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Climate Change and Human Security in Cambodia

By

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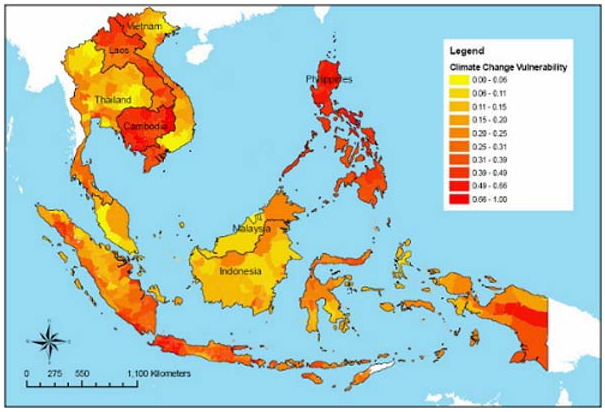
Abstract

This article seeks to review and analyze Climate Change and Human Security in Cambodia, with a particular focus on the political strength of the Cambodian governance and its ability to adapt and handle the consequences of Climate Change and how it will affect Human Security in Cambodia, within the framework of Social Science.
Key words: Climate Change, Human security, Tonle Sap Lake, Mekong River, Agriculture, Policies.

I. INTRODUCTION

Climate change can cause land reduction, shortage of water, diminish food and fish stocks, floods and drought increase. However it can also alter rainfall patterns and further reduce available fresh water. These are all severe concerns which can affect Cambodia who is already in a vulnerable situation, due to their fragile ecosystems.



Attention towards climate change has significantly increased in the 2000s. The shift taken place seems to come from a realization that climate change is another approach to development. Climate change affects economic growth, livelihood which all can be a severe threat to Human Security. Cambodian policy seems to follow this approach. H.E. Dr. Mok Mareth stated at the Second National Forum on Climate Change in Cambodia that "*Addressing climate change makes sense, politically, economically, environmentally and technologically. We believe we can turn the climate change crisis into a new opportunity for a more sustainable development. We must switch our development path into a greener, low carbon and more climate resilient mode*."[1]

Cambodia is currently facing the worst floodings in a decade. Cambodian Prime Minister Hun Sen stated at a special Council of Ministers meeting on October 14 2011 that "*that flooding had destroyed more than 190,000 hectares of rice paddies, or 7.74 per cent of the total grown rice paddies, and affected another 390,000 hectares, or 16 per cent of the total rice paddies in the Kingdom*".[2]

The limitation of governance can limit the capacity of the government to respond effectively to challenges they face due to climate change. Is Cambodia politically strong enough to handle the effects of climate change and its consequence?

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1 Ministry of Environment, Climate Change Department (CCD)

2 Phnom Penh Post, Friday, 14 October 2011 12:03 by May Titthara and Bridget Di Certo

II. HUMAN SECURITY

In 1994 The UN development Programmes annual Human Development Report introduced a new view of Human Security. Dr. Mahbub ul Haq felt there was a need to redefine and broaden Human Security.

With the Cold War over security was no longer just about protecting territory from external aggression or protection of national interests in foreign policy. For developing countries it now became about the people and not the threats to their fragile national identities. The people faced threats from disease, hunger, unemployment, crime, social conflict, political repression and environmental hazards, i.e. conflict was now within nations and not between nations, thus making it people-centered.

People are to be able to secure their own livelihood and thus meet their needs. Therefore Dr. Mahbub ul Haq stressed that security had to change in two ways; 1) Move from an exclusive stress on territorial security to a much greater threat on people's security. 2) From security through armaments to security through sustainable human development. Human Security was categorized into seven main categories; 1) Economic security, 2) Food security, 3) Health security, 4) Environmental security, 5) Personal security, 6) Community security, 7) Political security (Human Development Report, 1994, p). I will focus on 1-4, which has the most relevance and affect to human security due to climate change

A. Economic Security

In order for people to be economically secure they need a steady and basic income, this can either be from working or a safety net provided form the state (HDR, 1994, p.). Regardless which economic security will allow people to maintain and possible further their livelihood and standard of living.

B. Food Security

Food security entails that all people at all times have access to food, i.e. they can grow it themselves, buy it, or be granted access to public food distribution. But the problem is not the

availability of food but the fact they cannot afford the food available and the poor distribution of food. This is what often occurs during famines (HDR 1994, p.).

Cambodia has a strong dependency upon the Mekong River. Most of Cambodia's proteins come from the fish caught in the Tonle Sap Lake and the 3 million people who live along the Lake and provinces depend on the Lake for their livelihood and improvement of standard of living (HDR 1994, p.).

C. Health Security

Health security is a major issue in developing countries due to poor nutrition, unsafe environment such as polluted water (HDR 1994, p.). These issues causes' increases in infectious and parasitic diseases such as malaria, in 2009 there were 64.595 confirmed cases of malaria in Cambodia (WHO, Malaria annual data, 2009).

The poorest people in rural areas are usually the ones who are affected the most, particularly children. There is a need for a strong healthcare service for particularly the poorest population they are usually the ones who cannot afford the healthcare services that do exist. In Cambodia only 55% have access to a doctor or healthcare service (Climate Change Department, *Cambodia threatened by Climate Change*, 2010).

D. Environmental Security

People, governments, industrial companies etc. are putting a strain on the world due to rapid population growth and intensive industrialization. Local ecosystems and the global system are threatened by degradation (HDR 1994, p.). The greatest environmental threats developing countries face is that of water. It is a serious concern that water scarcity is becoming dangerously true. Many developing countries have very little access to clean water, furthermore poor sanitation is the cause for much water pollution. In Cambodia 43% has access to dug wells but only 2,5 % have access to piped water (WEPA).

The massive usage of natural resources in developing countries is also contributing to these factors. Deforestation is a serious problem. This leads to more intense drought and floodings.

Furthermore irrigated land is also threatened by salt residues due to rise in sea-levels. Air pollution is a major contributor to respiratory problem in Southeast Asia.

E. Political Security

The most important aspect of Human Security is to ensure people's basic human rights (HDR 1994, p,). In terms of Climate Change it is important for the population to have influence and voice their opinions on any adaptation measures that will surely influence their livelihood and economic growth. This also entails protection from government abuse.

III. CLIMATE CHANGE

According to Cambodian Human Development Report 2011 'Building Resilience: The Future for rural Livelihoods in the face of Climate Change', Climate Change is "*a change to climate that persists for decades or longer, arising from human activity that alters the composition of the atmosphere (i.e. greenhouse gas emissions). Climate Change is not the same as change in the weather – these may be more localized, and more short-term*" (CHDR 2011, p.50).

But to be able to understand Climate Change one has to understand the definition of the Earth's Climate. The global climate system consists of "*the atmosphere, land surface, snow and ice, oceans and other bodies of water and living things*" (IPCC AR4 2007, p.96).[3] All of these items are intertwined and depend upon one another and is very sensitive to change. Furthermore Climate is variability of temperature, precipitation and wind over a certain period between months to millions of years.

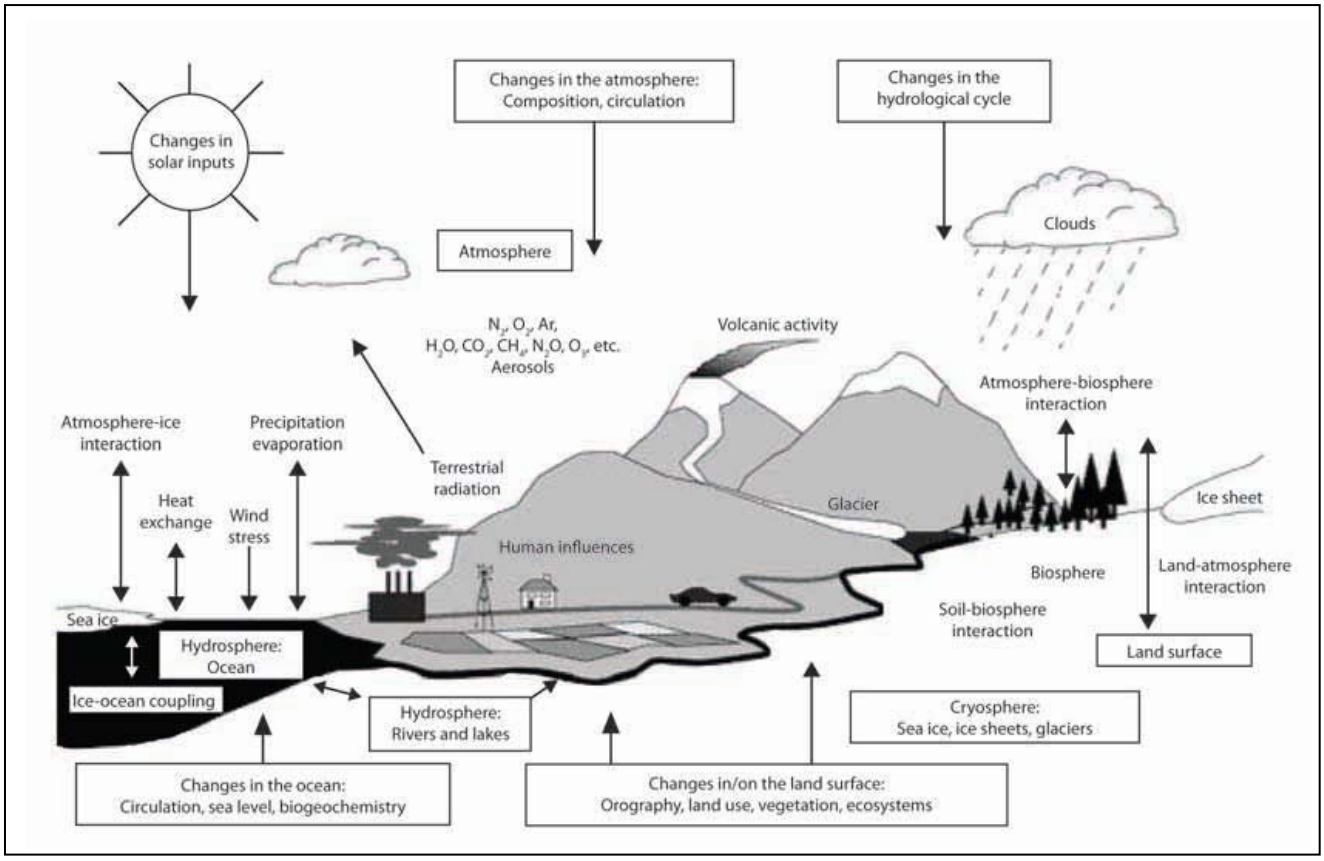
Any changes in the Climate are caused by internal and external dynamics. Climate evolved naturally (internal) over time but can also be forced into change (external), i.e. volcanic eruptions, solar variations and human-made changes.

The global Climate systems power originate from solar radiation and according to IPCC three things can severely change the Climate system; 1) by changing the incoming solar radiation (e.g. by changes in Earth's orbit or in the sun itself); 2) by changing the fraction of solar radiation

[3] IPCC AR4 2007, Climate Change 2007: The Physical Science Basis

that is reflected (called 'albedo'; e.g., by changes in cloud cover, atmospheric particles or vegetation); 3) by altering the long wave radiation from Earth back towards space (e.g., by changing greenhouse gas concentrations) (IPCC AR4 2007, p.96).

Figure 1: The Components of the global climate system



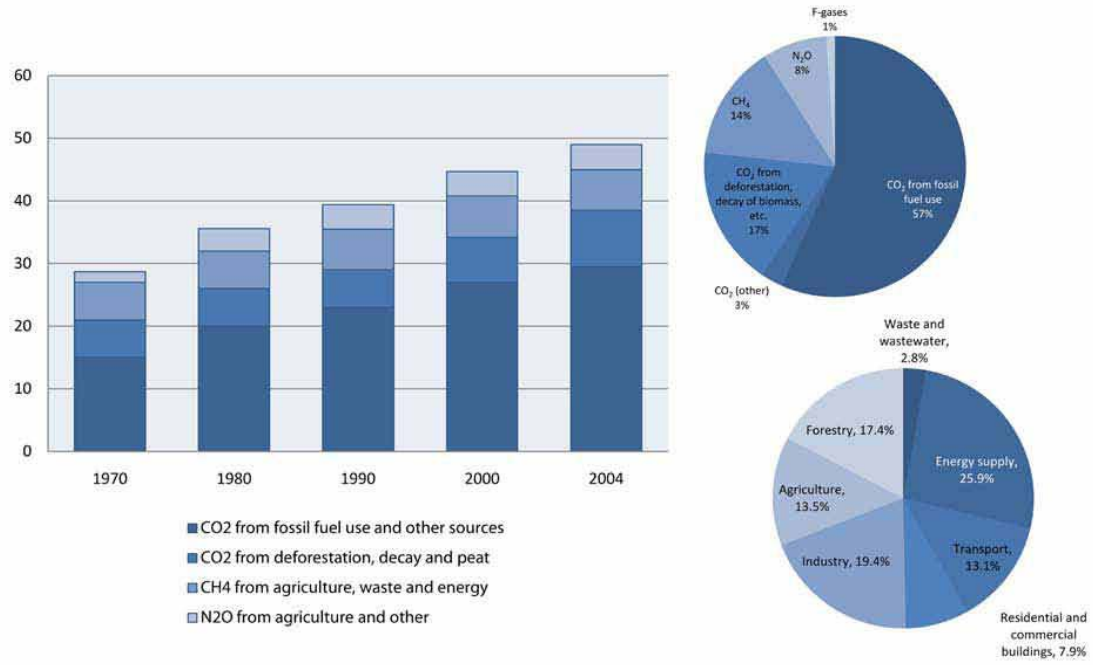
Source: CHDR 2011

The greenhouse gases emissions are scientifically define as the rapid increases in the average temperature. Between 1956-2005 the temperature has averagely increased by 0,13°C per decade (Ministry of Environment 2010). These changes affect climate patterns because it heats up land and ocean but also melts glaciers, which causes sea-levels to rise, changes in rainfall patterns, hot and cold waves, increasing and frequency of droughts and floods and other extreme weather events (CHDR 2011, p. 51). These events are already taking place and can become a real threat to human security.

The increase of GHG is a severe problem which is caused by human economic activitity mainly due to industrialization but also the burning of fossil fuels, transportation, deforestation,

agriculture and land use change. And it is affecting the Earths ability to reflect and absorb energy from the sun, without this the temperature will continue to increase; "*The atmospheric concentrations of GHGs are a balance between GHG emissions created when carbon compounds (such as fossil fuels or biological materials) are oxidised, and the natural processes whereby GHGs are removed from the atmosphere and stored as new carbon compounds, mostly in plants*" (CHDR 2011, p. 51). Figure 2 demonstrates the growth in GHGs and which activities contribute the most.

Figure 2: The growth in greenhouse gases from 1970 to 2004



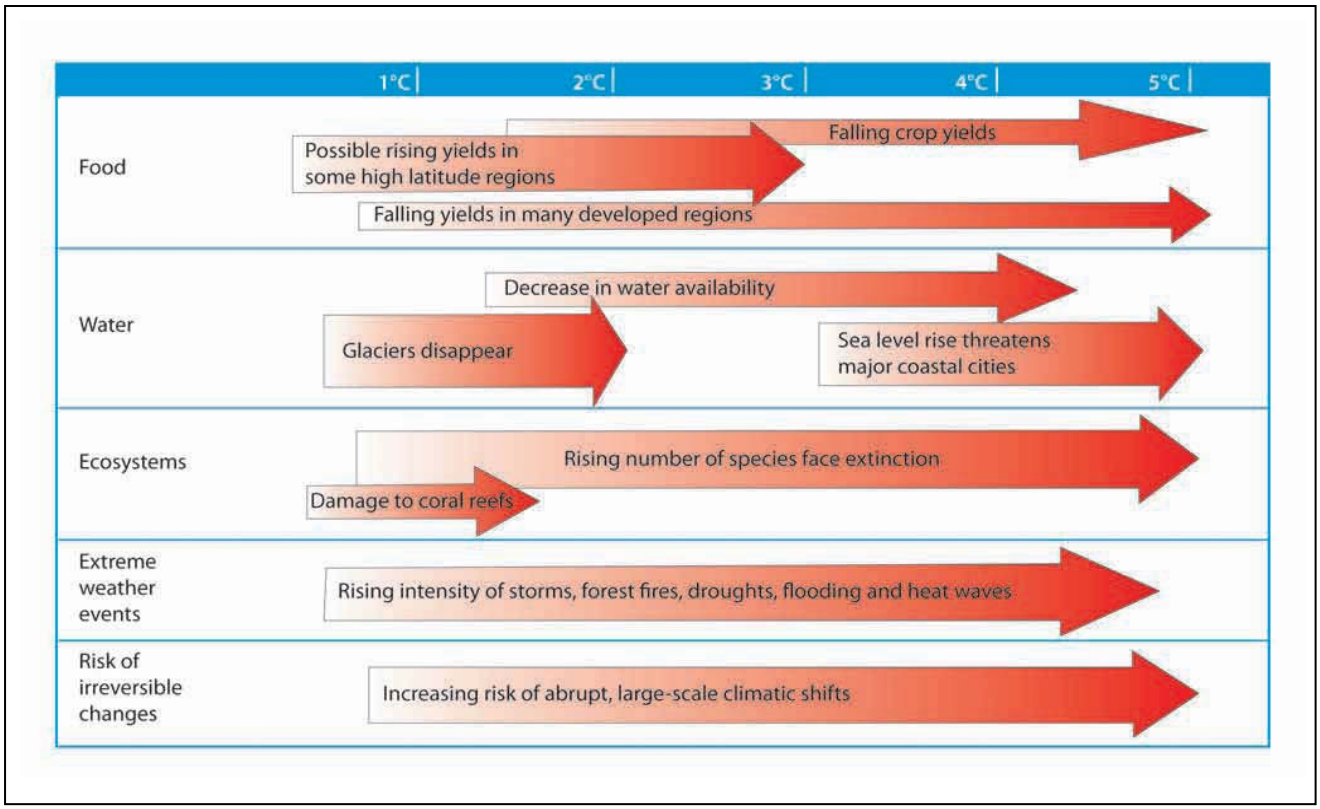
a) Global annual emissions of anthropogenic (i.e. man-made) GHGs from 1970 to 2004.
b) Share of different anthropogenic GHGs in total emissions in 2004 in terms of CO2 eq.
c) Share of different sectors in total anthropogenic GHG emissions in 2004 in terms of CO2 eq.

Source: CHDR 2011

Deforestation can thus be hindering the lowering of GHGs because ecosystems no longer have the same ability to absorb or sink GHGs (CHDR 2011, p. 52). Without this ability temperatures will rise – right now the fear is that temperatures will rise 3-10°C if the release of GHGs continue in the same rate as it does today (Stern Review Report 2006, p. 2). Unfortunately the rise in temperature also affects soil and plants ability to absorb GHGs, Carbon particularly. This increases the risk of methane to be released into the atmosphere because the permafrost risks

defrosting and this can cause the temperature to rise additionally (Stern Review, p. 2). Furthermore the rise in temperature can also cause a change in the existing water patterns and cycle. This will increase the risk of droughts and floods. But it also causes the Sea-level to rise and disrupt the Oceans and atmospheres circulations and this can have severe affects on weather patterns (Stern Review, p. 2). An example is Greenland's or the West Antarctic's Ice sheets melt in an irreversibly manner and then the Sea-level risk rising by 5-12 m over the coming centuries (Stern Review, p. 2).

Figure 3: Examples of impacts associated with global average temperature change



Source: CHDR 2011

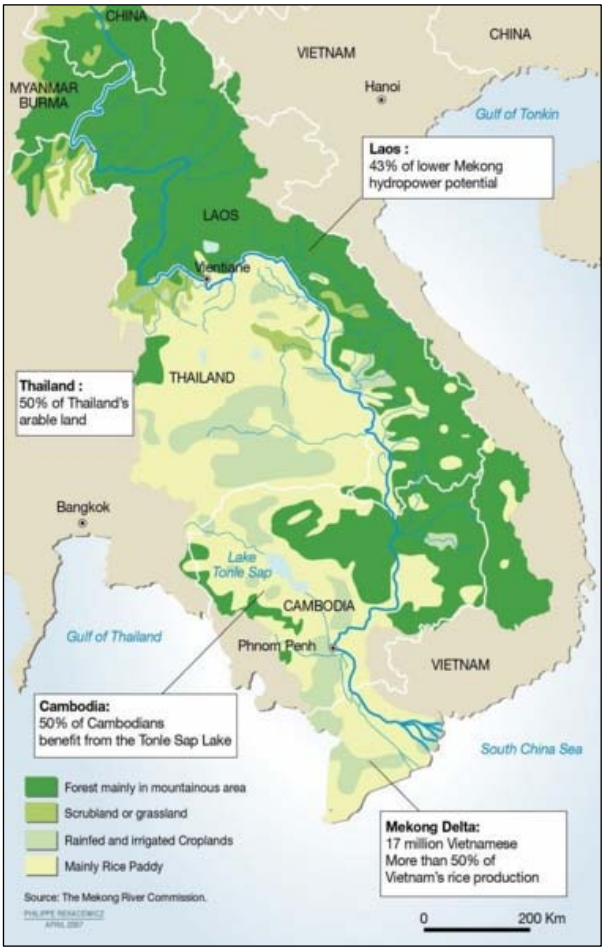
IV. IMPACTS OF CLIMATE CHANGE ON HUMAN SECURITY IN CAMBODIA

F. Tonle Sap Lake and Mekong River

The Mekong River is the most important river for Cambodia due to the connection it makes with Tonle Sap Lake in Phnom Penh. This connection causes the lake to enlarge four times its size during the monsoon season due to the rise in Mekong River. This causes the Tonle Sap River to

flow northwards into the Tonle Sap Lake. During the dry season it reverses and goes back into the Mekong River.[4]

As a result of this Tonle Sap Lake is an exceptionally productive floodplain ecosystem, and is one of the greatest resources of freshwater fish in the world but it also provide the agricultural land surrounding the Lake with vital resources to cultivate the rice production but these natural floods causes fish to migrate to the rice patties, thus are also a source for fish and income for the rural population who farm the land. Any changes in water quantity or quality in the Mekong River can have severe impacts on the Lake and Human Security.



Therefore this freshwater resource is threatened by the rise of sea-levels caused by changes in the monsoon rains and decrease of melt water from the Himalayas.[5] The salination of the water will not only affect the River but also contaminate drinking water and it can result in loss of agrarian land all of which can have severe economic and environmental consequences.

The Lake is Cambodia's lifeline and greatest contribution to the livelihood of millions of rural people living in poverty. The Lake covers approximately 43% of Cambodia's land area, 8 provinces and 4,5 million people live within the basin.[6] All which directly or indirectly benefit

[4] Botkosal, Watt, *Water Security, Food Security and Livelihoods in Cambodia and the Lower Mekong Basin*, presented at Conference on The New Politics of Water: Water Security and Economic growth in emerging economics, Session 3: "Water and Regional Development", Chatham House, London, 14-15 June 2011, p. 3-4.

[5] Sokhem and Sunada, *The governance of the Tonle Sap Lake, Cambodia: Integration of local, National and International Levels*, Water Resource Development, Vol. 22, No. 3, 399-416, September 2006.

[6] Ibid.

from the Lake. For Cambodia the fish from the Lake is their staple food and main supply of income for the landless and poor.

The potential destruction or alteration of Tonle Saps ecosystem is a serious threat to Environmental Security. This will cause a ripple effect and spill-over into economic, health and food loss, thus an overall risk within Human Security and still somehow inland fisheries is an area that often gets neglected. Hard choices need to be taken to meet demands of consumption, ecosystems services, restoration and conservation and management. Inland fisheries are not an area that can be left unattended for much longer; the consequences are too severe and to threatening for a country like Cambodia, who is so depended upon agriculture and fisheries to secure further development, to not put more focus on adaptation in this area. Ecosystems are people's life-support generating water, food, medicine, and clean air.

The Lakes ecosystem is fragile and might not be able to handle the shocks that climate change can cause. It is expected that there will be an increase of the frequency and intensity of extreme weather events such as floods and droughts. This can severely damage the already fragile ecosystem of the Tonle Sap Lake and Mekong River. This will decrease the access to food and water.

Furthermore the annual flooding serves as a habitat and breeding ground for fish and other species. Who during the dry season withdraw into the Mekong River thus maintaining the ecosystem and the enormous potential for fishing and therefore is able to secure their livelihood. Furthermore Cambodia's economic growth has relied on the usage of their natural resources such as fish and water, any decrease in the access to these resources will damage the economic growth and the people's livelihood, thus becoming a threat to economic and health security.

As of 2009 Cambodia was ranked in the top 30 most vulnerable national economies due to climate change because of the affects on fisheries (CHDR, p.58). Therefore there is a lack of food security and this is the greatest threat alongside health security (nutrition) for the rural populations who depend deeply of the productiveness of the Tonle Sap Lake. Due to Cambodia's already vulnerable state poverty and malnutrition will only increase if effective adaptation measures are not meet. Many people are faced with bad sanitation, lack of food and water and medical services so

health issues are already a huge problem. And this problem will only aggravate further as a result of climate change.

Table 1: Summary table of predicted impacts on Cambodia's fisheries

Climate Change	Impacts on fisheries
Delayed onset of flood season	- Change the trigger effect of flood season - unknown response to fish migration
Longer, drier dry seasons	- Some species are able to survive for the dry season, as long as there are some viable fish refuges. It is not known how well they will be able to survive for longer, drier and potentially hotter periods. - Reduction of key habitats – for example, flooded forests. - Dry-season brood stock more exposed to fishing effort.
Shorter, wetter rainy seasons	- Migration triggers affected. - Reduced season for breeding and spawning, as well as feeding – reduced opportunity for juveniles to reach suitable size and maturity to continue migration and life cycle.
Sea level rise (SLR)	- Even a modest SLR of 20 cm would cause contour lines of water level in the Mekong Delta to shift 25 km inland during the flood season and saltwater to move further upstream during the dry season. - Alter the fish species composition of fisheries, but may not be detrimental of overall fisheries yield (ADB 2009)

Sources: CHDR 2011

G. Agriculture

In Cambodia 77 % of the population lives in rural areas and are extremely dependent on agriculture (mainly rice cultivation) to secure their livelihood (The World Bank, Cambodia), rice production is the main crop not just from internal demands but also for export. Cambodia has finally reach the point in 2009 where they once again where able to export rice (United States Department of Agriculture). And as of 2009 35,3 % of Cambodia's GDP is derived from this sector

(WB, Cambodia). The rice production has particularly grown tremendously in the past 10-12 years with an average growth of 9 % (USDA). But more importantly rice is also one of Cambodia's stable food thus any major loss of crop can have long term catastrophic consequences for peoples livelihood, food and economic security.

Cambodia experienced the worst floodings in a decade throughout September and October 2011. Cambodia lost 10 % of their rice crops due to the floodings (UN News Centre, 4 November 2011). This raises real concerns for food shortage but will it also increase people's personal debts with the loss of their crops. People are forced to obtain further loans from Microfinance cooperation's such as AMK in Phnom Penh who has the biggest client base in Cambodia. Basically the flooding has left people without an income and with 75 % (Invest in Cambodia, Agriculture) being dependent on agriculture mainly rice and livestock for maintaining their livelihood. Thus the lack of Food Security is not the only concern, Economic Security is severely threatened and with poverty being a major issue in Cambodia therefore these kinds of losses the country cannot afford. With the loss 265.000 hectares of rice field the price of rice has gone up by 12 % (UN News Centre, Nov. 4th, 2011), making it more difficult for people to be able to afford rice and just not have enough to eat.

But with these floodings health and nutrition threats is equally a grave concern Cambodia has to deal with, not only is there food shortage but water, sanitation, hygiene and other related issues are very affected by the recent floodings. Water will be affected by the floodings and is a continued danger as it causes an increase in Vector-bone disease – malaria and dengue fever and Water and food-borne diseases – diarrhea and cholera (CHDR, p.67).

Health Security is not just about accessibility to medical care and if these extreme weather events continue, the mortality rate from heat waves, floods and droughts risk increasing. Poor nutrition and malnutrition will increase as a result of shortage of food (CHDR, p.66-67). Not only will this put strain on the population but it is also a financial burden for the Cambodian Government since there will be a greater need for health service to care and treat the people affected.

The international community has assisted Cambodia in this respect helping set up health service but it is still weak "*health initiatives represent 30 percent of total ODA to the country*"

(CHDR, p.68). Furthermore according to CHDR 2011 "*Climate-related health impacts thus are likely to have very significant additional financial implications for a critical sector that is still under-resourced and struggling to meet development objectives in many areas*" (CHDR, p. 68). The ones who suffer the most are the rural poor population who has the least access to health service, land and forests, representation in national and sub-national decision-making and very little access to information (CHDR, p.70) which compromises Political Security.

Climate Change particularly increase in temperature will affect the growing and flowering of crops, thus rice production is very sensitive to any changes and it will hurt the annual yield of crops "*On average, the rice yield can be expected to decrease by 10 percent for every 1°C increase in growing season minimum temperature. This is because higher temperatures at the time of rice flowering could lead to floret sterility, limiting the grain yield*" (CHDR, p. 53).

Floods and drought are an integrated part of the traditional agricultural practice in Cambodia, it ensures fertility and productivity. Any changes in the seasons, the dry season gets longer and drier and the wet season shorter, will hurt the productivity of the agricultural productions as the season patterns gets more unpredictable. Especially rice production will suffer as it's very sensitive to the timing of the first rain (CHDR, p. 53). Therefore adaptation measures to hinder severe impacts from Climate Changes are more important than ever before. Cambodia is developing steadily but still remains very sensitive. According to Gunilla Wingqvist economist at the University of Gothenburg in Sweden, "*Cambodia is very vulnerable to climate change due to its low adaptive capacity and dependence on climate sensitive livelihoods*" (The Phnom Penh Post, Aug. 15th 2011, Climate change considered as flooding hits Cambodia).

V. GOVERNMENTAL MEASURES – ADAPTATION AND MITIGATION

The National Adaptation Programme of Action (NAPA) states that the increased frequency and intensity of floodings, sea-level rising, and the spreading of Vector-bone diseases are some of the effects Cambodia face due to climate change. Therefore much of the measures taken to adapt to climate change in Cambodia focuses on water and health issues.

Water scarcity is a serious problem, not only it is crucial for people but also for their livelihood. Irrigation is much needed for the rice production in the dry season or during droughts to ensure the production and it remains a severe problem. Furthermore as mentioned earlier the Tonle Sap Lake dependency on the Mekong River and its flows are threatened by low water levels so addressing this is just as important. Any changes in the flows will seriously threatened peoples food and economic security. The rice production and inland fishery is the very backbone of the rural population and Cambodia. The revenue and the number of people these areas generate and employ alone makes it crucial to focus on all aspects and consequences of climate change and the damages it can cause to Cambodia food and economic security.

However it is however a must to not only ensure a long-term resilience to climate change on water and health issues. It is all intertwined and will cause a spill-over or multiplier effect to equally vulnerable areas Cambodia depend upon for securing livelihood and development progress thus further exacerbate the problems Cambodia already face.

The Cambodian government is trying to make climate change a natural part of development because it will secure a natural improvement in development and Human Security since it will cover all aspects of society and their livelihood. However Cambodia faces serious governance problems, in the recent release Corruption Perceptions Index Cambodia was rank 164 out 182 countries (Corruption Perception Index, 2011).

According to the National Integration Systems (NIS), country report study Cambodia 2006 "*The practice of corruption appears to have permeated almost every aspect of Cambodian life, so much so that it would be difficult to find a citizen who had not experienced some form of corrupt behavior…[]…"Of significance are the opportunities that exist for corruption. A lack of transparent bureaucratic procedures, a lack of capacity among civil servants and a general lack of awareness of human rights feed an environment ripe for corrupt behavior. Cash payments create opportunities for money to 'disappear', and the lack of an independent ombudsman's office means citizens have no place to direct complaints*" (NIS, Country Study Report 2006, p. 15). These incentives make it very difficult for any real progress to take place. It is a vicious circle that just continues. In Cambodia many still lives below the poverty line and suffers from malnutrition and in

pure desperation many will choose to do whatever they can to improve their livelihood. As long as this corruption from the bottom up is allowed to flourish through the country development will only happen very slowly.

If Climate Change is made a part of general development it is a possibility that Human Security naturally will improve and the need for conducting corruption will be lessened. But it also allows development to improve in all aspects of society instead of focusing on specific areas which should be the clear goal of development. Climate change is a serious problem Cambodia is facing even though they are not contributing significantly to these manmade changes. Cambodia cannot afford to be lacking in adaptation and mitigation, their situation is too fragile not to find the best possible solution. But one could fear that the lack of good and effective governance is hindering this from taking place. Cambodia has 4 Ministries who all work within areas that affect Human Security and development but also national committees.

1) Ministry of Agriculture, Forestry and Fisheries (MAFF)
2) Ministry of Environment (MoE) and its Cambodia Climate Change Office (CCCO)
3) Ministry of Industry, Mines and Energy (MIME)
4) Ministry of Water resources and Meteorology (MOWRAM)
5) National Climate Change Committee (NCCC)

MoE is the main actor and has the mandate to address environmental issues. As previously mentioned NAPA's action plan identifies agriculture, forestry, human health and the coastal zone as the areas who where in dire need for Climate Change adaptation. However not much emphasis where placed upon fisheries furthermore water was only mentioned in relation to agriculture and food security. Which makes little sense considering fish is one of Cambodia's stable foods and as indicated on page 9 50 % of Cambodians directly benefit from Tonle Sap Lake. But the Lake also provides Cambodia with much needed protein in their diet. Also many landless people who do not have the right to own land reside here and are their only source of income. Furthermore in the almost five years since the plan was published, very few of its proposed projects have been implemented. Mainly because according MoE "*more than US$200 million would be required to*

fully implement NAPA, said the Ministry's Tin Ponlok, adding that, as of this year, less than $10 million in funding had been allotted to the programme, most of it from international sources" (The Phnom Penh Post, Aug. 15th 2011).

Furthermore the Strategic National Action Plan for Disaster Risk Reduction (SNAP-DRR 2008-2013) was launched it is an attempt to create institutional capacity building and yield more cooperation among the Ministries related to Environmental protection and management but also including land management, urban planning, youth, health and rural development, however it seems to be uncoordinated but the action plan marks a shift from post-disaster assistance to prevention.

MoE has the decision-making power to protect and manage any approach and improvement in environmental development. However any decision regarding land use and exploitation of resources are made by the Ministry of Agriculture, Forestry and Fisheries, Ministry of Public Works and Transport, and Ministry of Industry, Mines and Energy. Therefore a strong cooperation capacity is essential for any effective progress to be made, or all strategies and policies risk being implemented slowly and poorly. They risk being scattered and remain sectoral. The government is known for making decision without cooperation with the Ministries and act in any way they see fit to further economic development thus keep securing economic growth. The Cambodian government has exploited Cambodia's natural resources to restore their economy by contracting large areas to national and foreign investors.

MoEs management and implementation seem to be very weak still even though the environmental policies and legislative framework is in place. But that is largely due to lack of resources and capacity to fulfill their mandate. The focus seems to be on other areas that will bolster development in areas such as economy, infrastructure, technology, education. An improvement of technology and education means more productive agriculture, i.e. more rice to export thus securing economic growth.

If governance is not sufficiently improved Climate Change adaptation Cambodia face a dire situation which can have severe consequences for long-term development and contribute to serious threats to Human Security in Cambodia. The consequences can be incomprehensible and send a

ripple effect through Cambodian society and destroy development which has taken place over the past 30 years.

VI. CONCLUSION

Climate change is becoming reality and no one has the luxury to ignore but especially developing countries such as Cambodia who are particularly vulnerable most certain cannot. Therefore it is imperative that climate change is included in Cambodia's development policies. It is no longer just about securing economic growth thus livelihoods through regular development. Development has to occur in all aspect of Cambodian society.

Cambodia cannot afford the consequences of climate change; this has been made very clear with the recent floodings. The loss of rice paddies is a great setback for Cambodia; it will take long and many resources to recover from these floodings. Not just in terms of rice but homes needs reconstruction, risk of illness is greater and instant aid was needed, one the Cambodian government where not able to fulfill. Mostly it was international organization that provided the effected provinces with aid in terms of food, water and other essential supplies for survival.

The case studies of Tonle Sap Lake and agriculture (rice particularly) has shown what climate change risk doing to Human Security in Cambodia and the results are grave. The question is, are the Cambodian governance political strong enough to handle these risks and effects of climate change. Adaptation measures have been set into motion such as NAPA but the projects are happening to slowly or are not yet begun.

4 ministries are working within their respective areas dealing with climate change and this can be a problem since it can be difficult to establish cooperation among the ministries. The ministries will for the most part focus on their area of expertise which does not exclusively deal with climate change; this is only a small part of their policy work. MoE and the Department of Climate Change are the main policy actors but they do not have sole decision power. This system of governance slows the process of adapting to climate change and will continue to be a problem. Cooperation among the ministries is essential for success and the adaptation or policies needs to be implemented in a faster pace. But another problem is funding, just for implementing NAPA the Cambodian government needs 200 million dollars. One could therefore fear climate change adaptation to be less prioritized than improvements in infrastructure, export, technology etc., means that further economic development.

Corruption is another major issue that hinders the political strength of Cambodian governance. This will equally continue to be a problem for any policy progress and implementation taken towards climate change. Essentially Cambodian governance is a major contributor to the slow development progress regarding climate change. This can have catastrophic consequences for all aspects of Human Security in Cambodia and even slow the general development progress already made or cause severe setback when other major climate change events take place. There are great economic and human consequences at stake. Cambodia has developed greatly in the past 2 decades but this are now beginning to be at risk and this Cambodia cannot afford.

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