

**Climate Insurance under the 2015 Paris Agreement: The Case of
Ethiopian Insurance Corporation**

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Declaration

I, Kehulum Yibeltal Yizengaw, hereby declare that this thesis is original and has never been submitted before for any degree or examination in any other institution. I also declare that all the sources I have used or quoted have been indicated and duly acknowledged as complete references.

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Table of Contents

Acknowledgement.....	i
Table of Contents.....	ii
List of abbreviations.....	iv
Abstract.....	vi
CHAPTER ONE.....	1
1. INTRODUCTION.....	1
1.1. Background.....	1
1.2. Statement of the Problem.....	5
1.3. Objective of the study.....	6
1.4. Research question.....	6
1.5. Significance of the Study.....	7
1.6. Research Methodology.....	7
1.7. Limitation of the study.....	7
1.8. Scope of the study.....	8
CHAPTER TWO.....	9
2. THE NOTION OF CLIMATE INSURANCE.....	9
2.1. The Concept of Climate Insurance.....	9
2.2. The Advent of Climate Insurance.....	11
2.3. The Merits of Climate Insurance.....	14
2.4. The Challenges of Climate Insurance.....	17
2.5. Types of Climate Insurance.....	19
CHAPTER THREE.....	24
3. THE PARIS CLIMATE CHANGE AGREEMENT.....	24

3.1. The Road to Paris	24
3.2. General Overview of the Paris Climate Change Agreement	25
3.3. Climate Insurance under the Paris Agreement	29
CHAPTER FOUR	32
4. CLIMATE INSURANCE IN THE EIC	32
4.1. The Impact of climate change in Ethiopia	32
4.2. Climate Insurance and the legal framework in Ethiopia	33
4.3. Development of Climate Insurance in Ethiopia	37
4.4. Climate Insurance under the EIC	40
4.4.1. General Profile of the EIC	40
4.4.2. Practical Experience	43
4.4.3. Current Trends	45
4.4.4. Prospects	48
4.4.5. Challenges	51
CHAPTER FIVE	54
5. CONCLUSIONS AND RECOMMENDATIONS	54
5.1. Conclusions	54
5.2. Recommendations	55
Bibliography	
Interviews	
Annex	

List of abbreviations

AOSIS	Alliance of Small Island States
CBDR	Common but Differentiated Responsibility
CCRIF	Caribbean Catastrophic Risk Insurance Facility
CENFRI	Center for Financial Regulation and Inclusion
COP	Conference of Parties
CRGE	Climate Resilient Green Economy
CR	Climate Resilient
CSA	Central Statistical Agency
DECSI	Dedebit Credit and Saving Institution
EIC	Ethiopian Insurance Corporation
ETB	Ethiopian Birr
EPFEA	Ethiopian Public Financial Enterprises Agency
FDRE	Federal Democratic Republic of Ethiopia
GDP	Gross Domestic Product
GE	Green Economy
GHG	Green House Gas
GI	General Insurance
GIACIS	Geo Data for Innovative Agricultural Credit Insurance Schemes
HARITA	Horn of Africa Risk Transfer for Adaptation
ILO	International Labor Organization
ILRI	International Livestock Research Institute
INDC	Intended Nationally Determined Contribution
IPCC	Inter Governmental Panel for Climate Change
IRI	International Research Institute

JICA	Japan International Cooperation Agency
LDC	Least Developed Countries
MCLL	Munich Climate Insurance Initiatives
MEFCC	Ministry of Environment Forest and Climate Change
MFI	Micro Finance Institutions
NAP	National Adaptation Plan
NAPA	National Adaptation Programme of Action
NBE	National Bank of Ethiopia
NDC	Nationally Determined Contributions
NDVI	Normalized Difference Vegetable Index
NGO	Nongovernmental Organization
PSNP	Productivity Safety net Programme
REDD	Reduced Emissions from Deforestation and Degradation
REST	Relief Society of Tigray
SNNP	Southern Nations, Nationalities and Peoples
UN	United Nations
UNCDF	United Nations Capital Development Fund
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
USD	United States Dollar
VICI	Vegetation Index Crop Insurance
WFP	World Food Programme
WIM	Warsaw International Mechanisms
WTO	World Trade Organization

Abstract

Climate change is one of the greatest challenges of our times. The change is expected to continue into the coming century at rates projected to be unprecedented in recent human history. The scale, implications, and global nature of the problem dictate robust international cooperation within a structured framework. The UN in general and the UNFCCC in particular remain, in the view of many, the most representative and legitimate locus for international responses to climate change. Adaptation to climate change, including support for insurance instruments, has emerged on the climate agenda alongside the reduction of atmospheric greenhouse gas concentrations as an essential part of the response to climate change risks. Climate insurance is reaffirmed in the UNFCCC and also further strengthened in the Paris agreement in 2015 which allowed risk insurance facilities, climate risk pooling and other insurance solutions. In other words is considered as an essential tool to address loss and damage associated with the adverse effect of climate changes. Ethiopia is one of the countries affected by climate change. Over half a century Ethiopia has experienced several episodes of devastating droughts and lingering rainfall variability. These manifestations of climate change affect ecosystem, water resource, food security, and human health. Therefore, successful adaptation to the changing state of the environment requires pertinent and adequate adaptive capacities. An important cornerstone for risk management, a possible no-regrets adaptation strategy, and an indispensable tool to address loss and damage is insurance. However, In spite of the fact that Ethiopia has contributed very little to the climate change problem, those vulnerable rural farmers of the country are expected to pay insurance premiums to cover events made worse by climate change, ultimately would be unjust and contrary to the principles of the UNFCCC and the Paris Agreement. Thus, the core assertion of the paper is climate insurance in line with the Paris agreement and assesses its implementation in the EIC; however, much has yet to be done to effectively realize climate insurance in our country, Ethiopia.

CHAPTER ONE

1. INTRODUCTION

1.1. Background

Climate change is one of the greatest challenges of our times. The change is expected to continue into the coming century at rates projected to be unprecedented in recent human history.¹ Climate change comes in the form of temperature change, precipitation change, sea level rise, and extreme events; and affects ecosystem, water resources, food security, settlements, and human health.²

The scale, implications, and global nature of the problem dictate robust international cooperation within a structured framework. The need for an effective international framework for cooperation was recognized quite early in the diplomatic discourse on responses to climate change. The United Nations General Assembly (UNGA) Resolution recognized that climate change is „a common concern of mankind“ and „determined that necessary and timely action should be taken to deal with climate change within a global framework“.³

To this end, UNGA in its Resolution 45/212 of 21 December 1990, decided to establish a single intergovernmental negotiating process under its auspices of the UNGA for the preparation by an Intergovernmental Negotiating Committee of an effective framework convention on climate change and later the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in New York on 9 May 1992 and entered into force on 21 March 1994.⁴

Thus, the UNFCCC with its near-universal membership has become the central focus of global efforts to address climate change. However, the slowness of the process and the apparent dysfunctional nature of its decision-making procedures have at times led to the questioning of its appropriateness as a forum for global solutions. Nevertheless, the UN in

¹A. adger, Adaptation to Climate Change in the Developing World, Progress in Development Studies, 2003, p. 179-195.

² Intergovernmental Panel for Climate Change(IPCC),4th Assessment Report, 2007

³The United Nations General Ass embly (hereinafter UNGA), Resolution No. 43/53, 6 December 1988.

⁴C. cinnamon, „Mapping the Field: Mapping the Field“, in Kevin R. Gray &et al (ed) , Oxford Handbook of International Climate Change Law(edition number,2016), P.2

general and the UNFCCC in particular remain, in the view of many, the most representative and legitimate locus for international responses to climate change.⁵

Adaptation to climate change, including support for insurance instruments, has emerged on the climate agenda alongside the reduction of atmospheric greenhouse gas concentrations as an essential part of the response to climate change risks. It is generally accepted that industrialized countries bear a certain responsibility for adaptation to climate change in developing countries, and should bear part of the costs; In this regard the UNFCCC conference of parties (COP 19) was held 2013 in Warsaw, Poland, _The COP established the Warsaw International Mechanism for Loss and Damage “*to establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts [of countries] to develop and implement comprehensive risk management strategies.*” No further details about the clearinghouse mechanism exist at this stage, but ultimately, it could have a number of benefits such as providing the parties with access to good practices. Although a diversity of mechanisms, approaches and rules for funding adaptation in developing countries has been adopted by implementing agencies and governments in the context of the United Nations Framework Convention on Climate Change (UNFCCC), adaptation is generally considered to be an underdeveloped part of the climate regime.⁶

Climate risk management, including proactive support for insurance instruments, is emerging on the climate change adaptation agenda. The UNFCCC calls upon Convention Parties to consider actions, including insurance, to meet the specific needs and concerns of developing countries arising from the adverse impacts of climate change (United Nations, 1992).⁷

Similarly, the Kyoto Protocol explicitly calls for consideration of the establishment of insurance (United Nations, 1997).⁸ In an early proposal for an ‘international insurance pool’ within the UNFCCC context, the Alliance of Small Island States (AOSIS) put forth the idea of a global compensation fund fully financed by industrialized countries for the purpose of compensating low-lying States for sea-level rise damages. The AOSIS proposal addressed what is arguably an

⁵C. cinnamon, cited above at note 4.

⁶Ibid.

⁷United Nations Framework Convention on Climate Change(UNFCCC) 1992, Art 4(8)

⁸Kyoto Protocol to the United Nations Framework Convention on Climate Change, 1997 Art 3.14

uninsurable risk (since sea-level rise is gradual and its occurrence predictable) for which the victims have little responsibility.⁹

Climate insurance is reaffirmed in the UNFCCC and also further strengthened in the Paris agreement in 2015 which allowed risk insurance facilities, climate risk pooling and other insurance solutions. In other words, Insurance is considered as an essential tool to address loss and damage associated with the adverse effect of climate change, such as extreme events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage. Put differently, it clearly highlighting comprehensive risk assessment and management; risk insurance facilities, climate risk pooling and other insurance measures. However, the lists of areas of action and responsibility under the Paris agreement is blurred and unsettled, In this context, the overt mentioning of insurance in the agreement and COP21 decision is an indicator that both developed and developing countries recognize the high potential for building financial resilience by expanding insurance.¹⁰

⁹ Kyoto Protocol, cited above at note 8.

¹⁰The Paris Agreement references the role of insurance in supporting adaptation and in managing loss and damage from climate change-related extreme events. Specifically, under Loss and Damage (Para. 49, p. 7): “Requests the Executive Committee of the Warsaw International Mechanism to establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts of Parties to develop and implement comprehensive risk management strategies.”

• Under Article 8 (p. 25), specifically:

1. Parties recognize the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage.
2. The Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts shall be subject to the authority and guidance of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement and may be enhanced and strengthened, as determined by the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
3. Parties should enhance understanding, action and support, including through the Warsaw International Mechanism, as appropriate, on a cooperative and facilitative basis with respect to loss and damage associated with the adverse effects of climate change.
4. Accordingly, areas of cooperation and facilitation to enhance understanding, action and support may include:
 - (a) Early warning systems;
 - (b) Emergency preparedness;
 - (c) Slow onset events;
 - (d) Events that may involve irreversible and permanent loss and damage;
 - (e) Comprehensive risk assessment and management;
 - (f) Risk insurance facilities, climate risk pooling and other insurance solutions;
 - (g) Non-economic losses;

Ethiopia is one of the countries being and to be most affected by climate change. There is some evidence that climate change has already started appearing in Ethiopia. Mean annual minimum temperature has been increasing by about 0.37°C every decade between 1951-2006, and the mean annual temperature is projected to increase in the range of 0.9-1.1°C by 2030, 1.7-2.1°C by 2050 and 2.7-3.4°C by 2080.¹¹ Over half a century Ethiopia has experienced several episodes of devastating droughts and lingering rainfall variability. These manifestations of climate change will affect ecosystem, water resource, food security, and human health. Therefore, successful adaptation to the changing state of the environment requires pertinent and adequate adaptive capacities.¹² An important cornerstone for risk management, and a possible no-regrets adaptation strategy, is insurance and alternative risk-transfer instruments that provide disaster safety nets for the most vulnerable.¹³

When we look into the insurance sector in Ethiopia it is very small, young, and underdeveloped with many small insurance companies displaying high levels of inefficiency. Several factors caused low insurance penetration in Ethiopia. The major factors include: the structure of the economy which is dominated by rain-fed agriculture, absence of differentiated products, unethical competition, backward technology, restrictive proclamations, and absence of compulsory insurance, non-existence of reinsurance companies, lack of capital market, and low and negative interest rate.¹⁴ In 2007, about 0.1 percent of Ethiopia's population had access to insurance services. Insurance premiums (both for life and general insurance) accounted for about 0.2 percent of GDP, which is very low compared with other African countries.¹⁵ The total capital of the industry reached 3,221 million Birr. The government owned Ethiopian Insurance Corporation (EIC) accounted for about 19 percent of the branch network, 44 percent of the

(h) Resilience of communities, livelihoods and ecosystems.

(i) Risk insurance facilities, climate risk pooling and other insurance solutions.

¹¹ Climate Change National Adaptation Program of Action (NAPA) of the Federal Democratic Republic of Ethiopia, Ministry of Water Resource and National Metrological Service Agency, Addis Ababa, Ethiopia, 2007

¹²Yohannes Aberra, "Climate Change Adaptation: Building on Experience's in Ethiopia" Ethiopian Journal of Development Research, vol.31: 2 (2009) P.23

¹³B. linnerooth, "Refocusing Disaster Aid", Science Vol.309, PP 1044-1046

¹⁴See First Consult plc.2009" a diagnostic of Ethiopian financial sector" a commissioned study for ABD, Addis Ababa

¹⁵S. Chamberlain and D. Chamberlain, *Opportunities and Challenges for Micro-insurance in Ethiopia: An analysis of the supply-side and regulatory environment, 2009*. The Center for Financial Regulation and Inclusion (CENFRI), International Labor Organization (ILO), United Nations Capital Development Fund (UNCDF)

capital share, and 32 percent of the gross premium income. The remaining private insurance companies accounted for 81 percent of the branch network, 56 percent of the capital share, and 58 percent of the gross premium income.¹⁶ However, there has been modest growth in terms of number of insurance companies and branches. There has been a significant increase in private sector involvement in the insurance industry. Despite the modest growth, there are a number of factors which constrain the expansion of climate insurance in Ethiopia¹⁷.

Therefore, the researcher will try to discuss the advent of climate insurance in Ethiopia and particularly the experience and the current practice in the Ethiopian insurance corporation in line with the framework of the 2015 Paris climate change agreement.

1.2. Statement of the Problem

Insurance has been proposed as a cost-effective way of coping with the financial impacts of climate change. Depending on the way the insurance is designed, the insurance mechanism can address a wide variety of risks emanating from climatic change risks. It affirms the shift in emphasis from risk mitigation to response, coverage of residual risks uncovered by the other risk mitigation mechanisms and stabilization of rural incomes by reducing the adverse effects of income fluctuation. Climate Insurance also provides opportunities for public-private partnerships and reduces the burden on government resources for post-disaster relief and reconstruction. Communities and individuals can also quickly renew and restore livelihood activities through the use of insurance.¹⁸

However, in Ethiopia among the many problems first lack of enabling environment especially the regulatory and legal frame work that govern the market, support the effective functioning of the scheme and allow growth by actively working with national governments and regulatory agencies; for that matter there is no separate definition of climate insurance and accordingly the regulatory framework and proclamation do not make any concessions for it. Second owing to the non-affordability of insurance premiums, most of the rural communities still cannot afford the annual insurance premium costs; beyond above the problem of food insecurity as most farmers have debt for agricultural inputs such as fertilizers and other social problems. Thirdly, there is manifest unfamiliarity of insurance by the Ethiopian mass population especially in the rural

¹⁶S. Chamberlain and D. Chamberlain, cited above at note 15.

¹⁷ Ibid

¹⁸Yohannes Eneyew, 'Climate Insurance Hot Prospect for Ethiopia', Addis Fortune Vol. 17:877,p.36

areas. Fourthly, there is also inaccessibility; lack of efficient and cost effective delivery channel that are aligned with the local context. Lastly, lack of comprehensive legal and institutional framework both internationally and domestically remains to be a challenge.

The researcher is enthusiastic to work on issues of climate insurance and to contribute his part. Hence, the main focus of the research is to pinpoint some issues associated with climate insurance under the 2015 Paris Agreement focusing on Ethiopian Insurance Corporation as a case study.

1.3. Objective of the study

The study has a general objective of identifying and analyzing the practical experience of climate insurance in the Ethiopian Insurance Corporation (EIC) in light of the 2015 Paris agreement. Specifically, the research is aimed at:

- Describing and clarifying the meaning and intent of climate insurance.
- Exploring the current policy and regulatory frameworks regarding climate insurance in Ethiopia.
- To evaluate the realization of climate insurance in Ethiopia in the light of international standards.
- Identifying basic challenges and opportunities to provide climate insurance in the EIC.

1.4. Research question

The research mainly asks the question: is there a possibility to ensure effective realization of climate insurance in Ethiopia as provided in the 2015 Paris agreement? Specific questions related with the main question are:

- Is there a legal basis for climate insurance in Ethiopia?
- What measures are taken to incorporate and harmonize the international norms regarding climate insurance into domestic laws and policies, and is there consistency of the laws and policies with the international standards?
- Does the EIC have the potential to provide climate insurance?
- What practical measures are being undertaken to realize climate insurance under the EIC?

- What are the opportunities, challenges and implementations to effectively provide climate insurance in the EIC?

1.5. Significance of the Study

This study has a great contribution in addressing the effort to realize climate insurance in Ethiopia: and also it will serve as an instrument to further research in the area of climate insurance. As the concept of climate insurance is nascent in the context of Ethiopia, the research is believed to serve as a resource base for academics and other stake holders in formulating policies and taking measures to implement in the wider rural Ethiopian community. Besides, the findings and recommendations of the study will serve as a springboard for further review of Ethiopian Climate Insurance practice in light of developments in the contemporary international environmental law. Finally, the finding of the study will serve as a guideline to Ethiopian delegates negotiating on climate change with plethora of states with clarity on national objectives of climate insurance such as the protection of farmers, national interest and strategic alliance.

1.6. Research Methodology

The methodology that is preferred in this study is basically qualitative method of research which includes an analysis of the existing literatures, policies and laws. Among other things, the researcher will use primary and secondary sources including, customary international environmental law, general principles of international environmental law, and general principles of international climate change laws. Data will also be gathered from concerned government organs⁴ and officials from Ethiopian Insurance Corporation (EIC), national bank of Ethiopia (NBE), Federal Democratic Republic of Ethiopia Ministry of Environment Forest and Climate Change (MEFCC) and financial Public Enterprise Agency (FPEA) using structured interview.

1.7. Limitation of the study

While carrying out my research, I was limited mainly with the lack of research that has been done in this area, as the Paris Agreement itself and even more the concept of climate insurance is a new comer to the arena. And obviously, there were financial problems, time constraint, uneven connection of the internet, network jamming and unavailability of materials especially books and relevant literatures was the major problems encountered in conducting the study.

1.8. Scope of the study

The research is only confined to take a look at whether climate insurance is provided in the EIC in compliance with the 2015 Paris agreement. Among other things, it will try to identify key challenges in the provision of insurance sector. However; the researcher will not delve in to issues of attitudes of mass farmers towards the service.

1.9. Structure of the research

This thesis is organized in the fashion that would give clear and coherent understanding of the general message of the study, dividing it in to five chapters. In order to avoid redundancy of discussion, citations were used to make cross reference to other relevant sections. The first chapter is designed to draw on the reader, the general picture of the study. And it gives an insight about the general background, the principal issues addressed, objectives sought to be achieved, significance, methodologies used, limitations and scope of the study. The second chapter discusses the notion of climate insurance here the meaning, merits, challenges, and types as well as the genesis of climate insurance in line with the emergence of international climate change law will be discussed. The Paris climate change agreement will be the subject of the third chapter of the research. Chapter four specifically deals with climate insurance in the Ethiopian insurance corporation. Inside it, the impact of climate change in Ethiopia, climate insurance and the legal frame work in Ethiopia, the development of climate insurance in Ethiopia and ultimately climate insurance under the EIC will be entertained. Finally based on the findings of the discussion some concluding remarks together with recommendations will be provided under the last chapter.

CHAPTER TWO

2. THE NOTION OF CLIMATE INSURANCE

2.1. The Concept of Climate Insurance

Risk transfer has been used for centuries as a tool to manage the risk of uncertain losses. The most basic and commonly used form is insurance, a mechanism whereby an individual or organization (the insured) transfers part of their risk to another party (the insurer) in return for a payment (the premium); if the insured experiences a loss or if a certain pre-defined event occurs, the insurer pays out a previously agreed amount by way of compensation.¹⁹

Climate change, extreme events like weather-related disasters, as well as slow onset changes such as rising sea levels, threaten sustainable development and resilience, impair socio-economic development and underpin cycles of poverty across the globe. The burden of climate change impacts is not evenly distributed across the world due to differing exposures, vulnerabilities and coping capabilities. Because the risks often fall more heavily on those least able to reduce or recover from them, the most vulnerable people and countries need particular assistance.²⁰

The impacts of climate change can set back development by increasing not only the incidence but also the severity of poverty. Especially for poorer countries and their citizens, they undermine resilience and the capacity to recover and absorb weather-related losses by reducing agricultural productivity, weakening water and food security, increasing the incidence of diseases, and threatening the existing infrastructure, economic productivity and value chains. Climate change will create new poor, especially in low-income countries, jeopardize sustainable development, and exacerbate migration and conflict.²¹

Climate insurance is a vital instrument within a comprehensive climate risk management system straddling a continuum of prevention, risk reduction, risk retention and risk transfer such as insurance schemes. Climate insurance can play numerous roles - at individual, community, country, regional (international) and global levels - in providing security against the loss of assets, livelihoods and even lives in the post-disaster period; ensuring reliable and dignified post-

¹⁹ S. Swenja and O. delioma, Building Effective and Sustainable Risk Transfer Initiatives in Low and Middle Income Economies: What Can We Learn from Existing Insurance Schemes?, policy paper, 2011, p-5.

²⁰ See the back ground paper prepared by Deutsche Gesell Schaft Fur International Zusammenarbeit (GIZ) GMBH and KFW development bank, climate risk insurance for strengthening climate resilience of poor people in vulnerable countries, 2015, p-5

²¹Ibid.

disaster relief; setting incentives for prevention; providing certainty for weather-affected public and private investments, and easing disaster-related poverty and spurring economic development²².

By spreading the risk of loss among people and across time, insurance reduces the negative impacts of weather-related disasters, enables a timely recovery, and can help to promote adaptation. Insurance-related solutions facilitate the assessment of loss and damage potential as a prerequisite for identifying needs and policy priorities. In many contexts, applying loss avoidance measures may help reduce insurance premiums, one paradigm of how well designed insurance can incentivize households, firms and governments to implement loss-reduction and resilience-building activities.²³

The unpredictability in economies and social systems caused by weather extremes is a challenge to social and economic development. Insurance can reduce the financial repercussions of volatility and the uncertainties of decision-making by helping create a “space of certainty” within which investments and planning can be undertaken. This certainty, in turn, can help foster an environment more conducive to climate-resilient investment in key sectors and temper the downturns that act as a major impediment to escaping poverty. Insurance helps to provide timely and reliable finance to cover loss and damage, in particular compared to other (usually) *ad hoc* post-disaster financing options, such as aid, loans and family assistance. Insurance clients can access timely payouts to purchase food and get back on their feet while avoiding poverty traps. Payouts can help governments to avoid fiscal deficits and costly post-disaster loans, and to take prompt action, for example to assist the poor people who are most affected by disasters.²⁴

Insurance instruments can also have large payoffs to governments. Due to limited tax bases, high indebtedness and low uptake of insurance, many highly exposed developing countries cannot fully recover by simply relying on limited external donor aid. By providing ex post liquidity that enables governments to provide relief to the most vulnerable and to invest in reconstruction and recovery as well as quickly get back on their feet; insurance reduces long-term losses and the significant development setbacks from disasters.²⁵

²² GIZ, cited above at note 20, p.6

²³ Ibid.

²⁴ Ibid.

²⁵ L. Joanne and M. Reinbard, Insurance Against Losses from Natural Disaster in Developing Countries, 2009, p.25

Just like investments in prevention, insurance can therefore save lives and livelihoods. With internationally backed risk-transfer programs, developing country governments will rely less on debt financing and international donations, and assured funds for repairing critical infrastructure will attract foreign investment.²⁶

Climate insurance is a form of risk transfer mechanism designed to pay out to the policyholder when defined climate related events take place, thus diversifying losses across people and time. This often takes the form of index or parametric mechanisms that pay out when specific conditions such as the amount of rainfall, wind speed, or the greenness of vegetation in a specific geographic area fall outside of pre-defined parameters.²⁷ Broadly speaking, climate insurance can be implemented at three levels:-

Micro-level insurance: a form of direct cover whereby individuals such as farmers hold policies and receive payouts directly. These policies may be sold or distributed via aggregator organizations such as farmers' cooperatives or NGOs.²⁸

Meso-level insurance: a form of indirect cover whereby policies are held by and payouts made to risk aggregator organizations that provide services to individuals, such as financial institutions, cooperatives, credit unions or NGOs. In practice, this is often applied to lending organizations to cover their loan portfolio.²⁹

Macro-level insurance: a form of indirect cover whereby policies are held by and payouts made to governments or other agencies working at national level, in order to provide emergency funding without cutting into their regular budgets. Increasingly these schemes are operationalised through regional risk pools, such as the Africa Risk Capacity, the Caribbean Catastrophe Risk Insurance Facility and the Pacific Catastrophe Risk Assessment and Financing Initiative.³⁰

2.2. The Advent of Climate Insurance

Historically, insurance policies have covered damage from serious weather events. However, climate change jeopardizes economic viability of affordable policies and hence causes insurers to rethink their assumptions about the risks of extreme weather damage. Understanding the role that insurance plays is essential to understanding several key issues about climate change, including

²⁶ L. Joanne and M. Reinbard, cited above at note 25.

²⁷ See *Weathering Risky Climate: Role of Insurance in Reducing Vulnerability to Extreme Weather*, April 2016. Also available <http://WWW.results.org.uk>.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

incentives to encourage specific modes of behavior and the importance of insurance products and services for other economic sectors.³¹

Proposals to address the effects of climate events through the climate change regime have existed since the negotiation on the adoption of the UNFCCC itself, loss and damage has been highly controversial ever since the initial proposal of AOSIS in 1991 to require mandatory payments from developed countries to reimburse losses suffered by vulnerable countries. The core of the controversy arises from the fear among developed countries that the concept could be used to hold them liable for damage caused by climate change. Under customary international law states are required to avoid activities under their jurisdiction or control causing damage to the environment of other states.³²

However, state responsibility and liability becomes awkward to apply in the context of climate change, in particular due to the high number of actors involved and the difficulty in linking damage to any given actor. This proposal put forward by AOSIS; which was rooted in the law of state responsibility for trans-boundary harm and proposed to base payments on the share of contribution to climate change, risked creating a way to surmount these barriers and set a precedent for invoking liability.³³

Developed countries felt deeply uncomfortable with the notion of liability and have consistently refused to negotiate any legal responsibility under the Convention. This has heavily shaped the loss and damage negotiations, both in making many developed countries wary of progress and in ensuring that all progress was explicitly focused on facilitative rather than punitive approaches.³⁴

A correlated area of concern for developed countries is the possibility that the creation of an additional pillar under the UNFCCC would reopen discussions on financial support in another forum, which they pledged to mobilize for furthering mitigation and adaptation in developing countries. AOSIS and the Least Developed Countries (LDCs) have pushed for the establishment of financial mechanisms to cover rehabilitation, insurance and risk management for loss and damage.³⁵

³¹ M. sofya and N. olga, “Climate Change: Implications for the (Re) Insurance Industry,” New Zealand Journal of Public International Law, vol 10 (2012).p.107

³²C.darragh, Climate Focus, Loss and Damage in the Paris Agreement, 2015, p.3

³³ Ibid.

³⁴ Ibid.

³⁵ Ibid.

Thus, the proposal was not successful and the issue subsequently fell off the negotiation agenda, then after only briefly reappearing in 2001, at COP-7, when the parties agreed to consider insurance-related actions at its next session, but ultimately did not follow up.³⁶ It was not until 2007, when the Bali Action Plan called for action on ‘disaster risk reduction strategies and other means to address loss and damage in particularly vulnerable countries’, that the term loss and damage was coined and the issue firmly entered the UNFCCC negotiation agenda. This coincided with the release of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), which made clear that historic greenhouse gas emissions had already made certain amount of loss and damage unavoidable. Under the Bali Action Plan, loss and damage was housed within the adaptation pillar, and was understood to comprise facilitative approaches, including disaster risk reduction strategies and risk transfer and management tools such as insurance.³⁷

At COP-14 in Poznan in 2008, AOSIS proposed a loss and damage mechanism consisting of three streams: an insurance component to respond to the risks associated with extreme weather events; a rehabilitation and compensation component to address slow onset impacts; and a risk management component.³⁸ However, a divide between developed and developing countries had emerged, with the former strongly opposing any mention of compensation and rehabilitation. At the 2010 climate meetings in Bonn, parties such as the EU and Canada argued against introducing any new institutions within the UNFCCC, whereas the US was only willing to consider the insurance-related aspects of the AOSIS proposal.³⁹

Despite the growing divides over how and if loss and damage should be addressed under the UNFCCC, some progress was made at COP-16 in 2010. Loss and damage was given a two-year work programme under the ‘Cancún Adaptation Framework’, structured around three thematic

³⁶ See United Nations Framework Convention on Climate Change (UNFCCC) (2002). Report of the Conference of the Parties on its Seventh Session, Marrakech, 29 October – 10 November 2001, Addendum, FCCC/CP/2001/13/Add.1. Available at: <http://unfccc.int/resource/docs/cop7/13a01.pdf>.

³⁷ See United Nations Framework Convention on Climate Change (UNFCCC) (2007). Report of Conference of the Parties on its Thirteenth Session, Bali, 3 – 15 December 2007, Addendum, FCCC/CP/2007/6/Add.1. Available at: <https://unfccc.int/resource/docs/2007/cop13/eng/06a01>.

³⁸ See Alliance of Small Island States (AOSIS) (2008). Proposal to the AWG-LCA: Multi-Window Mechanism to Address Loss and Damage from Climate Change Impacts. Alliance of Small Island States. Available at: http://unfccc.int/files/kyoto_protocol/application/pdf/aosisinsurance061208.pdf.

³⁹ K. Julia and L. vanhale, ‘Climate Change Loss and Damage Policy Brief’, *Global Governance Institute*, p-5, 2017.

areas: assessing the risks associated with loss and damage; investigating approaches to address loss and damage; and clarifying the role of the Convention in implementing these approaches.⁴⁰ At COP-18, pressure from a broad coalition of developing countries, eventually led to the decision to establish “institutional arrangements such as an international mechanism” on loss and damage at the upcoming COP. However, the final decision text, known as the ‘Doha Gateway’, only mentions rehabilitation, not compensation, as an element of future action on loss and damage.⁴¹

As mandated by the Doha Gateway, COP-19 in Warsaw established a dedicated policy mechanism for loss and damage – the Warsaw International Mechanism on Loss and Damage (WIM). Following controversy over whether the issue would be treated within or outside the adaptation pillar, parties eventually decided to house the WIM under the Cancún Adaptation Framework, but to review its structure, mandate and effectiveness at COP-22 in 2016. It was also acknowledged that loss and damage “includes, and in some cases involves more than, that which can be reduced by adaptation”.⁴²

2.3. The Merits of Climate Insurance

Climate Insurance has been anticipated as a cost-effective way of managing the financial impacts of climate change. Depending on the way the insurance is designed, the insurance mechanism can address a wide variety of risks stemming from climatic change. However, among the many advantages of climate insurance the following can be the major ones.

Insurance as adaptation

By spreading losses among people and across time, insurance reduces the catastrophic impact of disasters, and enables a timely recovery. By reducing the burden of loss and damage (if not the average loss) insurance is thus an adaptation measure. In addition to providing timely capital

⁴⁰ See United Nations Framework Convention on Climate Change (UNFCCC) (2011). Report of Conference of the Parties on its Sixteenth Session, Cancun, 29 November – 10 December 2010, Addendum, FCCC/CP/2010/7/Add.1. Available at: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>.

⁴¹ See United Nations Framework Convention on Climate Change (UNFCCC) (2012). Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity. Revised proposal by the President. Draft decision - /CP.18. Conference of the Parties, Eighteenth session, Doha, 26 November – 7 December 2012, FCCC/CP/2012/L.4/Rev.1. Available at: <http://unfccc.int/resource/docs/2012/cop18/eng/l04r01.pdf>.

⁴² See United Nations Framework Convention on Climate Change (UNFCCC) (2014). Report of the Conference of the Parties on its Nineteenth Session, Warsaw, 11 – 23 November 2013, Addendum, FCCC/CP/2013/10/Add.1. Available at: <http://unfccc.int/resource/docs/2013/cop19/eng/l10a01.pdf>.

after a disaster, insurance can and should be linked with risk reducing preventive activities.⁴³ Prudently employing a combination of insurance measures with risk reduction, including, among other measures, early warning, education, infrastructure strengthening, and land-use regulations, can greatly reduce the immediate losses and long-term development setbacks from disasters. In addition, by creating a secure investment environment, insurance instruments can enable productive risk taking on the part of individuals and governments, and in this way mitigate disaster-induced poverty traps.⁴⁴

Assess loss and damage potential

Assessment of loss and damage is a prerequisite for identifying needs and policy priorities, and it is a core function of insurance approaches. Risk assessment frequently serves to bring attention to the hazard potential, the exposure and vulnerability, and in this way it can raise awareness and expose new options for managing the risks. Publically collected and open-source data and risk assessments, as well as open-source hazard modeling, can contribute meaningfully to national and regional risk management and investment decisions. Insurance risk assessment can facilitate regional and international data analysis, such as establishing data standards, comparability, methods and data repositories.⁴⁵

Incentivize loss reduction & resilience building activities

Countries can define nationally appropriate risk reduction priorities, and identify and make plans for reducing weather-related risks. The principles of climate resilient development can guide these actions. Such activities include:

- ✚ Mapping risks and avoiding settlements in high-risk zones
- ✚ Building hazard-resistant infrastructures and houses
- ✚ Protecting and developing hazard buffers (forests, reefs, mangroves, etc.)
- ✚ Improving early warning and response systems
- ✚ Building institutions, and developing policies and plans
- ✚ Developing a culture of prevention and resilience

Many of these measures will be cost effective for low-impact events but not for very extreme disasters. Applying loss-avoiding measures can in many contexts (for example, building hazard-

⁴³The submission of Munich Climate Insurance Initiative (MCII) on the Role of Insurance in the Context of Loss and Damage, 2012, also available at WWW.climate-insurance.org.

⁴⁴Ibid.

⁴⁵Id at p.10.

resilient structures) reduce insurance premiums, and in this way insurance sends a signal to households, firms and governments to reduce risks. Additional design elements, besides reduced premiums to reward risk reduction, can be incorporated in insurance contracts. Ongoing participation/renewal of insurance coverage with public or international support could be dependent upon evidence that participating vulnerable countries are making tangible progress in implementing their loss reduction plans.⁴⁶

Reduce financial repercussions of volatility and create more certainty in decision making

The volatility in economies and social systems caused by weather extremes is a challenge for social and economic development. Insurance can help create a space of certainty within which investments and planning can be undertaken. This certainty, in turn, can help create an environment more conducive to climate-resilient investments in sectors like tourism and agriculture (typically heavily exposed to climatic stressors), in job creation and in market development. Moreover, insurance can provide the safety net essential for taking productive, yet high risk, investments.⁴⁷

Provide timely finance to cover loss & damage

As reiterated above, there are numerous roles that insurance can play at the individual, community, country, regional (international) and global levels in the context of loss and damage: providing security against the wholesale loss of assets, livelihoods and even lives in the post-disaster period; ensuring reliable and dignified post-disaster relief; setting powerful incentives for prevention; providing certainty for weather-affected public and private investments, and not least, spurring economic development and easing disaster-related poverty. A major advantage of insurance over post-disaster financing options, including aid, loans and family assistance, is its timeliness and reliability. In comparison with (usually) ad hoc disaster assistance, insured clients have a “right” to post-disaster compensation. Index-based contracts, which require no inspections for claim settlements, can in principle provide payouts immediately following the “triggering” event. Timely payouts, in turn, enable households to purchase food and other necessities without resorting to selling household assets (that can trap them in poverty), and they help governments avoid fiscal deficits and costly post-disaster loans.⁴⁸

⁴⁶Munich Climate Insurance Initiative, cited above at note 43, p.12.

⁴⁷Id at p.13.

⁴⁸Munich Climate Insurance Initiative, cited above at note 43

2.4. The Challenges of Climate Insurance

There are challenges associated with climate insurance. The following are the salient ones:

Supplementary means:

Insurance should not substitute for social protection systems nor for disaster risk reduction and adaptation. Rather it should form part of an integrated climate risk management strategy and broader adaptation efforts, such as social safety nets, early warning, awareness-raising programs, disaster-proof infrastructure, and investment in more sustainable livelihoods. Without a comprehensive response, there is a danger of creating a false sense of security, encouraging unwise risk-taking and mal-adaptation.⁴⁹

Suitable for certain events:

Insurance can support resilience to unforeseeable, discrete events such as extreme weather, but is not applicable to many kinds of climate change impacts, including slow-onset events such as sea-level rise and desertification, or risks that occur more frequently. Dedicated public funds must be made available to tackle these eventualities through activities such as flood protection; agricultural development; economic diversification; urban planning and climate resilient infrastructure; more comprehensive and flexible social safety nets; compensation; and relocation of populations when necessary.⁵⁰

Basis risk limitations:

The index design can never be perfectly accurate, particularly when available weather data is not high quality or granular enough. Farmers may receive a payout even when their crops survive; conversely, they may experience losses when a payout is not triggered, which creates hardship and damages trust. This problem is called ‘basis risk’. It can never be completely eliminated, but it can be minimized through improved design of indices and products, data innovation (such as openly shared, high-resolution satellite data) and good communication so that clients are fully aware of to have a basis risk fund to supplement under payments that would lead to hardship.⁵¹

⁴⁹ Weathering Risky Climate, cited above at note 27

⁵⁰Ibid.

⁵¹Weathering Risky Climate, cited above at note 27

Spend time getting the model right:

Index or parametric, insurance mechanisms are new and complicated. Implementing them in areas where stakeholders may have limited appreciation of the role of insurance, and incomplete background information as to the model inputs required (for instance exactly what crops are grown; when rainfall is most important) may result in the wrong insurance model being established. It is essential that an appropriate amount of technical support is provided in establishing the insurance model, and that a backup is in place until the insurance is fully tested.⁵²

Prioritize poor people not profit:

It is crystal clear that the poor cannot afford insurance premiums. There must be no tacit assumption that the private sector will expand the frontiers of insurance to the world's poorest and most vulnerable people on a commercial basis. There is a critical role for donors to actively support the take-up of effective climate insurance. It is imperative that subsidies benefit the poor, and do not add to the profits of insurance companies and brokers. This work must go beyond building markets, in which the imperative is typically to transition schemes to commercial viability as soon as possible.⁵³

Address climate injustice:

Poor and vulnerable people have contributed little to the climate change problem. An expectation that they will pay insurance premiums to cover events made worse by climate change, would be unjust and contrary to the principles of the UNFCCC and the Paris Agreement.⁵⁴

Distorted incentives:

When insurers know that government will automatically cover most losses, incentive to pursue sound insurance practices when assessing losses is reduced. Insurers may even collude with farmers in filing exaggerated or falsified claims.⁵⁵

⁵²Ibid.

⁵³Ibid.

⁵⁴Ibid.

⁵⁵ See the World Bank Study, Weather Risk Management: an Ethiopian Pilot, 2006, p.15

Asymmetry of information:

Successful insurance programs require that the insurer has adequate information about the nature of risks being insured. However, this is very difficult for farm-level yield insurance where farmers will always know more about their potential crop yields than any insurer.⁵⁶

Adverse selection:

Due to asymmetric information it is possible that a farmer's risk will be underestimated. This could result in these clients being charged premium rates that do not reflect their true risk. The converse is also true where true risk exposure of a client could be overestimated or misclassified resulting in premiums that are higher than the actual risk. As a result, those clients whose premiums are lower than their actual risk are more likely to purchase insurance.⁵⁷

Moral hazard:

Asymmetric information can also lead to moral hazard. Because clients have more information about their risk than the insurer or risk taker moral hazard can arise. One example with a crop insurance program would be when an individual's behavior or management negatively influences crop yield rather than some outside factor such as weather or other peril.⁵⁸

Administrative costs:

Adverse selection and moral hazard caused by asymmetric information can be avoided through careful monitoring of the programs and greater investment in risk assessment and classification. But doing this, particularly for small farmers, can drive up the administrative costs for the insurance making the premium prohibitive.⁵⁹

2.5. Types of Climate Insurance

There are three general categories of insurance for managing the risks associated with climate change, based on who pays, who is insured, and the value of assets insured.⁶⁰

⁵⁶weathering risky climate, cited above at note 27

⁵⁷Ibid.

⁵⁸Ibid.

⁵⁹Ibid.

⁶⁰D. aarjan and m. heather, Paying the Premium: Insurance as a Risk Management Tool for Climate Change, 2009, p.5.

I. **Global Fund**

The global community sets up a solidarity fund or some other form of a compensation mechanism to pay the governments of vulnerable countries against catastrophic risks caused by climate change directly through an emergency fund.⁶¹

II. **Catastrophic Risk Insurance**

The international community sets up a global risk pool to pay premiums for vulnerable countries to insure them against the impacts of climate change. Alternatively, vulnerable countries themselves share the risks because of weather-related catastrophic events through sovereign risk pools and risk transfer facilities. The Caribbean Catastrophic Risk Insurance Facility (CCRIF) is an example of this second type of insurance mechanism.⁶²

III. **Consumer Insurance Products**

Both individuals and businesses can purchase private insurance. New insurance products allow insurance to tackle risks from weather disasters, remove moral hazards and also decrease transaction costs. Poor individuals may best be served by micro insurance from a public-private partnership between insurance companies and the state or other non-governmental organizations.⁶³

Climate insurance schemes may be both direct and indirect in their targeting of poor and vulnerable communities. We can define direct and indirect insurance as follows:⁶⁴

Direct insurance approaches- are those in which the insured benefits directly from transferring risk to a risk taking entity (such as an insurer). In the event the insurance agreement is triggered the insured beneficiary receives the insurance payout (direct transfer).⁶⁵

Indirect insurance approaches- are those where the final intended target group benefits indirectly from payments intermediated by an insured government or from being a member of an institution that has insurance.⁶⁶

⁶¹Ibid.

⁶²D. aarjan and M. heather, cited above at note 60

⁶³ Ibid.

⁶⁴ Weathering Risky Climate, cited above at note 27

⁶⁵ Ibid.

⁶⁶Ibid.

Climate insurance can be implemented at three levels:

Micro level (direct): Policyholders are individuals, e.g. farmers, market vendors or fishers, who hold policies and receive payouts directly. These policies are often sold at the local level and retailed through a variety of channels, including microfinance institutions, farmers' cooperatives, banks, NGOs and local insurance companies. Premiums are either paid in full by clients or subsidized.⁶⁷

Meso level (indirect): Policyholders are risk aggregators such as associations, cooperatives, mutuals, credit unions or NGOs, whereby a (re-)insurer makes payments to the risk aggregators, which then provide services to individuals.

Macro level (indirect): Policies are held by governments or other national agencies, within the international/ regional reinsurance market. Payouts can be used to manage liquidity gaps, maintain governmental services or finance post-disaster programs and relief efforts for predefined target groups. Beneficiaries of these programs can be individuals. These schemes can be operationalized through regional risk pools.⁶⁸

There are different insurance product types to target the above-mentioned levels, the two main types being indemnity based insurance and parametric (index-related) insurance. In indemnity-based insurance the claim is assessed by measuring the percentage of damage after an extreme event occurs. Based on this loss assessment payouts are provided. This type of insurance is well known in traditional insurance markets. Index insurance on the other hand pays out after an index has been triggered by exceeding a predefined threshold (e.g. a certain air temperature over a period of time or a certain wind speed). Not requiring a claims assessment process, this product allows for a quicker claims settlement. Index insurance can be designed as a weather-station-based, satellite-based or yield-based product, referring to the kind of trigger used to determine the insurance payout.⁶⁹

With index-based insurance schemes, estimates of financial losses are based on an index or proxy, instead of using the assessment of an adjuster. The index is based on variables such as regional rainfall, wind speed, temperature and area yields. When the index passes a

⁶⁷Ibid.

⁶⁸Weathering Risky Climate, cited above at note 27

⁶⁹ Ibid.

predetermined critical threshold, the insurance provider starts compensating policy holders for losses. Among these product innovations are:⁷⁰

1. **Weather-based index insurance.** Weather based insurance contracts are linked to a weather index such as volume of rainfall, rather than a possible consequence of weather, such as crop failure. Unlike traditional crop insurance, the insurance provider does not need to visit the coverage area to determine premiums or to assess damages. Instead, the insurance assessment is calculated based on rainfall or other data. When rainfall is the trigger, the insurance provider pays out if the amount of rainfall is below or above the threshold stipulated in the contract.⁷¹

2. **Area yield-based insurance.** Under area yield-based insurance, a specific area is identified and its historical yield is determined. The insurance provider would then agree to a pre-determined trigger (i.e. a 10% yield decline in the coverage area). If the trigger is met, insured farmers would be paid regardless of the cause.⁷²

3. **Crop-revenue products.** This insurance mechanism is designed to meet any loss in revenue from the sales of crops. It aims to protect the client from the consequences of low yields, low prices or a combination of both. The principle of this insurance product is to take into consideration both production and price risk as determinants in the gross revenue of a given crop insured. This is because a production deficit might result in price increase under normal supply/demand conditions.⁷³

Index insurance avoids many of the problems that plague conventional crop insurance. Because the insured cannot influence the value of the index, and thus the contract payout, index insurance is essentially free of moral hazard. Because an index insurance contract's premium rate is typically based on publicly available information, not privately held information, index insurance is largely free of adverse selection problems. Because index insurance does not require individually-tailored payout terms or separate verification of individual loss claims, index insurance is less expensive to administer. And because index insurance has simpler information requirements and exhibits greater uniformity and transparency of contract, index insurance is easier to reinsure. These features of index insurance can substantially reduce its cost relative to

⁷⁰ V. sivapuram (ed), Effectiveness of Insurance for Disaster Risk Reduction and Climate Change Adaptation: Challenges and Opportunities, 2015, p.38

⁷¹V. sivapuram, cited above at note 70.

⁷² Ibid.

⁷³Ibid.

conventional crop insurance, making it more affordable, particularly to poor agricultural producers in the developing world.⁷⁴

Although index insurance enjoys certain advantages over conventional agricultural insurance, it also suffers from several drawbacks, the most severe of which is known as “basis risk”. Basis risk refers to the failure of index insurance to cover all losses that may be experienced by the insured. In particular, since the index insurance payout is based on an index, rather than verifiable losses, it is possible for the insured to suffer a significant loss without receiving a payout; conversely, it is possible for the insured to receive a payout without suffering a significant loss. Basis risk can be especially acute where there is significant variation across farmers in production practices, growing conditions, and proximity to the weather stations on which the contracts are written.⁷⁵

⁷⁴ J. Mario and M. Francis, Index Insurance for Agricultural Transformation in Africa, 2016, p.7.

⁷⁵ Ibid.

CHAPTER THREE

3. THE PARIS CLIMATE CHANGE AGREEMENT

3.1. The Road to Paris

The immense growth of industrialization, all forms of transportation, and the use of highly noxious materials that have characterized the post-world war second era have greatly exacerbated harm to the climate. The climate crisis with its dramatic and potential catastrophic effects has been evident that international legal restraint and obligations were necessary to impose limitations on Green House Gas emissions and provide for adaptation strategies.⁷⁶

There are plentitude of climate change agreements resulted from different conferences held in various times. The negotiation of a treaty to address climate change and its effects was formally set in motion by the UN General Assembly and the specialized agencies between 1988 and 1989. The General Assembly determined that „*climate change is a common concern of mankind*“ and urged governments and intergovernmental and NGOs to collaborate in a concerted effort to prepare, as a matter of urgency, a framework convention on climate change.⁷⁷

To this end, UNGA in its Resolution 45/212 of 21 December 1990, it decided to establish a single intergovernmental negotiating process under the auspices of the UNGA for the preparation by an Intergovernmental Negotiating Committee of an effective framework convention on climate change and later the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in New York on 9 May 1992 and entered into force on 21 March 1994.⁷⁸

Thus, the UNFCCC with its near-universal membership has become the central focus of global efforts to address climate change. However, the slowness of the process and the apparent dysfunctional nature of its decision-making procedures have at times led to the questioning of its appropriateness as a forum for global solutions. Nevertheless, the UN in general and the UNFCCC in particular remain the most representative and legitimate locus for international responses to climate change.⁷⁹

⁷⁶ H. Louis, International Law, 1993(3rded) ,p.1375

⁷⁷C.cinnamon , Cited at above note 4 at p.5

⁷⁸Ibid.

⁷⁹ ibid

The UNFCCC is a framework convention, which is relatively common in international environmental law. In other words, framework conventions set out the broad parameters of a regime, including the objectives (Article 2), core principles (Article 3), broad commitments from its parties and a general system of governance, and leave the detailed rules and processes of meeting the objectives to subsequent agreements.

After passages of years, parties to UNFCCC became staunchest supporters for binding commitments *inter alia* they made their intention at Kyoto, Japan in 1997. The Protocol's major tenet is that it has mandatory targets on greenhouse-gas emissions for the world's leading economies which have accepted it as per article 12 of the same protocol.⁸⁰ However, in the meantime china, and other emerging economies which had become responsible for a sizable share in the global annual emission were unwilling to commit to pre-defined action and ultimately joined the other developing countries to remain, as a block, outside of the mitigation frame work of the protocol, this created a serious weakness of the Kyoto protocol in terms of country coverage and effectiveness as well as political acceptability of the Kyoto protocol. The greatest failure of the Kyoto protocol came in 2001 when the US Bush administration rejected the treaty out right. This had a severe effect on the lack of confidence in the upcoming international negotiations.⁸¹

Under the auspices of the UNFCCC, there were post-Kyoto soft commitments in the form of conferences and future action plans until Accord de Paris. In closing, the Paris Climate change agreement; adopted on 12 December 2015 by 196 parties to the UN frame work convention on climate change. The adoption of the Paris Agreement is a milestone in international climate politics and brings years of near deadlock negotiations to a conclusion. The Agreement creates a global process of engagement, follow-up, regular stock-take exercises and cooperative action.⁸²

3.2. General Overview of the Paris Climate Change Agreement

On 12 December 2015, at the 21st session of the Conference of Parties (COP21) to the UN Framework Convention on Climate Change (UNFCCC), governments of 196 nations (Parties)

⁸⁰ *ibid*

⁸¹ Kehulum Yibeltal, The Salient Features of the Paris Agreement, Term Paper, and Addis Ababa University (unpublished), P-2, 2016.

⁸² S. charlotte, –The Paris Agreement: A new Beginning, Journal for European Environmental and Planning Law, vol 13 (2016).

reached a landmark international agreement, with binding obligations for all nations, putting the world on a track for long-term cooperation.

What is historic about this agreement is that, for the first time, a comprehensive approach to climate risk management was the underpinning theme. Also, all Parties acknowledged the anthropogenic causes of climate change, the need to limit the increase in global mean temperature to less than 2 degree Celsius compared to pre-industrial temperatures, the need to develop and implement adaptation measures and to facilitate their financing.⁸³

The final COP21 document consists of two segments: the first (pages 1–19) is the “COP Decisions” providing directions for the future work of the Parties, the UNFCCC and its associated bodies. The second (pages 20–31), is the legally binding “Paris Agreement” with 29 articles (hereafter referred to as the “Agreement”).⁸⁴

The Agreement, the first new global climate deal since the Kyoto Protocol 18 years ago, will be binding under international law. Parties agreed to the period from 22 April 2016 to 21 April 2017 for its ratification. The Agreement will be deemed accepted if it is ratified by at least 55 states accounting for an aggregate share of at least 55 percent of global greenhouse gas emissions. If the Agreement is ratified, it will go into force by 2020, with the first global stocktaking in 2023 and every five years thereafter.⁸⁵

The three main objectives of the Agreement are: (i) mitigation of greenhouse gas (GHG) emissions (i.e. limiting the increase in global temperature); (ii) adaptation, including solutions for the management of loss and damage (i.e. increasing adaptive capacity and fostering climate resilience); (iii) financing through new commitments (make finance flows consistent with the first two objectives).⁸⁶

What led to the success of the negotiations was that the negotiations took a non-confrontational and non-punitive approach to make sure that governments would comply with its provisions. The Agreement is built on the concept of common but differentiated responsibilities (CBDR); in

⁸³ G. Maryam, COP21 Paris Agreement: What Does It Mean for the (Re) Insurance Sector?, 2016, p 2.4.

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Ibid.

other words, if ratified, the Agreement would apply to all countries, but almost all articles lay out different sets of requirements for developed and developing countries, considering the differences in their capacities.⁸⁷

Regarding decarbonisation, the net-zero emission targets after 2050 was agreed, providing a managed transition away from fossil fuels, with all countries officially on board. While the Agreement does not sanction if countries do not meet their voluntary targets, its major achievement is that all nations, developed and developing, are obligated to undertake and maintain plans for their nationally-determined emission reductions (referred to as the Intended Nationally Determined Contributions—INDCs). They are also obligated to review and further raise their commitments every five years and report more transparently than before.⁸⁸

On the financing side, during the negotiations, the developing countries pushed to incorporate “obligatory terms” that would oblige the developed nations to deliver at least USD 100bn a year starting in 2020, as they had promised at COP15 (2010), and increase this amount thereafter. Yet, a number of developed countries hesitated to include the sum. However, the Agreement obligates them to set a new collective sum of more than USD 100bn a year prior to 2025. Also, only public financing is considered, and how private means may be leveraged is not yet resolved.⁸⁹

Countries experience different patterns of risks (risk being the product of hazards, exposures and vulnerabilities) and coping capacities; thus, they need specific strategies and measures for building climate resilience as part of their development agenda. Under its Adaptation and Loss and Damage objectives, the Agreement offers measures which include insurance and risk transfer.⁹⁰

One of the key reasons why it was possible to establish broad support for the Paris deal was the carefully crafted legal structure for the agreement, which leaves important provisions either in a state of imprecision, or unenforceable, or out of reach of domestic courts. That the Paris Agreement would be an international treaty, in accordance with the Vienna Convention on the

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Ibid.

Law of Treaties, had become clear in the preparatory meetings leading up to the Paris summit.⁹¹ However, not least to satisfy longstanding demands by the United States, the Paris Agreement leaves it open to individual countries to decide whether ratification by parliament or executive decision by government is needed for them to accede to the treaty (article 20). Furthermore, the careful wording of key provisions ensures that only some create legal obligations (shall) while others merely express recommendations (should) or create expressions of intent or opinion (will, recognize). Thus, once the agreement has entered into force, parties will be legally obliged to submit NDCs and report on them every five years, but failure to comply with their own national climate plans will not constitute a breach of international law. In any case, the agreement's compliance mechanism is explicitly designed to be expert-based and facilitative in nature and function in a manner that is transparent, non-adversarial and non-punitive (article 15(2)). Even where parties are in breach of treaty provisions, they will not face punitive sanctions as they might in other international agreements such as those of the WTO.⁹²

The question, therefore, is not whether the Paris Agreement is legally binding or not, as some observers have argued. The issue is whether, given its peculiar legal structure, which restricts legal obligations primarily to procedural questions and leaves decisions on how much country contribute to the global climate effort in their own hands, it can make a difference to the global effort to avert dangerous climate change.⁹³

Finally when we see the current status of the agreement, as per article 21(1) the Paris agreement enters in to force thirty days after ratification by at least 55 countries and by countries representing at least 55% of global emissions. On 5 October 2016, the double threshold of 55 countries and 55% of global emissions was met, meaning that the Paris agreement will enter in to force on 4 November 2016. As of December 2017, 171 parties have ratified of the 197 parties to the convention.⁹⁴ Once effective, the Paris Agreement will be considered a treaty under the Vienna Convention on the Law of Treaties. This means that the countries which sign the Agreement will be bound to its terms.

⁹¹Daniel Bodansky, The Legal Character of the Paris Agreement, Review of European, Comparative, and International Environmental Law, 2016, p.6.

⁹²Ibid.

⁹³F. Robert, The Paris Agreement and the New Logic of International Climate Politics, 2016, p.17

⁹⁴Unfccc.int/Paris agreement/items/9444.php accessed on December 26/2017 at 4:00 pm

3.3. Climate Insurance under the Paris Agreement

The need for urgent action on climate change and the related risks is recognized in all high-level processes, first and foremost by the United Nations Framework Convention on Climate Change (UNFCCC), which calls for further enhancing action on adaptation. With the establishment of the Warsaw International Mechanism for Loss and Damage, UNFCCC is addressing the risk of loss and damage associated with the negative impacts of climate change and the need for comprehensive climate risk management and resilience-building. As part of a holistic approach, climate insurance is also addressed in the work plan of the Executive Committee of the Warsaw International Mechanism.⁹⁵

It was contested whether there would be a separate recognition of loss and damage, apart from the theme of adaptation. Article 8 of the Paris Agreement constitutes a milestone in years of policy discussion and fulfills a central demand of the most vulnerable countries. Hence, the Paris Agreement was the first international climate treaty to dedicate an entire article to loss and damage. The embedding of loss and damage in the agreement includes an institutional and a substantive dimension that are complemented by COP decisions: The institutional dimension secures the future of the Warsaw International Mechanism and provides the foundation for its strengthening. For this purpose, the Warsaw International Mechanism is anchored in the agreement and the COP is mandated to expand and strengthen it.⁹⁶

The execution of the international agenda for loss and damage has limitations neither the Paris Agreement nor COP decisions contain specific commitments for Parties regarding financial support. It is noted that the Parties should enhance support for loss and damage-related activities. Additionally, due to the pressure of some developed country parties, paragraph 52 of the COP decision reads like an “exclusion clause”: provisions defined in article 8 of the agreement do not include or are a basis for liability or compensation. Particularly for the most affected countries this wording weakens solidarity package as no additional tools and support claims are defined, should mitigation and adaptation policies not go far enough. The COP decision does not exclude

⁹⁵ GIZ, Cited above at note 20 p.7

⁹⁶ W. koko, COP 21: Understanding Insurance in the Paris Package, 2016, p 1-8

liability/compensation in a wider context and leaves room for the issue via different channels, should the temperature goal not be achieved.⁹⁷

Insurance is considered as an essential tool to address loss and damage and is referenced directly under (i) Paragraph 49 of Section II (“Decisions to Give Effect to the Agreement”) and (ii) Article 8 of the Paris Agreement. Under Paragraph 49, the Warsaw International Mechanism for Loss and Damage remains the main means to address this pillar. Furthermore, the Agreement requires the UN and the International Warsaw Mechanism on Loss and Damage to establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts [of countries] to develop and implement comprehensive risk management strategies.” No further details about the clearinghouse mechanism exist at this stage, but ultimately, it could have a number of benefits such as providing the Parties with access to good practices.⁹⁸

COP-21 also tasked the WIM Executive Committee with setting up a clearinghouse for risk transfer – an online platform that will present accessible, demand-driven information on insurance and other risk transfers strategies. Vulnerable countries often struggle to access appropriate and cost-effective mechanisms to manage and reduce climate change related risks. Insurance can be a viable tool to alleviate the impact of sudden, high-impact events. However, it is only of limited use in the context of slow onset impacts or extreme weather events that occur with high frequency. COP-21, by its decision 1/CP.21, requested the WIM Executive Committee to establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts of Parties to develop and implement comprehensive risk management strategies”.⁹⁹

In February 2016, an informal ‘champions group’ of Executive Committee members was set up to work on a roadmap for the clearinghouse. The group developed a draft concept paper, which suggests that the three main objectives of the clearinghouse should be to enhance understanding of insurance and risk transfer, improve policy coherence, and enhance action and support on risk transfer solutions. The type of information the clearinghouse will offer include (1) information

⁹⁷Ibid.

⁹⁸ibid

⁹⁹See United Nations Framework Convention on Climate Change (UNFCCC) (2015). Report of the Conference of the Parties on its twenty-first session, Paris, 30 November – 13 December 2015, Addendum, FCCC/CP/2015/10/Add.1. Available at: <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>.

on how to set up climate risk insurance schemes, (2) an overview of existing insurance arrangements, (3) information on how climate risk insurance can address rehabilitation and permanent losses and damages, (4) risk information, (5) a list of institutions working on the topic, and (6) types of funding.¹⁰⁰

Perhaps tellingly, the strongest language in the article on loss and damage in the Paris Agreement relates to the imperative to coordinate all action with other relevant bodies. Article 8.5 affirms that the Warsaw International Mechanism ‘shall collaborate’ with existing bodies both inside and outside of the UNFCCC framework in carrying out its mandate. This provision appears to try to avoid that the Warsaw Mechanism duplicates or infringes on the mandates of existing bodies who are arguably much better equipped to address certain areas, such as the UN Refugee Agency in the case of climate-induced displacement.¹⁰¹

Article 8, meanwhile, lists areas of action, clearly highlighting comprehensive risk assessment and management; risk insurance facilities, climate risk pooling and other insurance solutions among other measures. In this context, explicit mentioning of insurance in the COP21 decisions and the Agreement is a signal that both developed and developing countries recognize the high potential for building financial resilience by expanding insurance.¹⁰²

The outcomes of COP21 have opened the doors for innovative insurance solutions, especially in emerging or even new markets. The insurance industry has the potential to contribute significantly to making societies more resilient with respect to the adverse effects of climate change and, at the same time, creating new business. Furthermore, with the inevitable path towards the net-zero emission target, the industry has the opportunity to engage proactively with other key stakeholders to find the best investment strategies.¹⁰³

¹⁰⁰See United Nations Framework Convention on Climate Change (UNFCCC) (2016). Concept Paper: Clearing House on Insurance and Risk Transfer. Adopted by the Warsaw Mechanism on Loss and Damage (WIM) Executive Committee at Excom 4 (September 2016). Available at: https://unfccc.int/files/adaptation/groups_committees/loss_and_damage_executive_committee/application/pdf/clearinghouse_concept_paper_inclannex_23_sept_2016.pdf.

¹⁰¹C. darragh, Cited above at note 32

¹⁰²G. Maryam, Cited above at note 83

¹⁰³Ibid.

CHAPTER FOUR

4. CLIMATE INSURANCE IN THE EIC

4.1. The Impact of climate change in Ethiopia

Ethiopia is a country located in the horn of Africa with a total land size of 1.14 million sq. km. and estimated population of about 91 million (2007 census registered 72.4 million) The population of Ethiopia, according to the 2007 Population and Housing Census of the Central Statistical Agency (CSA), was 73.9 million. Taking a population growth rate of 2.6 percent per annum and 83 percent of the population living in rural areas, Ethiopia has more than 91 million people in 2017, making it the second most populated country in Africa.¹⁰⁴

The country's economy is highly dependent on the agricultural sector which provides direct livelihood for about 83% of the population, contributing 43 – 45% of the country's Gross Domestic Product (GDP), 87% of its export earnings and around 73% of the raw material requirement of agro-based domestic industries. Above all, the agricultural sector is the prime source of food for the ever growing population of the country.¹⁰⁵

The country has diverse agro-ecological environment. Around 55 percent of the total land area constitutes moisture-stressed arid, semi-arid and sub-moist areas with less than 120 days of crop growing period. These drier areas are commonly low in soil fertility and high in rainfall variability and drought risk. Areas with a longer and dependable period with minimum of 120 crop growing days are found in the remaining 45 percent of the total land area, particularly in the highlands.¹⁰⁶

Although the contribution of Ethiopia to greenhouse emission is very limited, it is among the vulnerable countries affected by climate change with low adaptive capacity and high sensitivity to climate variability and change.¹⁰⁷

¹⁰⁴Wolday Amha, Diagnostic Study of Providing Micro Insurance Service to Low-Income Households in Ethiopia: An Input to a National Micro-Insurance Strategy. 2013, p.41

¹⁰⁵Nahusenaye Araya, Weather Insurance For Farmers: Experience From Ethiopia. 2011, p.4

¹⁰⁶Ibid.

¹⁰⁷Wolday Amha, Cited above at note 104 p.41

There are some evidences that climate change has already started appearing in Ethiopia. Mean annual minimum temperature has been increasing by 0.37°C every decade between 1951-2006, and the mean annual temperature is projected to increase in the range of 0.9-1.1°C by 2030, 1.7-2.1°C by 2050 and 2.7-3.4°C by 2080.¹⁰⁸

Climate change in Ethiopia has affected food insecurity, poverty, water and energy supply, sustainable development efforts, as well as resource degradation and natural disasters. Droughts, famines, epidemics, and floods are very common in Ethiopia. In most instances, these disasters are associated with climatic variability and change.¹⁰⁹

Ethiopia has consistently achieved high growth rates over the past few years, making it one of the highest performing economies in sub-Saharan Africa. Ethiopia's economy grew by 9.7%, the tenth year in a row of robust growth. In 2012, Ethiopia was the twelfth fastest growing economy in the world. Average annual real GDP growth rate for the last decade was 10.9%.¹¹⁰

Agriculture is the dominant sector in the Ethiopian economy where 83% of the population fully depends on and more than 43% of the GDP is generated. This sector in turn is dominated by subsistence farming where more than 95% is a rain fed farming of which more than 90% owned by a smallholder (mostly less than half hectare) poor farmers. These smallholder farmers are highly exposed to the negative impact of climate change mainly reflected in shortage of rainfall (draught) in this part of the continent.¹¹¹

Ethiopia, being highly dependent on small-scale and rain-fed agriculture which in turn is fully dependent on weather condition; the entire economy's robustness is highly reliant on weather conditions. GDP fluctuation, for instance, follows directly the fluctuation in climate conditions.¹¹²

4.2. Climate Insurance and the legal framework in Ethiopia

With respect to the legal and regulatory issue there were no insurance laws and a supervisory body put in place until the issuance of the Commercial Code in 1960 and the first insurance

¹⁰⁸See The Federal Democratic Republic of Ethiopia Ministry of Water Resources National Meteorological Agency, Climate Change National Adaptation Programme of Action of Ethiopia hereinafter Ethiopia's NAPA, June 2007 Addis Ababa Ethiopia.

¹⁰⁹Wolday Amha, Cited above at note 104 p.44

¹¹⁰See Wondifraw Zerihun, African Economic Outlook, 2014.

¹¹¹Nahusenaye Araya, Cited above at note 105 p.4

¹¹²Id p.6

proclamation, Proclamation No.281/1970 followed by regulations, Legal Notice No.393/197. They were issued in 1970 and 1971 respectively, while insurance companies had been in business prior to 1960. Ethiopia's legal framework regarding the insurance sector is devised of a hierarchy of proclamations, regulations, and directives that outline its policies, governing structure, management, administration, and supervision. Except for a few insurance-relevant definitions in the Commercial Code of 1960, the insurance activities are governed and guided by the Licensing and Supervision of Insurance Business Proclamation.¹¹³

The Licensing and Supervision of Insurance Business Proclamation No. 746 of 2012 governs all insurance activities in Ethiopia except marine insurance, which is especially governed under the maritime code. Insurance sector players in Ethiopia fall under the regulation and supervision of the National Bank of Ethiopia (NBE). As per the Proclamation No. 746 of 2012, NBE is empowered to formulate policy to promote the business of insurance in the country and issue directives related to various areas of insurance business. For an insurance company to get involved in general insurance, the paid up capital requirement is 60 million Birr (currently around 2,242,990 USD). On the other hand, establishing an insurance company providing long-term and life insurance requires 15 million Birr (currently around 560,747 USD); and 75 million Birr (currently around 2,803,738 USD) is required for both a general insurance and long-term insurance business license (composite).¹¹⁴ According to the proclamation, only a share company fulfilling the minimum capital requirement is allowed to write insurance policies. Besides, foreign insurance companies and investors or partial foreign ownership are not allowed to operate and invest in the insurance sector. Moreover, insurance companies are prohibited in the placement of investments off-shore.

There is no separate definition of climate-insurance in Ethiopia and accordingly the regulatory framework and proclamation do not make any concessions for it.¹¹⁵ Moreover; the current policy environment is only congenial for implementing a traditional insurance programme such as indemnity based one and for this fact Art. 2(16) of proclamation no. 746/2012 stipulates that “insurance” means an undertaking by an insurer to indemnify another person, in exchange for consideration called premium, against damage, destruction, loss or liability in respect of a certain

¹¹³Hailu Zeleke, Insurance in Ethiopia: Historical Development, Present Status and Future Challenges. 2007 , p.53

¹¹⁴Directives Number SIB/34/2013, Minimum Paid up Capital for Insurers, National Bank of Ethiopia, 2013.

¹¹⁵ ibid

risk or peril to which the object of the insurance may be exposed or to pay a sum of money or other thing of value depending upon the happening of a certain event; thus the major issue identified here is the lack of clear policy and regulatory framework and enabling environment for micro and parametric insurance; climate insurance.

On the other hand, the micro financing business proclamation, proclamation number 626/2009, which is mainly designed to promote micro-financing institutions so as to play an important role in providing access to financial services to rural farmers, under article 3(2) (d) among the many purposes and activities of micro financing institutions is to deliver micro insurance service to the rural farmers and low income citizens. Owing to the above designation of the proclamation and in addition considering the great importance of micro insurance in providing risk protection for vulnerable and low income people, the national bank of Ethiopia issued directives regarding licensing, renewal and product approval for micro insurance providers.¹¹⁶ As per the directives, loss of or damage to property including crops and livestock, and weather index insurances are included under the micro insurance products. In addition all licensed insurance companies and those exclusively dedicated to deal in micro insurance business and institutions can provide micro insurance service.¹¹⁷The minimum paid up capital required for those micro financing institutions that delivers micro insurance service is 10 million (currently around 373,831 USD).¹¹⁸

Concerning reinsurance arrangement; also known as insurance for insurers, is insurer's practice of transferring portions of risks portfolios to other parties by some form of agreement to reduce the likelihood of having to pay a large obligation resulting from an insurance claim. It also gives the insurer more security for its equity and solvency and more stable results when unusual and major events occur especially it is critical in case of climate insurance.¹¹⁹ Thus, in the context of the Ethiopian insurance industry, the Licensing and Supervision of Insurance Proclamation No. 86/1994 (article No.37) that has been operational for almost two decades and the substitute Proclamation No.746/2012 (article No. 54) postponed the manner in which reinsurance business may be transacted.

¹¹⁶Directives No.SMIB/1/2015, Licensing, Renewal and Product Approval for Micro Insurance Providers, National Bank of Ethiopia, 2015.

¹¹⁷ ibid

¹¹⁸Directives No. MFI/27/2015, Minimum Capital Requirement for the Business of Micro Finance Institutions, National Bank of Ethiopia, 2015.

¹¹⁹Mezgebe Mihretu, the Ethiopian Insurance Industry and the Reinsurance Business Legal Environment. 2015, p.7

This in return reveals that the Ethiopian insurance industry is engaged in the international industry with no or little regulatory frameworks related to the reinsurance business. This means the Ethiopian insurance industry is competing in international business without adequate legal frameworks. From this it can be concluded that the problems of the industry in relation to the cross border reinsurance performance emanates basically from lack of awareness of the circumstances of cross border reinsurance business and the implications thereof by the industry.¹²⁰

However, recently the NBE issued directives regarding the manner and criteria of transacting reinsurance, directive No.SIB/44/2016, and it is effective since 01 August 2016. But as far as climate insurance is concerned, the long awaited directive has its own limitations. For instance, as per Art.9(2) of the directive fronting is prohibited; an arrangement whereby an insurer issues a policy on a risk with the intent of reinsuring all or most of that exposure for fee or premium. Thus, imagine our insurance industry is economically as well as technically weak and infant besides the very high number of vulnerable rural households, it is totally unthinkable to proceed without those well-equipped and experienced international reinsurers, which is detrimental to the development of climate insurance.

Finally, Ethiopia ratified the Paris agreement on climate change on 9 March 2017,¹²¹ the ratification of the deal is big success as it also supports the country to fulfill the responsibilities entrusted to it. In accordance with article 8 of the Paris agreement climate insurance is considered as an essential tool to tackle the adverse effect of climate change hence parties to the agreement are among other things duty bound to make fertile and enabling legal environment for its success. Besides as per article 9(4) of the federal democratic republic of Ethiopian constitution all international agreements ratified by Ethiopia are an integral part of the law of the land. Therefore, Ethiopia should strive for proper and full-fledged legislative framework for the effective implementation of climate insurance in the country.

¹²⁰ Id at p.16

¹²¹ Unfccc.int, Cited above at 94

4.3. Development of Climate Insurance in Ethiopia

Ethiopia has very low level of insurance penetration with insurance premium constituting as only 0.2% of the GDP out of which General Insurance (GI) contributes 94% (out of which 43% of the premium is for motor vehicle insurance).¹²²

The insurance sector in Ethiopia is very small, young, and underdeveloped with many small insurance companies displaying high levels of inefficiency. Several factors caused low insurance penetration in Ethiopia. The major factors include: the structure of the economy which is dominated by rain-fed agriculture, absence of differentiated products, unethical competition, backward technology, restrictive proclamations, and absence of compulsory insurance, non-existence of reinsurance companies, lack of capital market, and low and negative interest rate. However, there has been modest growth in terms of number of insurance companies and branches.¹²³

The industry does not attempt to develop new products beyond the existing product base; products tend to be very limited in range and tend to target corporate clients. There are limited insurance products that would allow low-income households or individuals to mitigate risk of crop failure, livestock loss, or cope with health and death issues. There is a need to develop innovative products and approaches to provide affordable insurance services in a sustainable way.¹²⁴

Insurance companies have very limited technical skills to expand their activities. It is reported that there are no actuaries in Ethiopia. Many hire foreign actuarial experts when product development is required. Moreover there is a limited capacity in designing, administering, and distributing insurance products that are appropriate for low-income households; those vulnerable to climate change.¹²⁵

And in Ethiopia the formal insurance market perceives the low-income sector as an unattractive niche thus we can deduce that the concept of climate insurance in this perspective is still nascent. However, there have been some attempts. Here are some of the efforts before:-

¹²²See Business Plan of Micro-Insurance Directorate, Ethiopian Insurance Corporation, 2017, p.14

¹²³ See Report of First Consult plc. "A diagnostic of Ethiopian financial sector" A commissioned Study for ABD, Addis Ababa, 2009.

¹²⁴Wolday Amha, Cited above at note 104 p. 57

¹²⁵ Id at p.58

Crop Insurance Pilot of World Bank in Alaba Woreda

The World Bank implemented a pilot project on weather-based index insurance for rainfall risks associated with maize production in Alaba *Woreda* of the Southern Nations, Nationalities and People's Region (SNNP) in 2006. The Ethiopian Insurance Corporation (EIC) was selected to provide underwriting for the insurance project, while two cooperatives agreed to deliver the products to farmers in the project area. Farmers living close to the weather station in the Alaba *Woreda* were identified as potential clients through a field-based assessment of their exposure to weather risk and demand for weather insurance. While ultimately individual farmers would be the policyholders, the cooperatives were used as client aggregators to facilitate the transaction with farmers. After the initial field research, based on the findings and scientific inputs such as agronomic research and crop growth models, a rainfall index was designed to serve as a proxy for yield loss due to drought.¹²⁶

Relief Society of Tigray (REST) Initiated Weather Index Insurance (the HARITA Project)

An index insurance pilot known as Horn of Africa Risk Transfer for Adaptation (HARITA) was initiated in Ethiopia in 2007 by REST in collaboration with Oxfam America, International Research Institute (IRI), Nyala Insurance Company, Dedebit Credit and Saving Institution (DECSI), Swiss Re,⁷ and other partners. The pilot was initially targeted on teff farmers in the village of Adi Ha in Tigray and expanded to other villages and crops. The HARITA project is taking a farmer-centered approach, and is working to integrate index insurance with other One of the world's leading reinsurance companies risk reducing activities by complementing the product with improved agronomic practices, conservation measures, and seasonal and daily weather forecasting. The innovations of the pilot include the extension of weather insurance to communities that are technically challenging to serve, and methods that allow cash-constrained farmers to pay premiums with their labor.¹²⁷

Weather Index Insurance by Nyala Insurance Company in collaboration with WFP

The overall objective of this index insurance pilot is to contribute to an ex-ante risk management system to protect the livelihoods of Ethiopian smallholders vulnerable to severe and catastrophic weather risks. The pilot uses a weather index to demonstrate the feasibility of establishing

¹²⁶ Id p.81

¹²⁷ Id p.71

contingency funding. In the event of severe and catastrophic shortfalls in precipitation, the index is able to indicate the number of beneficiaries, and helps to give an effective aid response.¹²⁸

In 2009, WFP gave technical support to this pilot by providing a framework for the design of the insurance contracts. Nyala Insurance Company, with guidance from the World Food Program, designed the contracts for smallholders in the area of Bofat/Sodere near Nazareth. It insured farmers growing haricot beans in the *meher* season, and a rainfall deficit index was used to protect against drought.¹²⁹

Oromia insurance in collaboration with JICA and others

In response to the 2011 East Africa drought, the Japan International Co-operation Agency (JICA) and the Ethiopian Ministry of Agriculture launched the Rural Resilience Enhancement Project (RREP) in 2012 to enhance the resilience of Ethiopian rural communities to climate change and drought. One of the project components was the introduction of weather index insurance for farmers in low rainfall areas of Oromia Region. The insurance pays insured farmers when rainfall amounts fall below a certain level and to insulate themselves from the effects of drought. The introduction of insurance was complemented by capacity-building training on basic principles of insurance, agriculture risk management and the concept weather index insurance directed at unions, cooperatives and development assistants, as these will be the first level contact for farmers.¹³⁰

Weather index insurance was introduced in 8 districts in Oromia region in collaboration with partners such as the Oromia Insurance Company and various farmer cooperatives and unions. By the end of the second year of the project, some 5,600 teff, sorghum, wheat, maize and haricot beans farmers registered for weather index insurance with a total liability of more than 572,000 Ethiopian Birr (\$28,199).¹³¹

Oromia insurance in collaboration with ILRI

Oromia Insurance Company launched the livestock insurance program for rural pastoralists in 2014, in collaboration with the international livestock research institute (ILRI). And it announced that it will give 1.6 million Br in insurance claim payments to farmers who lost their cattle

¹²⁸ Id p.72

¹²⁹ ibid

¹³⁰ J. Mario and M.francis, Cited above at note 74 at p.12

¹³¹ ibid

because of the EL Nino-caused drought that affected large area of the country in 2016. Around 1,470 farmers around Guji and Borena, Oromia will be receiving compensation from the firm. Alongside the above farmers to be insured a total of 4,588 farmers in Oromia Regional State have livestock insurance.¹³²

More recently, the Ethiopian government plans to move action on climate change adaptation forward by developing and implementing national adaptation plan (NAP), in an effort to bring about transformational change in the country's capacity to address the impacts of climate change. In 2017, the national adaptation plan of Ethiopia identified eighteen major adaptation options that will be implemented at all levels in the country and across different development sectors among them is, strengthening crop and livestock insurance mechanisms so as to promote preparedness related to risk reduction and create insurance schemes for anticipated climate risks, including drought and flood leading to crop failure.¹³³

In general Ethiopia aims to reaching middle income status before 2025 and a carbon neutral economy by 2030. With a fifteen year time frame work, 2016-2030, and a 150 billion USD budget, the climate resilient green economy (CRGE) strategy is targeted to achieve green or low emission economic growth that is resilient in the context of the adverse effects of climate change. The CRGE strategy consists of climate resilient (CR) component and a green economy (GE) component, and adaptation and mitigation programs are prioritized within the strategy, with the CR component focusing on climate change adaptation.¹³⁴

4.4. Climate Insurance under the EIC

4.4.1. General Profile of the EIC

Ethiopian Insurance Corporation (EIC) was established by Proclamation No. 68/1975 on 1st January 1976, to carry on insurance business with the objectives of: engaging in all classes of insurance business and, ensuring insurance services reach the broad mass of the people. The Corporation came into existence by taking over all the assets and liabilities of thirteen nationalized private insurance companies with paid up capital of Birr 11 million (USD 1.29

¹³² Oromia Insurance Compensates Farmers, *Addis Fortune* Vol. 17:877,p.49 2017

¹³³ Interview with Ato Abey H/gebreal, Climate Change Main Streaming Director at FDRE Ministry of Environment, Forest and Climate Change, on 9 August 2017.

¹³⁴ See Ethiopia's Climate Resilient Green Economy/National Adaptation Plan-by the FDRE Ministry of Environment, Forest and Climate Change,p-14, 2017.

million). EIC was operating as a sole provider of insurance services for about nineteen years until the market was opened to local investors.¹³⁵

Following the changes in economic policy in 1994, Proclamation No. 86/1994 opened the insurance industry for private capital allowing Ethiopian nationals to invest in insurance business. Following this new development, EIC was reestablished as a public enterprise under Regulation No 201/94 with a paid up capital of Birr 61 million (USD \$ 7.13 million) with the following objectives: Engage in the business of rendering insurance services and run any other related activities conducive to the attainment of its purposes.¹³⁶

Its principal place of business is in Addis Ababa and having branches all over the country. It has limited liability. It is governed by Proclamation No.746 of 2012, the proclamation issued to provide insurance business. Without prejudice to the applicability of laws governing insurance business, the corporation shall also be governed by the Public Enterprise Proclamation No. 25 of 1992. Starting from 30 January 2004, the corporation has been accountable to the Public Financial Enterprise Agency which is established as an autonomous government office having its own legal personality by the Council of Ministers Regulation No. 98/2004 to supervise financial public enterprises.¹³⁷

Currently, 17 insurance companies are operating in the market with EIC commanding a lion market share. Known for its strong and reliable financial standing, longstanding affiliation with several international insurance organizations and associations, EIC has maintained a comprehensive range of outward reinsurance contract, and accepting inward reinsurance (including co-insurance) business on wide range of risks. It has been also engaged in different investment areas in line with the directive of the National Bank of Ethiopia (NBE).¹³⁸

Currently, EIC has 83 direct branch outlets throughout the country, has adequate market knowledge on account of 41 years of experience backed by 1,475 qualified and competent manpower. It also works with more than 720 sales agents, all local insurance brokers, and banks.

¹³⁵See Ethiopian Insurance Corporation , Annual Report, 2015, p. 2

¹³⁶ *ibid*

¹³⁷ *Id* at p.43

¹³⁸ *Id* at p.2

EIC provides Long term (life) and general (property and liability) insurance covers to various types of customer comprising government, public and private individuals and organizations.¹³⁹

In line with the continuous improvement of public awareness towards insurance, compulsory regulatory measure of the government to protect the citizens, and overall growth of the national economy forces the insurance companies to take a proper action that shall ensure the life; property and legal liability of the public. However, it cannot t be possible to shoulder the risks of the large public without strengthening the risk carrying capacity of the insurers.¹⁴⁰

To this end, Ethiopian insurance corporation has conducted a comprehensive study that can address subject matter and able to increase its authorized capital from Birr 61 million to Birr 592 million effective 09 January 2015 which enables the Corporation to shoulder more risks than ever before. and retained the large portion of it under its mandate. This authorized capital in turn has a significant contribution in reducing the possible outflow of millions of hard currency to different international reinsurance companies through reinsurance arrangement. Moreover, an increased paid-up capital represents the extent to which the Corporation depends on equity financing to fund its operations as compared to its level of debt to assess that assure its healthy balance of financing given its operations, business model and the prevailing standards in its industry, in to consideration.¹⁴¹

On the basis of lessons drawn from the past and given their disproportionate number that the small holder agriculture will continue to be the source of growth as top priority development strategy, EIC now has launched micro insurance products (crop and livestock) for the large small holders that have not yet got an access to the financial sector in general, and the insurance sector in particular.¹⁴²

Currently, EIC has shouldered huge risks and able to manage them through reinsurance arrangement; i.e. it retains the portions of risk that can be shouldered by itself and cede the risks beyond the limits to globally known reinsurance companies. The major reinsurers working with

¹³⁹ *ibid*

¹⁴⁰ *Id* at p.3

¹⁴¹ *ibid*

¹⁴² *ibid*

the EIC, among others, are ETIO RE, MUNICH RE, FAIR POOL, PTA RE, AFRICA RE, GIC RE, TUNIS RE, and KENYA RE.¹⁴³

4.4.2. Practical Experience

In Ethiopia, the insurance sector had has minimal experience and lacks the technical know-how to develop climate insurance.¹⁴⁴ However, some efforts were made by the various donors in collaboration with those under developed insurance companies established in the country.

The World Bank initiated an index insurance program for farmers in Ethiopia in March of 2006 in collaboration with the state-owned Ethiopian Insurance Corporation (EIC). Because of their strong outreach to the rural sector and the greatest business incentive in becoming involved in the pilot, cooperatives were chosen to act as intermediaries and deliver the index insurance product to prospective farmer clients.¹⁴⁵

EIC selected two potential pilot areas where they had clients who had expressed interest in index insurance and where there were National Meteorological Agency weather stations with adequate historical weather data. Based on preliminary assessments, EIC elected to work with the Alaba woreda of the Southern Nations, Nationalities and Peoples Region for the pilot program. The objective of the pilot was to develop a deficit rainfall index insurance contract aimed at maize production. EIC worked with local cooperatives to market the product since cooperatives were engaged in service provision to farmers, including input supply, credit and saving facilities.¹⁴⁶

The index that was developed looked at historical rainfall data as well as agronomic inputs and field based research to determine the impact of shortfalls in rain during the critical growth periods for maize. The index was used in turn to design an insurance policy which would payout when adverse weather occurred. The policy broke the growing season into three stages as well as an initial sowing period. After the policy was designed, it was field tested with the farmers to determine if the policy met their demands for a weather insurance product but also accurately reflected losses. Refinements on the product were made based on farmer's feedback, and the finalized policy was marketed to the two identified cooperatives with the assistance of a local

¹⁴³ Id at p.14

¹⁴⁴ Cited above at note 55 at p.21

¹⁴⁵ J. Mario and M.francis, Cited above at note 74 at p.10

¹⁴⁶ ibid

development agent. Moreover, given that only 28 farmers decided to purchase the product, no reinsurance was required.¹⁴⁷

Upon completion of the pilot, it was concluded that significant challenges still remain for development of scalable and sustainable weather index insurance in Ethiopia. Foremost among these are the limited weather data and lack of a strong marketing channels and intermediaries for the product. The results of the Alaba pilot reveals the key issues that need to be addressed to scale up and sustain the weather index insurance in Ethiopia. These include:-

*“. **Weather data:** While sufficient weather data were found for a number of districts in Ethiopia (including the district in which the pilot was run) the absence of an extensive, sufficient quality weather station network (spread over most geographical regions with little missing data) remains a challenge.*

*. **Intermediary networks:** The absence of an intermediary network with commercial incentive to distribute this insurance product beyond the cooperatives included in the pilot was also identified as an obstacle.*

*. **Limited penetration of agricultural credit:** Weather index products are often distributed via agricultural credit providers who are incentivized to encourage (or compel) the client farmer to take up cover as it also covers their credit risk. In this respect, the overall state of the agricultural finance and the limited penetration of agricultural credit were also identified as key challenges.*

*. **Market distortions:** At the time of the pilot, the Ethiopian government's fertilizer guarantee scheme, provided guarantees on fertilizer that were provided to farmers on credit. The guarantee covered a variety of risks including drought thereby largely eliminating weather variability as a risk for the credit provider. There was, therefore, little incentive for farmers to take up any additional cover.*

*. **Capacity of cooperatives:** Furthermore, it was concluded that most cooperatives have limited capacity and skills to administer large weather insurance projects.”¹⁴⁸*

Finally, on the positive side, the results of the pilot project reveal that EIC understands index based weather insurance contracts and can design contract parameters. Moreover, the index

¹⁴⁷Wolday Amha, Cited above at note 104 at p.74

¹⁴⁸ Id p.74-75

based weather insurance could be used to assist the government in transitioning to a more market-based approach towards reducing risks. However, without additional investment and potential policy changes, the environment is not currently conducive for the development of a larger weather insurance program. As a matter of fact, the pilot was a success from the point of the insurance policy providers. Since there was no drought and hence losses during the pilot period, EIC did not pay compensation.¹⁴⁹

4.4.3. Current Trends

The Ethiopian agriculture is highly exposed to weather risks. Moreover, given that the majority of farmers are small holding units, there is a gap and worrisome concerning how to protect the segment of agricultural economy. Therefore, both the Ethiopian public financial enterprises Agency and the Ethiopian insurance Corporation are interested in arranging an efficient distribution channel to provide support to small farmers in the aftermath of disastrous event. The reality is that both large agricultural businesses and small farmers are neither absorbing all the weather risks, without a rural risk transfer mechanism in place nor publicly backed or privately (re) insured.¹⁵⁰

Ethiopian Insurance Corporation so far has 8 agricultural insurance products targeting the commercial farms and 1 pilot index crop insurance policy namely;

1. *Master crop insurance policy for any crop*
2. *Cotton insurance*
3. *Tea insurance*
4. *Horticulture/floriculture insurance (open field)*
5. *Greenhouse floriculture insurance*
6. *Poultry insurance*
7. *Coffee insurance*
8. *Livestock insurance*
9. *Weather index insurance pilot policy*¹⁵¹

¹⁴⁹ *ibid*

¹⁵⁰ Interview with Ato Sewagegn Chane, Director at the Ethiopian Public Financial Enterprises Agency, on 17 august 2017

¹⁵¹—A bi annual Magazine of Ethiopian Insurance Corporation”, *Medin*, April. Vol 40 (2017), p.39

However, since the products are designed only for the commercial sector, the Corporation could not reach the small holder farmers that constitute the majority of the population in Ethiopia. Accordingly, Ethiopian Insurance Corporation has developed rural insurance products that can impact rural communities in two distinct ways. One, it can provide protection against setbacks due to crop/livestock losses by which farmers will enable to get back on their feet after bad years. However, timely insurance pay-outs should significantly help smallholders to smooth consumption and to prevent the sale of productive assets. The other one is that it could enable farmers to engage in riskier, but, on average, more lucrative farm activities: e.g. alternative or new crops, extended surface cultivation, or increased use of fertilizer and pesticides.¹⁵²

In the history of the government relief emergencies program, both the government and international agencies responded to the impacts of drought shocks to the affected population. Conventionally, the aftershocks assessments were conducted in the mid of the cropping season or at the end of the season. This was followed by preparation of the assessment reports and then preparation of appeal documents to submit to the relief donors. Following a fund appeal in the aftermath of disasters, come fund disbursement and relief allocation happening some six months after appeal process initiation. This traditional appeal process may save human lives but often failed to protect livelihoods, allowing the already vulnerable people slide into abject poverty, due to assets depletion nullifying previous development gains. This intervention is most suitable for the chronically food insecure areas of the country, where the government has already been implementing the Productivity Safety Net Programs (PSNP).¹⁵³

Therefore, the rationale behind employing rural insurance mechanism to the disaster relief as a financing instrument is that contractually guaranteed contingency funding would allow the vulnerable households to receive assistance at the crucial time of shock before resorting to consuming assets or livelihood eroding coping mechanism. These earlier and predictable interventions in addition to saving lives of human would save livelihoods thereby preventing people from falling into destitution and enhance resilience to future shocks. This ensures that the affected households will receive food and cash resources almost at the time when appeal of resources would be made in the conventional approach.¹⁵⁴

¹⁵²Interview with Ato Molla Birhane, Director at the Ethiopian Insurance Corporation, on 8 august 2017

¹⁵³ ibid

¹⁵⁴ ibid

Ethiopian Insurance Corporation had drafted a concept document on Rural Insurance and presented to the Public Finance Enterprise Agency. Accordingly the agency upon discussing the way forward agreed to undertake a study on rural risk and insurance needs assessment and identification of gaps for possible intervention areas. As addressing all farmers at a time is neither economically nor geographically viable, is identifying highly potential target groups (sample) from their economy, geographical location, insurance awareness, and previous exposure point of view are very essential.¹⁵⁵In this regard, the following target groups are selected for pilot testing:

- *Traditional or subsistence agriculture – Tigray and Wolyita*
- *Semi commercial and emerging sector – Alabaquilito&BakoTibeworeda*
- *Commercial farming sector – South west and north west Ethiopia*
- *Specialized farming sector – central Ethiopia*
- *Livestock – Eastern Hararge and Jijiga*¹⁵⁶

Ethiopian Insurance Corporation contemplates to promote and venture into micro-insurance products in order to provide safety nets for low income and disadvantaged persons in Ethiopia. EIC is keen to develop customized micro insurance products with support of technology providers like Kifiya Financial Technology PLC which is in the process of setting up a micro insurance platform for sale of micro-insurance products. EIC has recently collaborated with Kifiya for development and distribution of micro-insurance products and intends to use the proposed micro-insurance platform of Kifiya for the above purpose.¹⁵⁷

The micro insurance product which EIC intends to start with is **Vegetation Index Crop Insurance (VICI) an innovative micro insurance product** for farmers of Ethiopia. VICI is based on Normalised Difference Vegetation Index (NDVI) developed by Geo Data for Innovative Agricultural Credit Insurance Schemes (GIACIS), Netherlands.¹⁵⁸

Based on the above fact in2016 the Ethiopian insurance corporation made a total payment of 357,665.00 Birr for 189 farmers who lost their crops due to climate change. The payment was

¹⁵⁵ ibid

¹⁵⁶ ibid

¹⁵⁷Interview with Ato Girum Girma, High Officer at Micro Insurance Department in the Ethiopian insurance corporation, on 8 august 2017

¹⁵⁸ Ibid

made as per the insurance policy and the data gathered through satellite; via kifiya financial technology Plc.¹⁵⁹

4.4.4. Prospects

Regarding the prospect in the furtherance of climate insurance in the EIC the concerned staff in the Corporation Molla Birhane, Director of marketing and strategic management directorate, said that from the beginning the agriculture sector plays a pivotal role in the Ethiopian economy. The stagnation in the agriculture sector has become the major factor of underdevelopment and poverty in Ethiopia. The national goal of registering a rapid and sustainable economic growth and thereby eradicating poverty cannot be realized unless agricultural productivity is significantly increased. Agriculture (crop & livestock) in Ethiopia is almost entirely rain fed and highly prone to droughts, floods and disease though other factors also adversely affect the sector. Agricultural production can increase if the vagaries of nature and the risk associated with it can only be better managed.¹⁶⁰

The main sources of livelihood for the rural population are agriculture and the rural based non-farm activities directly or indirectly depend on agriculture. This agriculture is dominated by small and subsistence farmers. Agriculture is particularly exposed to climate change risks.¹⁶¹

The provision of insurance service in the EIC is confined to the industrial sectors and the urban based population. The extension of insurance service to the agriculture sector and rural population can make of substantial contribution to the development of agriculture and hence the economic security of the rural population and the nation as a whole.¹⁶²

Among the potential benefits of rural insurance is that it can provide collateral for rural credits enabling the farmers purchase agricultural inputs and technology to improve productivity and production. It provides safety net in case of losses thereby enabling farmers to continue production, thus mitigating the impetus to migrate to the urban areas. Agricultural insurance can thus stabilize agricultural output and provide a certain degree of security to the farming population. Besides, Mr. Molla added that in order for the corporation to draw a certain new

¹⁵⁹Medin, Cited above at note 151 at p.7

¹⁶⁰ Interview with Ato Molla Birhane, Cited above at note 152

¹⁶¹ ibid

¹⁶² ibid

policy the pushing factors are first the market itself (customer demand) and second government proposal so when we come back to climate related insurance services in fact Insurance is a difficult concept to understand, particularly for farmers in rural areas and this is aggravated by inadequate client education on micro-insurance and other financial products. Moreover loss of capacity to pay the required premium therefore the pushing factor in this regard is the government through public financial enterprise agency (EPFEA) that accrues the responsibility even to supervise the work of the corporation and currently together with the agency the corporation aimed at expanding micro insurance focusing on climate related weather insurance in the wider rural part of the country at a breakeven point i.e. no profit is expected rather the small amount of premium collected from the farmers is simply to cover some administrative costs of the corporation and then finally to proceed at a full-scale.¹⁶³

Here the other concerned staff from the Ethiopian public enterprise agency Mr. Sewagegn, change management and research Director, said that the government is highly interested in provoking climate insurance as a main risk management tool for the wider rural society in time of climate change risks and together with the Ethiopian insurance corporation the service is started in some selected areas; around Adama City, as a pilot test since 2016. Mr. Sewagegn concluded that in those selected areas, in which the pilot test is taken place, the farmers have shown the willingness to pay the premium but unfortunately have no ability to pay since without premium subsidies the amount of money expected to pay is high compared to their wealth.¹⁶⁴

Some other studies concerning climate insurance in our country Ethiopia reveals that it is possible to make weather insurance affordable to the Ethiopian poor and marginalized farmers, if some portion of the premium is subsidized in the first few years. Government subsidies help motivate more farmers to enroll in insurance and hence will help companies to stay in the business of risk management. The benefits could include better financial performance, better risk management ability and reduced fiscal exposure. The costs could include inability to make payments in the wake of a catastrophic loss especially when without reinsurance support. In order for this insurance to work, other risks faced by farmers like access to market, access to credit etc. need to be addressed.¹⁶⁵

¹⁶³ ibid

¹⁶⁴ Interview with Ato Sewagegn Chane, Cited above at note 150

¹⁶⁵ Nahusenaye Araya, Cited above at note 105 at p.16

The other concerned officer from the Ethiopian insurance corporation Mr Girum Girma; high officer at micro insurance department, emphasized that Ethiopia is the country in which more than 12,000,000.00 household farmers, dependent on agriculture, live in rural areas and normally it is difficult to reach all farmers thus in order to facilitate the climate related weather insurance the EIC intends to use the Cooperative Unions Since as per the Cooperatives amendment Proclamation No. 402/2004, any cooperative society (both multipurpose and financial cooperatives) are key grassroots level organizations which are very critical instruments in implementing the objectives of the various development programs and strategies such as rural development strategies, and poverty reduction and food security programs moreover they are involved in providing financial services and technical assistance to their members, they are well-positioned to support the provision of insurance coverage to their farmers.¹⁶⁶

In line with the above suggestion there has been a significant increase in the number of Ethiopian primary cooperatives, unions, federations, and members in the last ten years. These federations and unions can enhance the efficiency and capacity cooperatives by allowing the pooling of resources for more complex management activities (e.g. managing of insurance and credit portfolios). It will also make it easier for insurers to partner at the level of primary cooperatives, unions, and federations rather than having to seek out individual members of cooperatives for partnership. Cooperatives provide real distribution opportunities that have yet to be exploited by insurance companies. If cooperatives are allowed to issue insurance policies, they will have a comparative advantage over insurance companies.¹⁶⁷

Cooperatives have comparative advantage to provide micro-insurance exclusively to members. There are a number of ways that cooperatives can provide insurance services to their members:

“As a distributor: Cooperatives can act as a channel to deliver micro-insurance services to members.

As collectors of premiums: Cooperatives can be used as a way to consolidate payment of premiums that can then be aggregated and transferred to the insurer, thus providing cost saving.

¹⁶⁶ Interview with Ato Girum Girma, Cited above at note 157

¹⁶⁷Wolday Amha, Cited above at note 104 at p.70

As part of claims assessment process: Shifting the claim assessment processes of members from the insurer to the cooperative can have advantages in reducing costs and ensuring timely claim payment.

As the policyholders of a group insurance product covering members of cooperatives: Group based insurances tend to be a lower cost option compared to individually issued insurance delivery. Similar to other group insurance arrangements, the record keeping associated with knowing the list of insured risks, etc. may be an administrative benefit provided by the cooperatives. The natural aggregation advantage of cooperatives reduces cost.

As part of the process of understanding and relating to the members: Knowledge of the characteristics of members of cooperatives makes pricing easier and removes many of the information asymmetries facing other insurers.

As part of the process of educating members on the operations of the insurance services: Cooperatives have a comparative advantage of delivering financial literacy or education.

As a vehicle to reinforce trust in the micro-insurance products: One of the main reasons for the success of cooperatives in delivering micro-insurance products to members is their ability to reinforce trust in the insurance products.

As a means of reducing costs and making micro-insurance affordable: A cooperative acting as an aggregator of members leads to reducing cost and making the product affordable.”¹⁶⁸

4.4.5. Challenges

As per the two highly concerned officials of the EIC; Molla Birhane and Girum Girma, among the many ebbs to provide climate related weather insurance to the wider vulnerable rural society; the price of the insurance premiums is one of the major determinants for enrolling maximum number of insured and above all Overcoming beliefs, perceptions and other cultural and sociological barriers to the management of risks and use of insurance is a continuing challenge.¹⁶⁹ In the other way both officials singled out the following prevailing challenges:-

¹⁶⁸ Id 67-68

¹⁶⁹Interview with Ato Molla Birhane and Ato Girum Girma, Cited above at note 152 and 157

“Lack of awareness on the side of framers and stakeholders: - there is a very low level of awareness and understanding about climate/weather insurance on the part of the farmers as well as their unions and other stakeholders”. Even in case of awareness cognitive failure is rampant among the large part of the society.

Cultural and religious impacts: - especially among the rural population there is a tendency to focus mainly on the current consumption rather than on future benefits.

Lack of comprehensive legal framework: - although the government promotes micro insurance still it needs a lot to be worked out on legal framework including clear directives which forward the design and development of climate related weather insurance.

Lack of technological advancement: -data being critical to the design and rating of any climate related weather insurance program, availability of quality, long term time series data on weather, crop production and yield is a challenge faced in developing such insurance products. In addition the country has low density of weather stations and lacks the desired time serious weather data which can be used in the design of weather index products.

Limited financial capacity: - almost all insurance companies in Ethiopia are reluctant to take a lead in investing in climate related weather insurance which is considered to be a high risk class of insurance. Even when we see the case of Ethiopian insurance corporation in this perspective, commanding a lion market share, ETB 1.3 Trillion: total sum assured (gross risks shouldered by the corporation), ETB 892.4 Million: total income from operational and investment activities, ETB 592 Million: paid up capital of the corporation, still experience Limited financial capacity. In addition ability to access international reinsurance are some of the major problems in this regard. The cooperative unions also usually have very limited financial reserves and they are very reluctant in settling insurance premium on behalf of their members.

Lack of sufficient rural branch networks:-many rural areas in the country have difficult landscape together with serious transportation problem awakens the service. Currently, EIC has 83 direct branch outlets throughout the country, when compared to twelve million rural farmers living in many thousand rural towns and villages it is still insufficient outlets.

High administrative costs: - *The land holding of most farmers in Ethiopia is 0.5 hectare and below. In addition, this is usually fragmented in to number of plots of very small size; which makes the costs of weather index insurance delivery and underwriting and claims administration is too high.*

Lack of sufficient Governments support: - *especially on developing agricultural risk management infrastructure, such as enhanced weather and data information, training and education, development of research works, as well as the creation and management of a centralized database of agricultural and weather statistics.”¹⁷⁰*

¹⁷⁰ ibid

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

Unmitigated climate change is likely to have significant adverse effects on physical, biological and human systems. A business-as-usual scenario on a world level cannot ignore the threat that millions of people in developing countries could be deprived of the basic necessities of life, such as land, food and clean water.¹⁷¹ This could lead to social disorder, mass migration, commodity price effects and insecurity, an evolution that would clearly undermine economic stability and insurability. Unmitigated climate change may also have significant adverse effects on the long term development of the world economy.¹⁷²

It is a grave global justice concern that those who suffer most from climate change have done the least to cause it. Developing countries bear over nineteenths of the climate change burden: 98 percent of the seriously affected and 99 percent of all deaths from weather related disasters, along with over 90 percent of the total economic losses. The 50 least developed countries contribute less than 1 percent of global carbon emissions.¹⁷³

Climate insurance provides a way of stabilizing agricultural production, ensuring food security and reducing the effects of catastrophic climate change events. Governments can also use climate insurance to stimulate agricultural productivity. In this sense, it does not only prevent disadvantaged groups from falling into poverty after adverse environmental events, but it may also unleash productive potential in the sense that low-income farmers invest in riskier but more productive activities.

However, implementing climate insurance under the EIC could face several barriers, as identified in this study, which include lack of clear and adequate legal framework, limited knowledge among stakeholders about the benefits of insurance systems, limited expertise to design and implement climate insurance products, challenges in keeping the premium prices low

¹⁷¹ See the Geneva Reports Risk and Insurance Research, The Insurance Industry and Climate Change-contribution to the Global Debate, 2 July 2009 pp-24-25. Also available www.genevaassociation.org.

¹⁷² *ibid*

¹⁷³ A. Thomas, "Clashing Views on Environmental Issues, is Global Warming a Catastrophe that Warrants Immediate Action?" *Taking Sides*, fourteen edition (2012),p.389.

which in the absence of government or donor support private insurance is too expensive, lack of good quality data on risks and historical losses and limited presence of reinsurers. All these lead to the conclusion that the industry is currently operating viciously without direction and with little dynamism. Addressing these limitations, with collaboration of the public and private sectors, is essential in enhancing readiness to acceptance of climate insurance.

Finally, in spite of the fact that Ethiopia has contributed very little to the climate change problem, those vulnerable rural farmers of the country are expected to pay insurance premiums to cover events made worse by climate change which is unjust and contrary to the principles of the UNFCCC and the Paris Agreement.

5.2. Recommendations

- ✚ In order to enable the insurance industry to play a leading role in curbing the adverse effect of climate change and there by catalyze the economic development and supporting the economy, strategic directions and appropriate regulatory frameworks, specifically in relation to climate insurance have to be put in place. Such a framework must cover what climate insurance is and its features and what standards, protocols and others shall govern its implementation, "who" can offer and buy the insurance, "who" the other parties are (regulator, data collector, funding source, data source, etc.), "who" should be involved in the insurance transactions and their roles and responsibilities and "how" the insurance system will be implemented and regulated.
- ✚ Policy makers should further recognize that effective climate insurance systems deliver outcomes that are essential to societal resilience. The role of climate insurance should receive higher emphasis within the legislative framework and for that matter the insurance sector and financial regulators should engage more openly and actively with the policy community to support this development.
- ✚ Policy makers, educators and the insurance industry should develop partnership and programs to educate communities and companies on natural hazard risks and the role of insurance in enabling resilience, security and sustainable growth and investment.
- ✚ Government financial support should focus on developing agricultural risk management infrastructure, such as enhanced weather and data information, training and education, and research and development. The creation and management of a centralized database of

agricultural and weather statistics and making the database available to agricultural insurance practitioners would be a step in the right direction. In addition, the availability of good quality data infrastructure creates benefits that extend well beyond individual farmers and insurers.

- ✚ Moreover, the government should simplify the tax system and to use collected taxes for the strengthening of the climate insurance industry as well as to extend the tax exemption granted to insurance premiums for climate related insurance to premiums of climate insurance companies and of the reinsurance covering them.
- ✚ As discussed so far in this paper climate Insurance is considered as an essential tool to address loss and damage and is referenced directly under (i) Paragraph 49 of Section II (“Decisions to Give Effect to the Agreement”) and (ii) Article 8 of the Paris Agreement. Under Paragraph 49, the Warsaw International Mechanism for Loss and Damage remains the main means to address this pillar. Furthermore, the Agreement requires the UN and the International Warsaw Mechanism on Loss and Damage ~~to~~ establish a clearinghouse for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts [of countries] to develop and implement comprehensive risk management strategies.” Thus, I strictly recommend that the WIM, via the Clearing House should recommend an international institutional framework that will design a global climate risk insurance facility coordinated internationally but operationalized through the needs, capacities and specificities of the vulnerable countries; especially the least developed countries, with the help of the (re)insurance industry expertise in risk assessment and risk management. And there should be a climate insurance pool in each vulnerable country that could receive funding from sources such as the Green Climate Fund, G7 InsuResilience and other climate funds so as to reach poor people in the respective country directly through micro insurance.

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2. Interview with Ato Girum Girma, High Officer at Micro Insurance Department in the Ethiopian Insurance Corporation, on 8 August 2017.
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4. Interview with Ato Abey H/gebreal, Climate Change Main Streaming Director at FDRE Ministry of Environment, Forest and Climate Change, on 9 August 2017.

Annex

1. Interview Questions
2. Weather Insurance Policy of EIC