plan to protect the lives of 3, 94,000 people. By 2023, the government of Maldives plan to complete an artificial island named as ‘*The City of Hope*’ which is reside on near the ho-homali , and equipped with 9 feet high wall. It will be a man made adopted island. Though expensive, it will last hundreds of years. The

success of the ho-homali, will give a new hopes in near future to fight against the climate change. They propose to build 7 islands in 7 different zones above three meter range of sea level. But it is too costly, and millions of dollars needs for that projects which is very difficult for a country which is so small in both size and economy.

4. Finding and Conclusion

a. Smaller States of South Asia are environment friendly but still they fighting for their existence for global warming due to climate change. Two of the smallest nation of South Asia, Bhutan and Maldives save their environment better than the any nation in the world. Both nations committed to remain carbon neutral. Bhutan established them the only carbon negative state in the world. But their efforts are not sufficient for save the mother earth .Hence, greater efforts in global and regional level is urgently needs to mitigate this problem.

b. It is high time to examine the meaning of development in real terms in the age of globalization. We have also scrutinized the question” **If we have over developed?”** and **“Does development leads us towards more and more consumption?”** If **“yes”** is the answer then our policy maker must search real alternatives of current nation economic model which is based on GDP. Over consume means over produced and this is not a sustainable model for both human kind and mother Earth. The tiny Himalayan nations Bhutan new perspective of **“Gross National Happiness”** is a lesson for the other nations of the world. We have to learn a lesson from Bhutan though it is a small civilization. World have unlearned from their model of development which has great value in capitalist and market centric economy. According to Bhutanese, GNH is the concept of development of values by balancing economic growth with the spiritual wellbeing of the society.

C. Today National security perspectives diverted to Human Security by interlinking the security of a nation with the other nations of the world. New approach of Co-operative and comprehensive security perspective is becoming more and more popular within global community. South Asia is a unique region in the world that why it is considered as a sub continent. Beside two island nations Sri Lanka and Maldives, India, Bangladesh and Pakistan has also long costal region. Therefore the sea level rise is also serious regional security threats of south Asia. Therefore SAARC as a regional organization can take some collective measures to fight against the war of climate change. If the global community will fail to control global warming, SAARC obviously lost most of the coastal region. State like Bangladesh has no enough money to make sea wall to save their coastal region. Hence this will obviously create the problems of “Environmental Refugee” to neighboring India. Already mass migrations from Bangladesh create serious socio-economic and demographic impacts some of the border states of India likes Assam, Tripura and West Bengal.

The conventional understanding of securing is no longer found to be a politically relevant today. The agenda set recently for a review of global politics and security brought the environmental components into the centre stage. Thus

the concept "Environmental Security" arose at a time when there was already an intellectual ferment in the field of international security in the Western World. The need for reconceptualizing the traditional understanding of security due to the latter's utter inequality was felt. The need was to secure the people living within the state. Environmental degradation has been perceived as an equal if not greater threat to humanity than a military threat.

In the twenty first century, the issue of environmental security has emerged as a key factor in the international security politics. However, two questions present themselves: how can environmental security best be achieved and what should lead the effort? Without any doubt, effort to be enhance environment security should be multinational in the sense that action is required at a number of level- national ,regional and global. State need to assume primary responsibility for restoring for restoring the environment security and for preventing humanitarian emergencies. However, in addressing many issues of environmental security close consultation and coordination are required across national boundaries. A comprehensive and collective approach is therefore required. Institutions engaged with this will need to perform three important responsibilities:

- a) Giving early warning to of humanitarian emergencies.
- b) Ensuring early consultation among members and interested parties and.
- c) Providing crisis management with regular supervision.

There is also the need to promote various channels of dialogue on future environmental security challenges. There is also a need for evolving consensus on empowering new international conventions and policy of protection for implementing environmental security. As small nations of South Asia both Bhutan and Maldives performs their responsibility at best in their national level. Hence, the game of ball is now in the court of developing and industrial nations. It will be their duty to push the ball in the right place and secure our human and humanity which is a result of thousands of continuous efforts.

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