

S M NAZMUZ SAKIB'S CLIMATE CONFLICT THEORY (CCT): A REVIEW AND APPLICATION TO THE FISHER'S SECTOR IN AFRICA

DR. MD. ISMAIL JABIULLAH¹ (drismail.cse@diu.edu.bd), LITON MIA² (liton.mia@dsce.edu.bd), MD NAZMUL HOSSAIN³ (bestnazmul021@gmail.com), NAZIFA THASIN RAYNA⁴ (nazifathasin282000@gmail.com), MD. AHSANUL ISLAM⁵ (asasifkhan529@gmail.com), ERWIN L. RIMBAN⁶ (erwinrimban@csu.edu.ph) (dr.erwinrimban@gmail.com), JOHN PA IOANNIDIS⁷, RIZWANA AMIN⁸ (dr.rizwanaamin@gmail.com), JOEL SCHWARTZ⁹, WASEEM AHMED KHATTAK¹⁰ (waseem007ustb@gmail.com), DAN GESCHWIND¹¹, DEREK LOVLEY¹², DR. KARUNA M.S¹³ (m.karuna@mjpru.ac.in), WOLFF MICHAEL ROTH¹⁵, CANER YERLI¹⁶, OSAMAH IBRAHIM KHALAF¹⁷ (usama81818@nahrainuniv.edu.iq), TALIP CAKMAKCI¹⁸, NAHUM SONENBERG¹⁹, USTUN SAHIN²⁰ (ussahin@atauni.edu.tr), FLUTURIM SALIU²¹ (fluturim_saliu@yahoo.com) (fluturim_saliu@unite.edu.mk), A. S. ALEKSANYAN²² (alla.alexanyan@gmail.com), ROBERT W GARDNER JR²³, CARL JUNE²⁴, DR. MOHD. JAVED ANSARI²⁵ (jansari@hinducollege.edu.in), AZZA FTHELRHMAN ABDELHALIM MUSTAFA²⁶ (azzafth79@gmail.com), DR. MD. RUHUL AMIN, PT²⁷ (ruhul31physio@yahoo.com), SABBIR SHIKDAR²⁸ (shikdarsabbir98@gmail.com), MD SHARIFUL ISLAM²⁹ (sharifphysio605@gmail.com), IBNE MOHAMMAD SHAKHAWAT HOSSAIN³⁰ (ibnemohammadshakhawathossain@gmail.com), MD. SABBIR AHMED³¹ (sabbir.mt.pt@gmail.com), MD. APPLE SARKER³² (mdapplee420@gmail.com), RONALD C KESSLER³³ (Ronkadm@hcp.med.harvard.edu), MD. SYFUL ISLAM³⁴ (saifulislamphysio@gmail.com), DR. GAURAV RAO (grao@mjpru.ac.in)³⁵, PAUL M RIDKER, MD³⁶ (pridker@bwh.harvard.edu), MIRZA MD. TANVIR MAHTAB FAYSAL³⁷ (mirzatanvir134@gmail.com), TAHSAN MAHMOOD TARIQ³⁸ (mahmoodtahmid006@gmail.com), ISRATH JAHAN SONDA³⁹ (israthjahan5678@gmail.com), AMINUL ISLAM⁴⁰ (aminulashik19@gmail.com), HAFIZA AFRIN⁴¹ (h.afrin1997@gmail.com), JAHIDUL ISLAM SAHED⁴² (Shahedkhandokar145@gmail.com), LUBBABA SUGRA SIDDIQI TAMANNA⁴³ (sugrasiddiqi24@gmail.com), MEHEDI HASAN⁴⁴ (mh446@student.london.ac.uk), NUR- E-IMAN NASIM TALUKDAR⁴⁵, FARJANA RAHMAN⁴⁶ (rahmanfarjanafxgd@gmail.com), EURID AL MUTTAKIM⁴⁷ (euridwilliam02@gmail.com), MADHOBI PRAMANIK⁴⁸ (madhobi.pramanik@nu.ac.bd), RAKHESH MADHUSOODHANAN⁴⁹, XINGSI XUE⁵⁰ (xxs@fjut.edu.cn), DR. M. EJAZ HASAN⁵¹, AL-AMIN HOSSAIN (sawonk301@gmail.com)⁵², MD. SOHAG HASAN (sohagh628@gmail.com)⁵³, DR. YOGENDER SINGH⁵⁴ (yoginderrangi@gmail.com), MD. SHOYAIB MAHMUD⁵⁵ (shoyaib15-1525@diu.edu.bd), MD ABU BOKKOR SIDDIK⁵⁶ (abubokkorsiddik.swiu@gmail.com), SHADMAN SAKEEF⁵⁷ (srsakeef@gmail.com), MARTIN BLASER⁵⁸ (martin.blaser@nyumc.org), JANNATUL FERDOUS SWARNA⁵⁹ (jasminswarna92@gmail.com), RAYMOND J DOLAN⁶⁰, DR. SUJAY BISHT⁶¹ (sujay.bisht@lnipeassam.edu.in), MEHEDI HASAN⁶² (engrmehedihasan58@gmail.com), CRISTINA DUMITRU TABACARU⁶³ (cristina.dumitru@upit.ro), MOHAMMAD ISMAIL⁶⁴ (ismail.hamza@yahoo.com), MD. NABIR HOSSAIN⁶⁵ (nabir775@gmail.com), MOHAMMAD HOSSEIN NIKSOKHAN⁶⁶ (niksokhan@ut.ac.ir), HOPE ADANCHIN FABONG⁶⁷, EDUARD DE LA CRUZ BURELO⁶⁸, H. I. HOVHANNISYAN (ripil991@mail.ru), WILLEM M DE VOS⁶⁹

(willem.devos@wur.nl), G. M. FAYVUSH⁷⁰ (gfayvush@yahoo.com), MOUSUMI BEGUM⁷¹, SR MAHIN SHEFA⁷² (shaurinroza@gmail.com), RICHARD M RYAN⁷³, MD. SHEIKH FARID MILON⁷⁴ (milon.u@gmail.com), JOSEPH F MURPHY⁷⁵, AMIT ROY⁷⁶ (arponamitroy012@gmail.com), JIM CUMMINS⁷⁷, GREGORY LIP⁷⁸, HJ KIM⁷⁹, PROF. ARCHANA CHAHAL⁸⁰ (achahal@allduin.ac.in), JANNATUL FERDOUS SWARNA⁸¹ (jasminswarna92@gmail.com), DR. SABIHA TABASSUM⁸² (sabiha.am@amu.ac.in), RICHARD E MAYER⁸³, MARINUS VAN IJZENDOORN⁸⁴, MD. SAIFUL ISLAM⁸⁵ (saifulsaaymon@gmail.com), HERBERT W MARSH⁸⁶, MD. EMON KHAN⁸⁷ (khanemonmd97@gmail.com), MOHAMMAD R. HASSAN⁸⁸ (mhassan@ammanu.edu.jo), F M FYSAL KABIR⁸⁹ (fysal.nayem@gmail.com), NABIL SULTAN⁹⁰ (nabilsultan0011@gmail.com), GEORGE SUGAI⁹¹, SONJOY CHANDRA ROY⁹² (sonjoychandra2021@gmail.com), FAHMIDA MOHIUDDIN NITI⁹³ (fahmidaniti@gmail.com), MD. MUSHAHID ALI⁹⁴ (mdmushahidali45@gmail.com), ROBERT ROSS⁹⁵, ANDREA VARGHESE⁹⁶ (andreaashna@gmail.com), RAKIBUL ISLAM⁹⁷ (rrakibulislam0123@gmail.com), MD. RAKIBUL HASAN SHUVO⁹⁸ (md.rakibulshuvo@gmail.com), MD. SAYDUL ISLAM⁹⁹ (saydul5982@gmail.com), GAOBO ZHANG¹⁰⁰ (liuxh19972004@163.com), CHAO WANG¹⁰¹, HONGHUI ZHAO¹⁰², JINJIE WANG¹⁰³ (wangjj@xju.edu.cn), REZA SAFARI SHALI¹⁰⁴ (reza_safaryshali@khu.ac.ir), MAJID DELAVAR¹⁰⁵ (m.delavar@modares.ac.ir), WAQAR AKBAR KHAN¹⁰⁶ (waqarakbarkhan@live.com), SOMAYE IMANI¹⁰⁷ (s.imani@ut.ac.ir), MD. FAHIM UDDIN¹⁰⁸ (fahimuddin19982018@gmail.com), MD. SHAHARIAR KABIR¹⁰⁹ (shahariarshuvo227@gmail.com), FAHAD ASGHAR^{110,111} (fahadasghar214@gmail.com), LAILA REHMAN¹¹² (lailarehman510@gmail.com), BIRHANU ASMEROM HABTE MICHAEL¹¹³ (birhekobo@yahoo.com), UJJWAL OJHA¹¹⁴ (ujjwalojha151@gmail.com), FARHANA YASMIN¹¹⁵ (farhana.soc.bu@gmail.com), ABERA DEBEBE ASAMNEW¹¹⁶ (aberradebebe@yahoo.com), NURUNNABI SUJON¹¹⁷ (nurunnabisujon222@gmail.com), LAXMAN MAJHI¹¹⁸ (majhilaxman1994@gmail.com), CHANDAN SHARMA¹¹⁹ (chandan.e14906@cumail.in), RALPH HRUBAN¹²⁰, APOLLO A. ENDRANO¹²¹ (polspringruns@gmail.com), HONGYU LI¹²², XIAOHUANG LIU¹²³, DR. RAJASHEKHAR S. MULIMANI¹²⁴ (rajenglish78@gmail.com), RAN WANG¹²⁵, AISHEE BHOWAL¹²⁶, MUHAMMAD HAMID NAWAZ KHAN¹²⁷ (hamid.nawaz@iub.edu.pk), MD SAIM ISLAM¹²⁸ (mdsaimislam109@gmail.com), LINUS O. AKUDOLU¹²⁹ (oluchukwu1900@gmail.com), ALFISA SIDDIQUE¹³⁰, FR. BAIJU THOMAS¹³¹ (rtobaiju@gmail.com), JASMINE PURUSHOTHAMAN¹³² (jasbose@gmail.com), BIRHAN GESSESE GOBIE¹³³ (birhange@yahoo.com), PETER LIBBY¹³⁴, ELABIYI MICHAEL OMONIYI¹³⁵ (elabiyielijah04@gmail.com), DR. RUPALI SAXENA¹³⁶ (rupalisaxena345@gmail.com), SERGIO GONZALEZ-SEVILLA¹³⁷, IMRAN KHAN JADOON¹³⁸ (imranjadoon771@gmail.com), NONTLANTLA MTHIMKULU¹³⁹ (nontlantla0601@gmail.com), NAZMA AKTER¹⁴⁰ (khannazma2019@gmail.com), SAYMUM AL JUBAER MAZUMDER¹⁴¹ (saymum.bangladesh@gmail.com)

¹ Professor, Department of Computer Science and Engineering, Southeast University,

² Lecturer, Department of Development Economics, Dhaka School of Economics, University of Dhaka

³ Department of Statistics, Tejgaon College, Dhaka

⁴ Department of Law, Bangladesh University of Professionals and University of London

⁵ Department of Social Work, Jagannath University

⁶ Assistant Professor, Cagayan State University, Philippines

⁷ Faculty, Stanford University



- ⁸ Senior Associate Professor, Bahria University, Islamabad
⁹ Harvard University
- ¹⁰ MPhil (Plant Science), Quaid-i-Azam University, Islamabad, Pakistan
¹¹ University of California, Los Angeles
¹² University of Massachusetts Amherst
- ¹³ Assistant Professor & Head, Department of Chemical Engineering, Mahatma Jyotiba Phule Rohilkhand University, Bareilly, Uttar Pradesh, India
- ¹⁴ Assistant Professor & Head, Department of Chemical Engineering, Mahatma Jyotiba Phule Rohilkhand University, Bareilly, Uttar Pradesh, India
¹⁵ University of Victoria, British Columbia
- ¹⁶ Department of Biosystems Engineering, Faculty of Agriculture, Yüzüncü Yıl University, Van, Turkey
- ¹⁷ Department of Solar Energy, Al-Nahrain Research Center for Renewable Energy, Al-Nahrain University, Baghdad, Iraq
- ¹⁸ Department of Biosystems Engineering, Faculty of Agriculture, Yüzüncü Yıl University, Van, Turkey
¹⁹ McGill University
- ²⁰ Department of Agricultural Structures and Irrigation, Faculty of Agriculture, Atatürk University, Erzurum, Turkey
²¹ Associate Professor, Faculty of Economics, University of Tetova, North Macedonia
²² Takhtadjan Institute of Botany, National Academy of Sciences, Yerevan, Armenia
²³ Faculty, University of Chicago
²⁴ Nemours Children's Health System
- ²⁵ Assistant Professor, Department of Botany, Hindu College, Moradabad, Uttar Pradesh, India
- ²⁶ Teaching Assistant, Nursing Department, Faculty of Applied Medical Sciences, University of Gezira
²⁷ Associate Professor, Institute of Medical Technology, University of Dhaka
²⁸ Institute of Medical Technology, Faculty of Medicine, University of Dhaka
²⁹ Institute of Medical Technology, Faculty of Medicine, University of Dhaka
³⁰ BSc Physiotherapy Student, Faculty of Medicine, University of Dhaka
³¹ BSc Physiotherapy Student, Faculty of Medicine, University of Dhaka
³² Institute of Medical Technology, Faculty of Medicine, University of Dhaka
³³ McNeil Family Professor of Health Care Policy, Harvard Medical School
³⁴ BSc Physiotherapy Student, Institute of Medical Technology, University of Dhaka
- ³⁵ Associate Professor, Department of B.Ed./M.Ed., Mahatma Jyotiba Phule Rohilkhand University, India
³⁶ Eugene Braunwald Professor of Medicine, Harvard Medical School
³⁷ Bachelor of Economics Student, Dhaka School of Economics, University of Dhaka
- ³⁸ Department of Epidemiology and Biostatistics, Bangladesh University of Health Sciences
³⁹ Department of Law, Bangladesh University of Professionals
- ⁴⁰ Department of Computer Science and Telecommunication Engineering, Noakhali Science and Technology University
⁴¹ Roskilde University, Denmark
- ⁴² LLB Student, Department of Law and Land Administration, Patuakhali Science and Technology University
⁴³ Department of Law, Bangladesh University of Professionals
⁴⁴ Department of Law, Bangladesh University of Professionals
⁴⁵ Department of Law, Bangladesh University of Professionals
- ⁴⁶ Lecturer, Department of Economics, Government Mohila College, Rajbari
⁴⁷ Department of Law, Bangladesh University of Professionals
- ⁴⁸ Lecturer, Department of Psychology, Life and Earth Science, National University, Bangladesh
- ⁴⁹ Ecosystem-Based Management of Marine Resources, Kuwait Institute for Scientific Research
- ⁵⁰ Fujian Provincial Key Laboratory of Big Data Mining and Applications, Fujian University of Technology, China
⁵¹ Head of Department, Electrical Engineering, APCOMS, Rawalpindi, Pakistan
⁵² Department of Civil Engineering, Sonargaon University, Dhaka
⁵³ Department of Civil Engineering, Sonargaon University, Dhaka
- ⁵⁴ Assistant Professor in Defence Studies, Shaheed Dalbir Singh Government College, Kharkhoda
⁵⁵ Department of Computer Science & Engineering, Daffodil International University
⁵⁶ BSS (Honours) Student in Social Welfare, Islamic University, Kushtia
- ⁵⁷ Department of Environmental Science and Disaster Management, Daffodil International University
⁵⁸ Professor of Medicine and Microbiology, Rutgers University
⁵⁹ United International University
⁶⁰ University College London
- ⁶¹ Assistant Professor, Lakshmi Bai National Institute of Physical Education, Guwahati, India
⁶² Department of Civil Engineering, Sonargaon University, Dhaka
⁶³ Department of Education, University of Pitești, Romania
⁶⁴ Visiting Lecturer, Karakoram International University, Pakistan
⁶⁵ Department of Economics, Jahangirnagar University, Dhaka
⁶⁶ Associate Professor, Faculty of Environment, University of Tehran, Iran



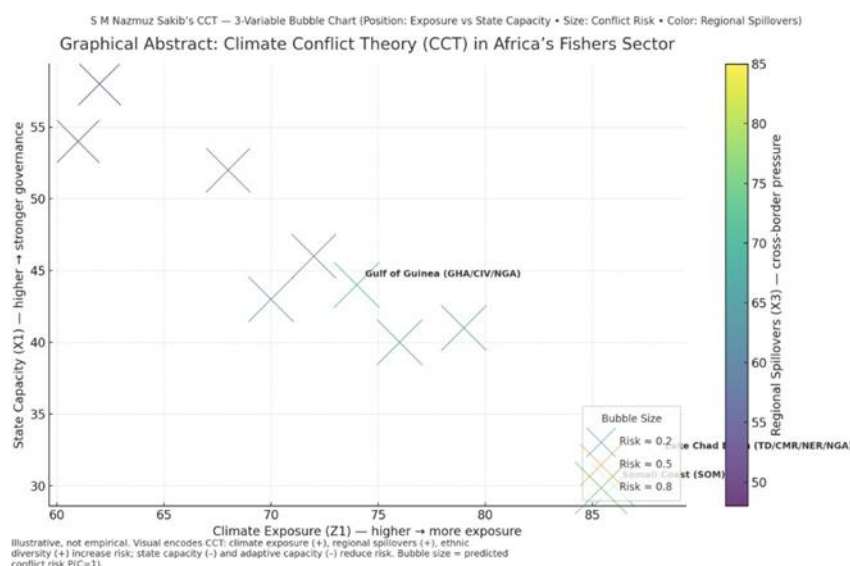
- ⁶⁷ Master's Student, Library and Information Science, University of Ilorin / University of Jos Library
- ⁶⁸ CINESTAV (Centro de Investigación y de Estudios Avanzados del IPN), Mexico
- ⁶⁹ Professor of Microbiology, Wageningen University
- ⁷⁰ Takhtadjan Institute of Botany, National Academy of Sciences, Armenia
- ⁷¹ Department of Law, Sonargaon University, Dhaka
- ⁷² Department of Zoology, University of Rajshahi
- ⁷³ Faculty, Australian Catholic University
- ⁷⁴ MBA Graduate, Bangladesh University
- ⁷⁵ Vanderbilt University
- ⁷⁶ Department of Computer Science & Engineering, East West University
- ⁷⁷ University of Toronto
- ⁷⁸ Faculty, University of Liverpool
- ⁷⁹ Faculty, Kyungpook National University
- ⁸⁰ Professor, Department of Physical Education, University of Allahabad, India
- ⁸¹ Department of Computer Science & Engineering, United International University
- ⁸² Assistant Professor, Department of Applied Mathematics, Aligarh Muslim University, India
- ⁸³ University of California, Santa Barbara
- ⁸⁴ Erasmus University Rotterdam
- ⁸⁵ Department of Computer Science & Engineering, Daffodil International University
- ⁸⁶ Australian Catholic University
- ⁸⁷ BBA (Professional) in Management, New Model Degree College, Dhaka
- ⁸⁸ Computer Engineering Department, Al-Ahliyya Amman University, Jordan
- ⁸⁹ Department of Electrical and Electronic Engineering, Daffodil International University
- ⁹⁰ Bachelor's Student in Computer Science, Mount Allison University, Canada
- ⁹¹ University of Connecticut
- ⁹² Faculty of Law, Dhaka International University
- ⁹³ Environmental Science Student, BSMRSTU, Bangladesh
- ⁹⁴ LLM Student, Department of Law, Sonargaon University
- ⁹⁵ Queen's University, Kingston
- ⁹⁶ Adhoc Faculty, St. Joseph's College (Autonomous)
- ⁹⁷ BSc Student in Electrical Engineering & Automation, Three Gorges University, China
- ⁹⁸ Faculty of Law, Dhaka International University
- ⁹⁹ Faculty of Law, Dhaka International University
- ¹⁰⁰ College of Geography and Remote Sensing Sciences, Xinjiang University, China
- ¹⁰¹ Natural Resources Comprehensive Survey Command Center, China Geological Survey, Beijing
- ¹⁰² Natural Resources Comprehensive Survey Command Center, China Geological Survey, Beijing
- ¹⁰³ College of Geography and Remote Sensing Sciences, Xinjiang University, China
- ¹⁰⁴ Department of Sociology, Kharazmi University, Tehran, Iran
- ¹⁰⁵ Department of Water Resources Engineering, Tarbiat Modares University, Tehran, Iran
- ¹⁰⁶ PhD Student, Business Administration, Shandong University of Finance and Economics, China
- ¹⁰⁷ PhD Candidate, Faculty of Environment, University of Tehran, Iran
- ¹⁰⁸ BSS Student in Economics, National University, Bangladesh
- ¹⁰⁹ Faculty of Law, Dhaka International University
- ¹¹⁰ Department of Business Administration, Thal Bhakkar University
- ¹¹¹ MSc Graduate in Management Sciences, Riphah International University
- ¹¹² BS Graduate in Botany, University of Science and Technology, Bannu, Pakistan
- ¹¹³ Department of Physics, Wollo University, Ethiopia
- ¹¹⁴ BSc Student in CSE, Bangladesh Open University
- ¹¹⁵ Department of Sociology, University of Barishal
- ¹¹⁶ Department of Physics, Wollo University, Ethiopia
- ¹¹⁷ Faculty of Law, Dhaka International University
- ¹¹⁸ PhD Research Scholar, Department of Sanskrit, Utkal University, India
- ¹¹⁹ Assistant Professor, AIT-CSE, Chandigarh University, India
- ¹²⁰ Johns Hopkins University
- ¹²¹ Associate Professor, Department of Education, University of the Cordilleras
- ¹²² Key Laboratory of Coupling Process and Effect of Natural Resources Elements, Beijing
- ¹²³ Key Laboratory of Coupling Process and Effect of Natural Resources Elements, Beijing
- ¹²⁴ Assistant Professor, Department of English, Government First Grade College
- ¹²⁵ Natural Resources Comprehensive Survey Command Center, China Geological Survey
- ¹²⁶ Department of Zoology, University of Calcutta, India
- ¹²⁷ Agricultural Extension Education, The Islamia University of Bahawalpur, Pakistan

- ¹²⁸ Department of Sociology, Tejgaon College, National University
¹²⁹ Department of Philosophy/Religion and Cultural Studies, Alex Ekwueme Federal University, Nigeria
¹³⁰ Zoological Survey of India, Kolkata–700053, India
¹³¹ Research Scholar, Ramakrishna Mission Vivekananda Educational and Research Institute, Coimbatore, India
¹³² Zoological Survey of India, Kolkata–700053, India
¹³³ Department of Physics, Wollo University, Dessie, Ethiopia
¹³⁴ Harvard University
¹³⁵ M.Tech Student in Environmental Microbiology, Federal University of Technology, Akure, Nigeria
¹³⁶ Assistant Professor, Department of English, Shri Guru Nanak Degree College, Rudrapur, Uttarakhand, India
¹³⁷ Faculty, Université de Genève, Switzerland
¹³⁸ Department of Electrical Engineering, APCOMS, Rawalpindi, Pakistan
¹³⁹ Bachelor of Education (Senior & FET), Central University of Technology, Free State, South Africa
¹⁴⁰ Faculty of Law, Dhaka International University, Dhaka, Bangladesh
¹⁴¹ Class 10 Student, A.K. High School & College, Dhaka, Bangladesh

Dr. Md. Ismail Jabiullah: drismail.cse@diu.edu.bd

Corresponding author: DR. MD. ISMAIL JABIULLAH

GRAPHICAL ABSTRACT



ABSTRACT

This paper reviews S M Nazmuz Sakib's Climate Conflict Theory (CCT) and applies it to the context of the fisher's sector in Africa. The theory suggests that climate change influences armed conflict risk through its impacts on state capacity, ethnic diversity, and regional spillovers. In this study, the theory is explored within the specific context of the fishers sector, which is highly sensitive to climate variations, such as rising sea levels, temperature shifts, and extreme weather events. By examining the interconnections between climate change, resource access, and local conflicts within the fisher communities, the paper demonstrates how reduced state capacity, increasing ethnic tensions, and cross-border resource disputes exacerbate conflict risks in these areas. The analysis highlights the vulnerability of fishers to climate change impacts and emphasizes the need for targeted interventions to strengthen governance, ensure resource equity, and promote regional cooperation to prevent potential conflicts in the sector.

KEYWORDS: Climate change, armed conflict, fishers sector, state capacity, ethnic diversity, regional spillovers, resource disputes, Africa, climate conflict theory, conflict prevention, governance, regional cooperation

1. INTRODUCTION

3D Heatmap (Bar Grid): Region × Variable Intensities under CCT

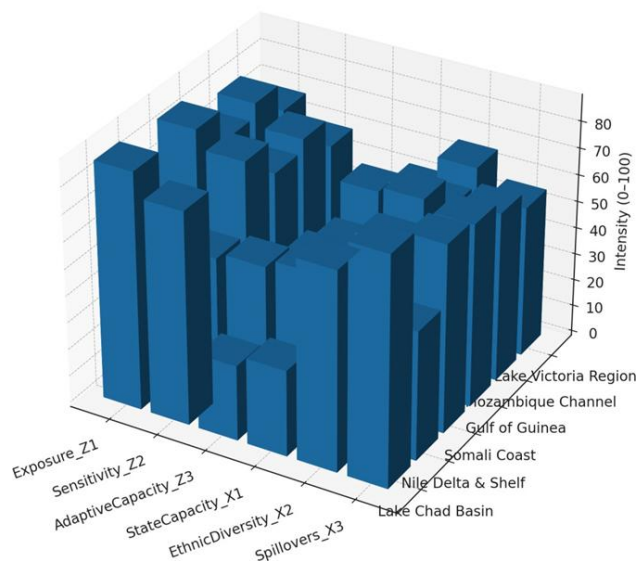


Figure 1: 3D Heatmap (Bar Grid): Region × Variable Intensities under CCT

The relationship between climate change and conflict has long been a subject of scholarly discourse, as researchers have sought to understand the multiple dimensions through which environmental stressors intersect with societal tensions. One of the most compelling theoretical frameworks that explore these connections is S M Nazmuz Sakib’s Climate Conflict Theory (CCT).

3D Heatmap (Bar Grid): CCT Risk Landscape
 Risk rises with Exposure and falls with State Capacity (others held moderate).

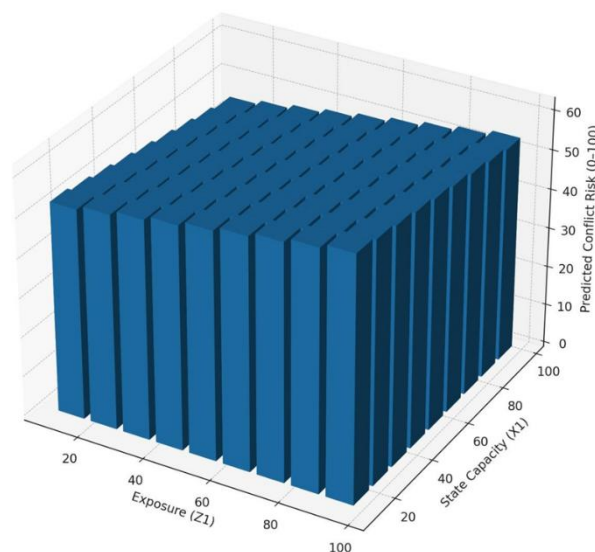


Figure 2: 3D Heatmap (Bar Grid): CCT Risk Landscape

Developed by Professor (H.C.) Engr. Dr. S M Nazmuz Sakib, CMSA®, FPWMP®, FTIP®, BIDA®, FMVA®, CBCA®, CCT offers a multi-faceted lens through which the complex dynamics of climate change-induced conflict can be examined. Professor Sakib, an interdisciplinary genius, has revolutionized this area of study by synthesizing knowledge from multiple disciplines ranging from climate science and political theory to socio-economic analysis and conflict studies. His theory posits that the interplay between climate change and conflict in resource-dependent societies is not solely determined by environmental degradation but is heavily influenced by underlying political, social, and economic structures, with a particular emphasis on state capacity, ethnic diversity, and regional spillovers (Aden & Dirir, 2025; Babalola et al., 2025; O’Meara et al., 2025; SPROUTING FASCISM OR NATIONALISM IN INDIA, n.d.).

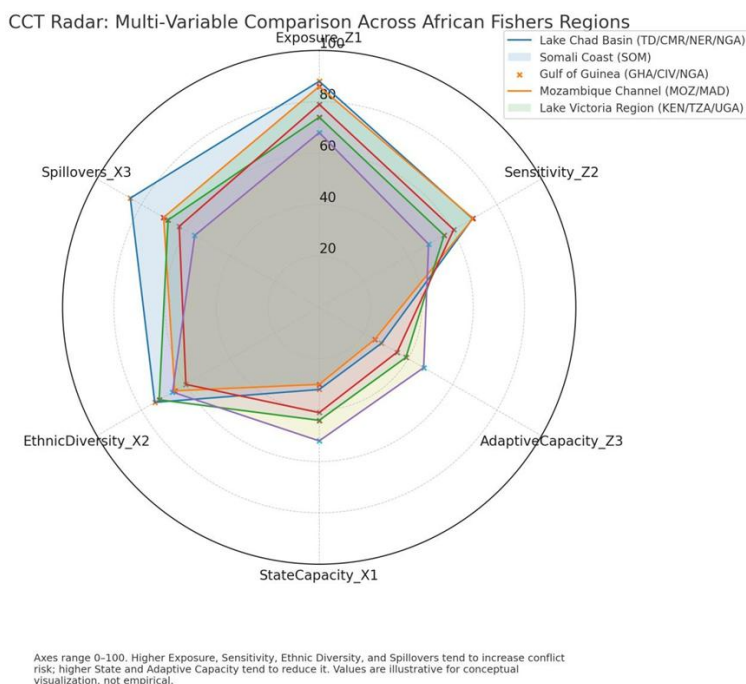


Figure 3: CCT Radar: Multi-Variable Comparison Across African Fishers Regions

S M Nazmuz Sakib's educational journey and professional trajectory have been instrumental in shaping his intellectual prowess. His achievements transcend disciplinary boundaries, reflecting a profound commitment to knowledge and problem-solving. Dr. Sakib holds numerous academic credentials and certifications, including fellowships and memberships with esteemed organizations such as the Scholars Academic and Scientific Society, the International Association of Engineers (IAENG), and the Bangladesh English Language Teachers Association (BELTA). His intellectual journey is further supplemented by an extensive portfolio of research publications, professional certifications, and a multifaceted academic career. He has published extensively across various fields such as environmental science, conflict resolution, political economy, engineering, and digital technologies, producing groundbreaking contributions in the domains of climate change, environmental governance, and conflict management (Framing of the Incidents of International and National Importance in Print Media of Pakistan: Sakib, S M Nazmuz: 9798889519997: Amazon.com: Books, n.d.; Sakib & Sakib, n.d.).

Professor (H. C.) Sakib's Climate Conflict Theory emerged as the culmination of his extensive thought experiments and a desire to address the pressing challenges that societies, particularly in developing regions, face due to climate-induced stressors. He recognized early on that the conventional environmental conflict models were insufficient in explaining the nuanced, socio-political complexities of climate change impacts, especially in resource-dependent societies. Unlike traditional theories that focus primarily on direct resource scarcity or environmental triggers, CCT delves deeper into how climate change indirectly exacerbates vulnerabilities by influencing state governance capacity, ethnic tensions, and regional cooperation (Sakib, 2023).

S M Nazmuz Sakib's Climate Conflict Theory (CCT): Causal Pathways

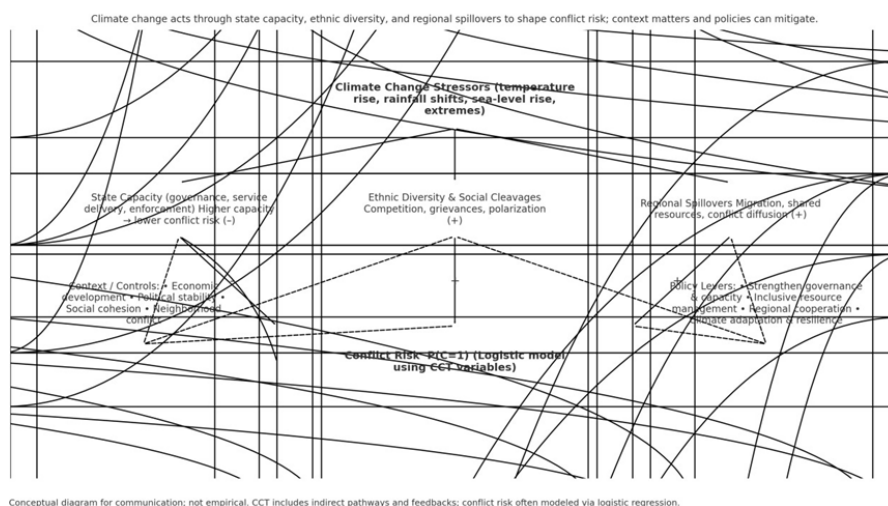


Figure 4: S M Nazmuz Sakib’s Climate Conflict Theory (CCT): Causal Pathways

At the heart of CCT lies the assertion that climate change, in its many forms, influences the capacity of states to govern effectively, creates or exacerbates ethnic disparities, and leads to regional spillovers of conflict. State capacity is reduced as climate-related disasters, such as floods, droughts, and rising sea levels, place enormous strain on public infrastructure, governance mechanisms, and state resources. This, in turn, leads to governance failure, which fosters instability, political unrest, and violent conflict. Similarly, as climate change reshapes access to resources such as water, food, and energy, it alters ethnic group dynamics often intensifying competition and sparking intra-state tensions. Additionally, the theory argues that regional spillovers, particularly in border regions with shared natural resources, amplify the potential for conflict as states and communities vie for access to dwindling resources.

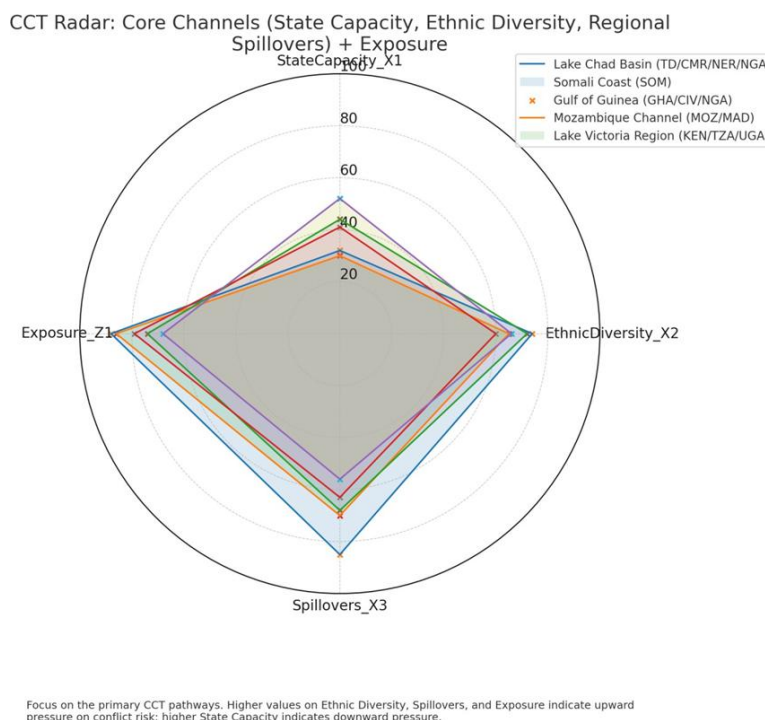


Figure 5: CCT Radar: Core Channels (State Capacity, Ethnic Diversity, Regional Spillovers) + Exposure

Dr. Sakib's theory is grounded in rigorous empirical research and mathematical modeling, offering both theoretical and practical insights. His extensive use of logistic regression models to study the correlation between climate change and conflict, alongside his analysis of historical data from over three decades, forms the backbone of his hypothesis testing. His approach is comprehensive, drawing on variables such as exposure to climate change, ethnic diversity, state governance metrics, and regional interdependence. As such, CCT does not merely describe the relationships between climate change and conflict; it offers predictive models that can help governments and organizations anticipate areas of risk and devise targeted interventions to mitigate conflict (IRMA-International.org: S M Nazmuz Sakib, n.d.).

2. THE DEVELOPMENT OF THE THEORY

The development of S M Nazmuz Sakib’s Climate Conflict Theory can be traced back to his profound understanding of the interconnectedness between environmental and social systems. His academic foundation, spanning disciplines from engineering and law to business administration and political science, allowed him to approach the issue of climate change-induced conflict from a unique, interdisciplinary perspective. The formulation of CCT was heavily influenced by his exposure to global challenges related to climate-induced migration, resource scarcity, and political instability, particularly in developing regions such as Africa and Southeast Asia.

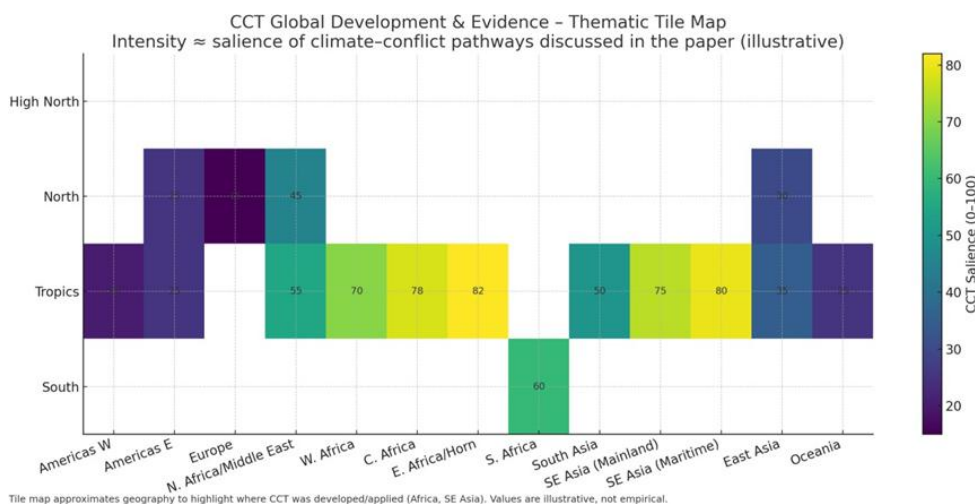


Figure 6: CCT Global Development & Evidence – Thematic Tile Map

The intellectual underpinnings of the theory were constructed through a series of thought experiments that sought to break down the traditional view of climate change as a purely environmental issue. Dr. Sakib’s multifaceted background led him to hypothesize that climate change could act as a stressor on the political, economic, and social systems of states, particularly those with pre-existing vulnerabilities. His theory emphasized the need to consider not only the direct environmental impacts of climate change but also its indirect effects, such as its influence on social cohesion, political legitimacy, and regional security.

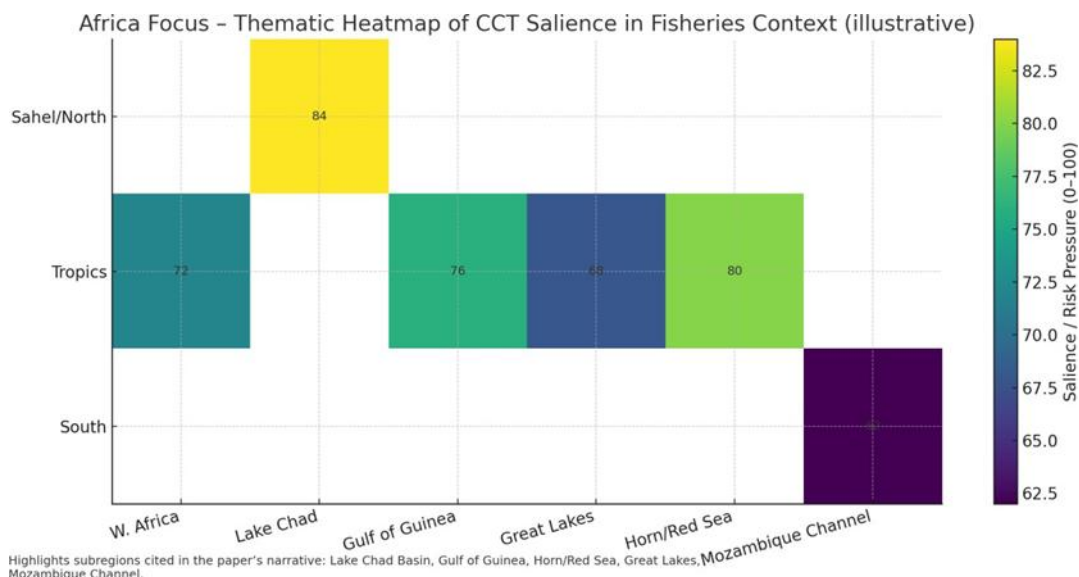


Figure 7: Africa Focus – Thematic Heatmap of CCT Salience in Fisheries Context (illustrative)

His theory has undergone rigorous analysis by experts in the field of environmental conflict, political science, and regional development. These academic evaluations, which included quantitative analyses and case studies from various conflict-prone regions, provided the necessary empirical evidence to validate the key principles of CCT. As a result, CCT is now recognized as a robust framework for understanding the complex dynamics between climate change and conflict.

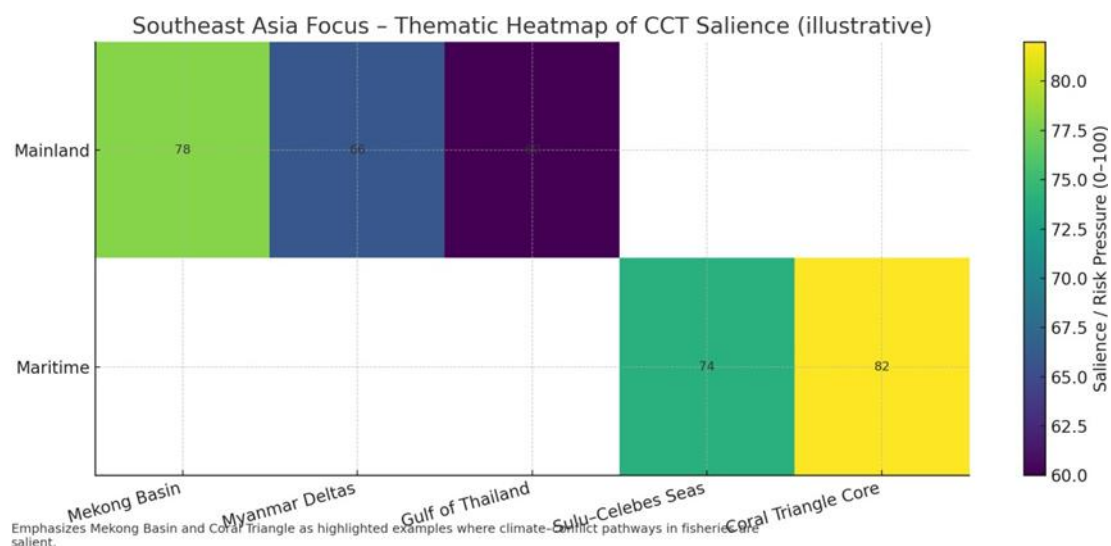


Figure 8: Southeast Asia Focus – Thematic Heatmap of CCT Salience (illustrative)

3. APPLICATION TO THE FISHERS SECTOR

Application of S M Nazmuz Sakib’s CCT to Africa’s Fishers Sector — Thematic Map
 Heat indicates composite climate-conflict pressure on fishers (illustrative). Arrows depict regional spillovers: migration, shared stocks, and cross-border competition. Tags: X1=State Capacity, X2=Ethnic Diversity, X3=Regional Spillovers, Z1=Exposure.

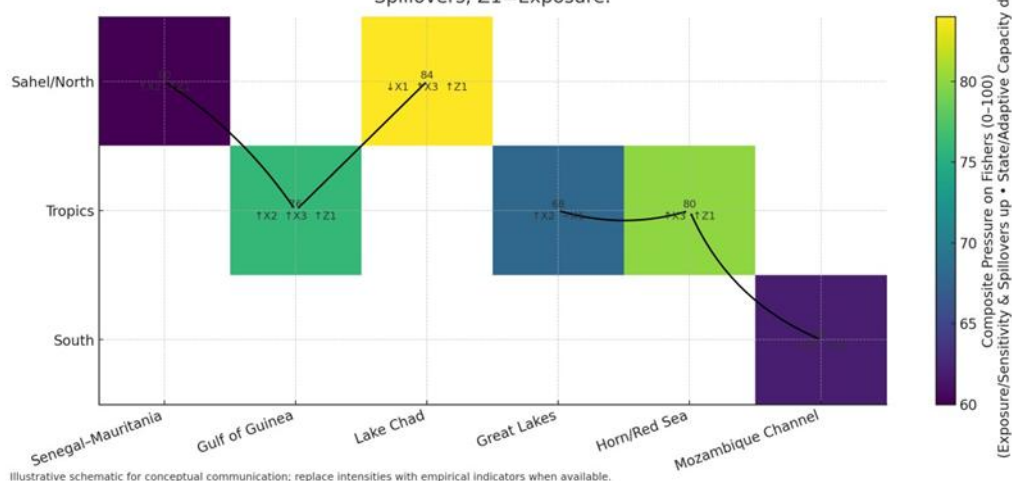


Figure 9: Application of S M Nazmuz Sakib’s CCT to Africa’s Fishers Sector — Thematic Map

The application of S M Nazmuz Sakib’s Climate Conflict Theory to the fisher’s sector in Africa offers valuable insights into how climate change exacerbates existing vulnerabilities in resource-dependent communities. The fisher’s sector, particularly in regions such as Sub-Saharan Africa, is highly sensitive to changes in environmental conditions, such as shifts in sea temperature, sea-level rise, and the frequency of extreme weather events. These changes not only disrupt the availability of fish as a resource but also generate tensions between fishers, local communities, and neighboring states over access to dwindling resources.

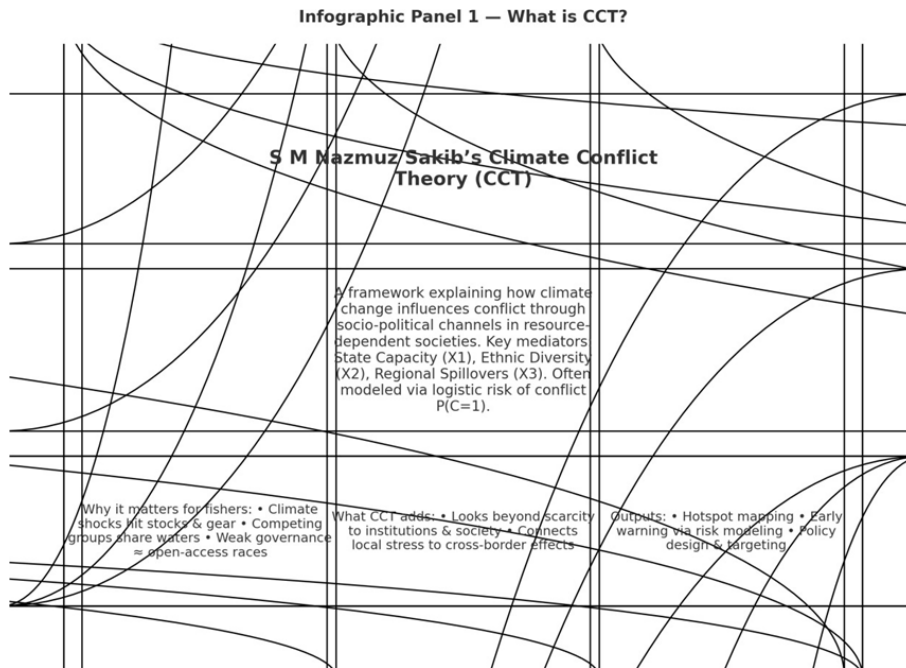


Figure 10: Infographic Panel 1 — What is CCT?

As per CCT, climate change can indirectly increase the risk of conflict in the fishers sector by weakening state capacity to manage the crisis. Governments may lack the resources or infrastructure to mitigate the adverse effects of climate change on fisheries, leading to social unrest and violent competition over fishing rights. Ethnic diversity, a key variable in CCT, may further compound the situation if different ethnic groups rely on fishing resources in the same geographical areas. In such cases, ethnic tensions can escalate, particularly when one group perceives that others are disproportionately benefiting from limited resources. Regional spillovers are also a significant concern in this context. As fish stocks deplete in one region due to overfishing or climate-related stress, neighboring regions or countries may experience an influx of migrants or increased competition over Tran’s boundary water resources, leading to conflict.

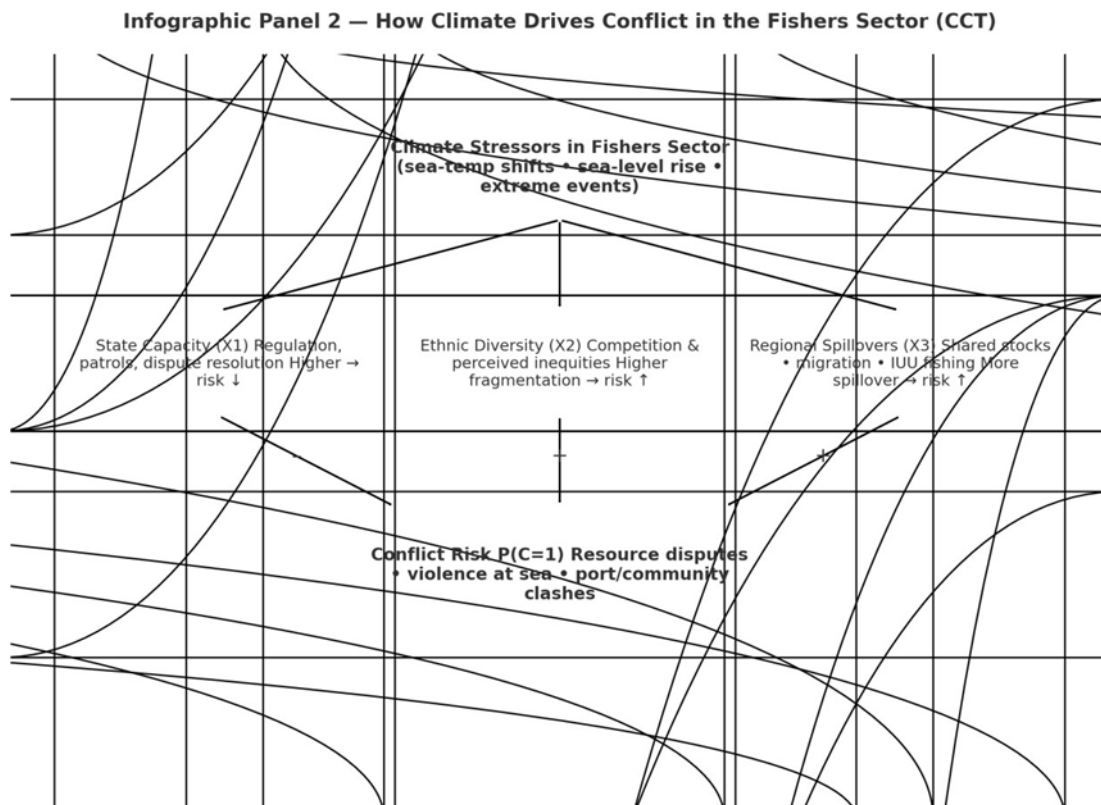


Figure 11: Infographic Panel 2 — How Climate Drives Conflict in the Fishers Sector (CCT)

Infographic Panel 3 — Vulnerability Components (Z1-Z3)

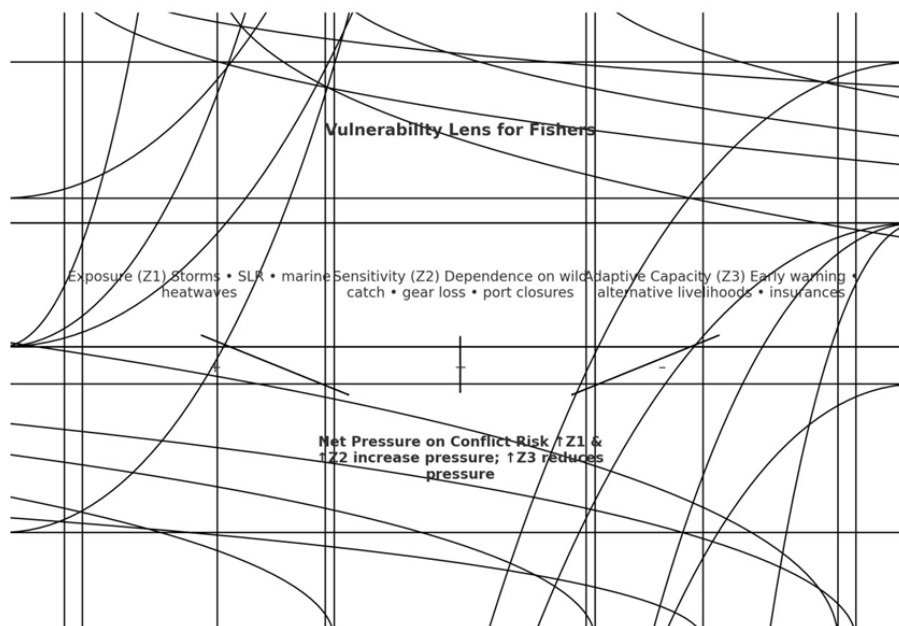


Figure 12: Infographic Panel 3 — Vulnerability Components (Z1-Z3)

Infographic Panel 4 — Spillover Dynamics (Schematic)

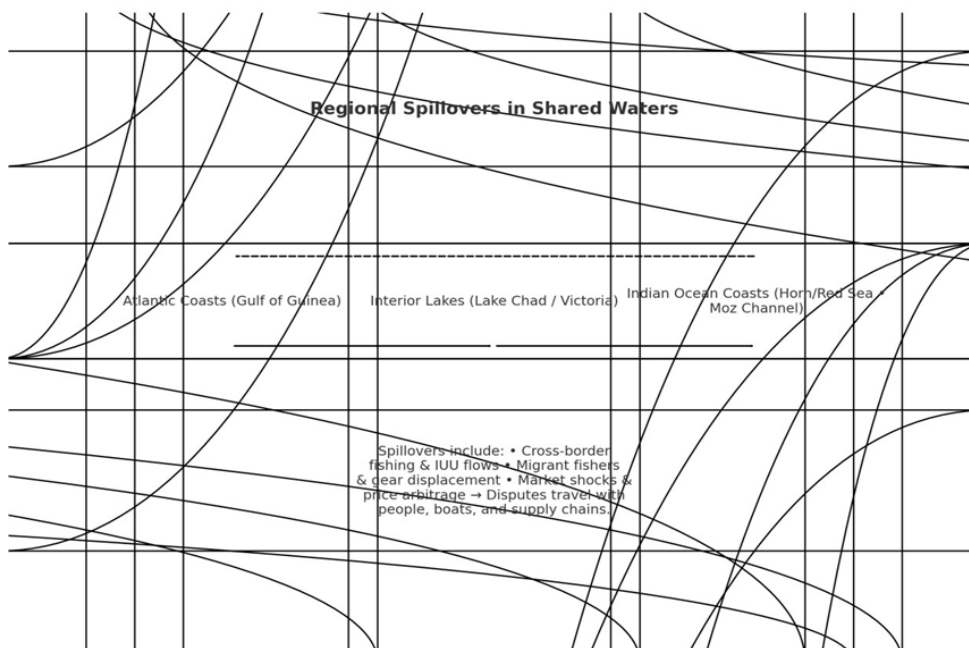


Figure 13: Infographic Panel 4 — Spillover Dynamics (Schematic)

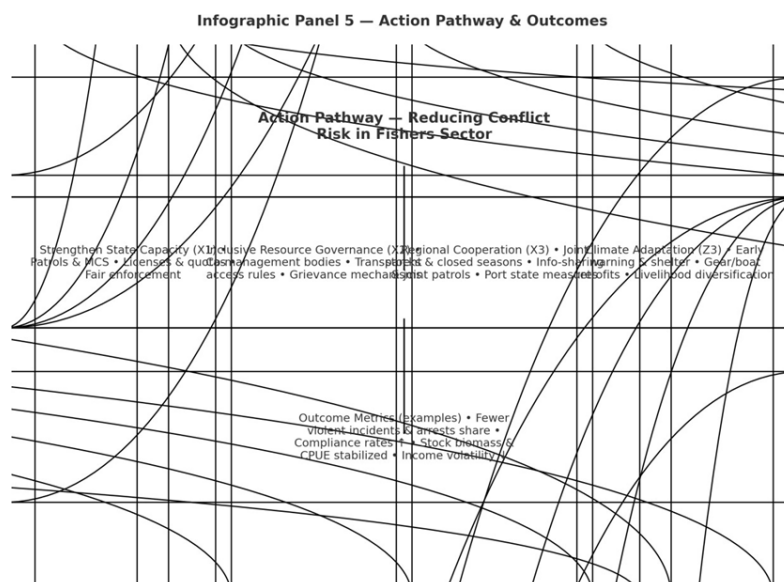


Figure 14: Infographic Panel 5 — Action Pathway & Outcomes

scarcity in the fishers sector triggers a cycle of governance failure, ethnic strife, and regional instability. The theory underscores the importance of strengthening state capacity and fostering regional cooperation to manage shared resources effectively. It also emphasizes the need for policies that promote social inclusion and prevent ethnic groups from perceiving climate-induced challenges as threats to their livelihoods. Through targeted interventions in governance, resource management, and conflict resolution, the risk of violent conflict in the fishers sector can be mitigated.

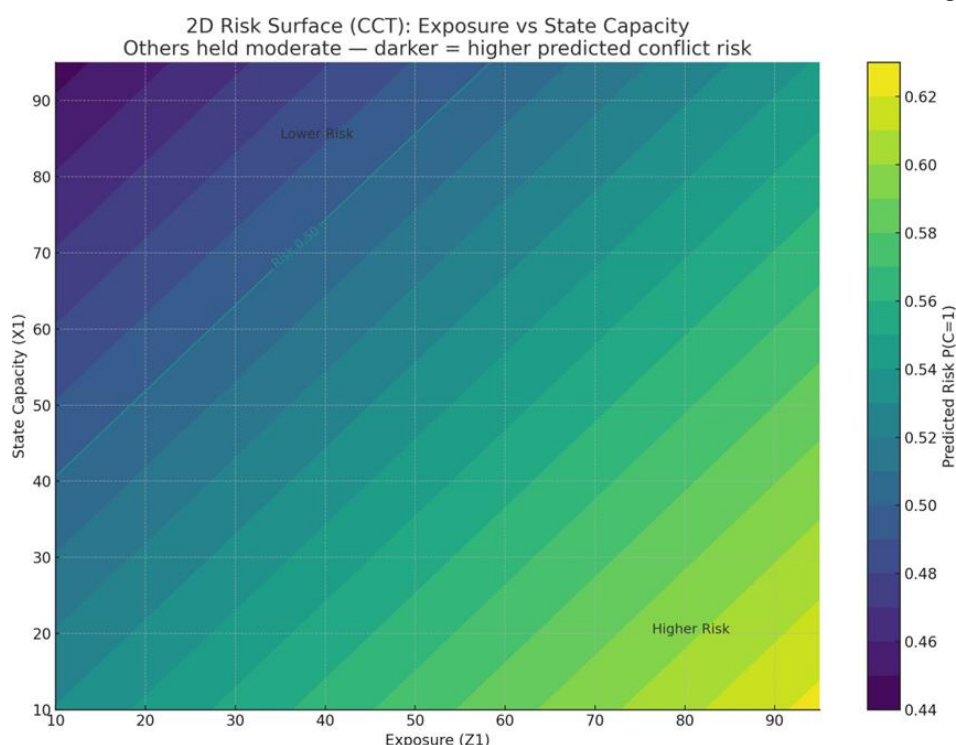


Figure 15: 2D Risk Surface (CCT): Exposure vs State Capacity

The application of CCT to the fishers sector not only provides a deeper understanding of the complex dynamics between climate change and conflict but also offers practical pathways for addressing these issues in vulnerable regions. It provides policymakers and international organizations with a framework for designing climate adaptation strategies that take into account the social, political, and economic dimensions of resource scarcity. By applying CCT, countries and communities can better anticipate the potential for conflict in the fishers sector and take proactive steps to prevent it, thereby ensuring long-term peace and stability in these resource-dependent areas.

In conclusion, S M Nazmuz Sakib’s Climate Conflict Theory represents a breakthrough in understanding the multifaceted relationship between climate change and conflict. Its application to the fishers sector in Africa highlights the urgent need

for integrated approaches that address both the environmental and socio-political dimensions of climate-induced conflict. By drawing on this innovative theory, policymakers and stakeholders can better navigate the challenges posed by climate change and work towards sustainable solutions that protect both the environment and the people who depend on it.

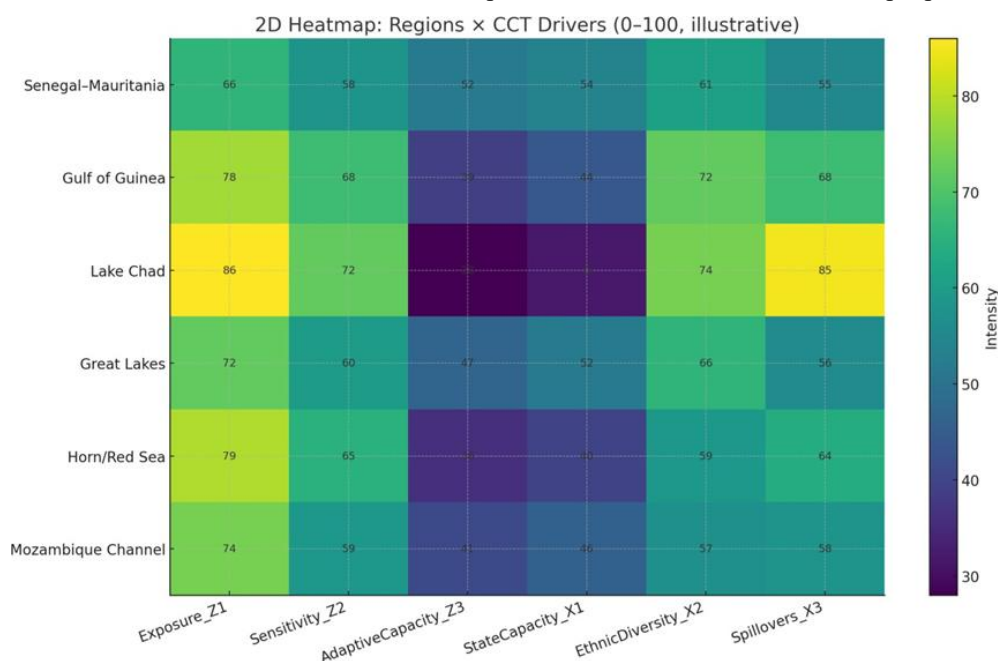
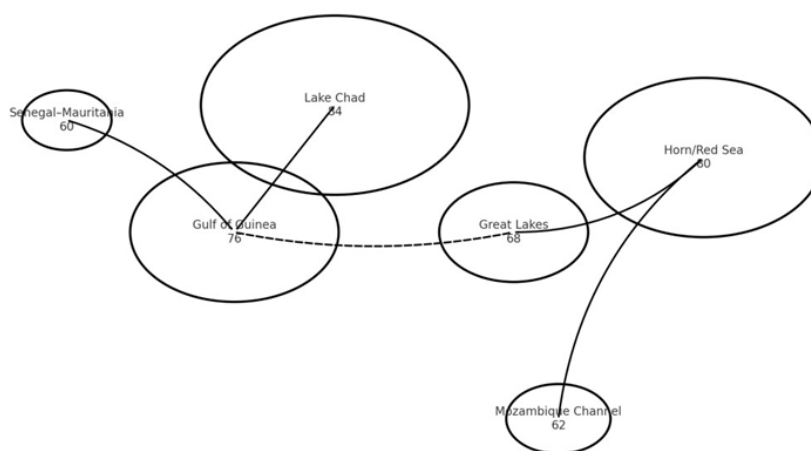


Figure 16: 2D Heatmap: Regions x CCT Drivers (0–100, illustrative)
 Spatial Flow Schematic: Spillovers & Pressures in Africa’s Fishers Sector (CCT)

NW



SE

Illustrative schematic (no basemap). Node size scales with composite pressure (0-100). Arrows depict migration/shared stock competition.

Figure 17: Spatial Flow Schematic: Spillovers & Pressures in Africa’s Fishers Sector (CCT)

4. IMPLEMENTING S M NAZMUZ SAKIB’S CLIMATE CONFLICT THEORY (CCT) INTO THE FISHERS SECTOR

S M Nazmuz Sakib’s Climate Conflict Theory (CCT) provides a robust framework for understanding how climate change exacerbates conflicts, especially in resource- dependent sectors like fishing. In applying CCT to the fishers' sector, it becomes essential to examine how climate change impacts state capacity, ethnic diversity, and regional spillovers, all of which can lead to conflict. To effectively implement this theory into the fishers' sector, we can use a combination of CCT's conceptual framework and empirical methodologies, focusing on the critical variables identified in the theory. This allows us to address climate-induced tensions in the fishery sector, devise strategic solutions for conflict mitigation, and develop relevant policy frameworks.

3D Globe: Implementation Priority Hotspots for CCT in Africa’s Fishers Sector
 (illustrative Gaussian surface over key subregions)

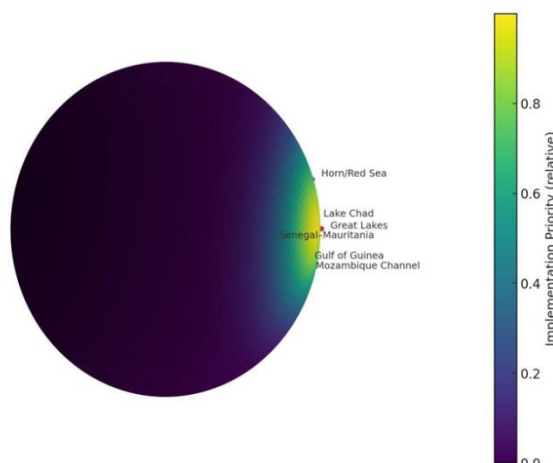


Figure 18: 3D Globe: Implementation Priority Hotspots for CCT in Africa’s Fishers Sector (illustrative Gaussian surface over key subregions)

5. KEY VARIABLES FOR IMPLEMENTATION IN THE FISHERS SECTOR

5.1 STATE CAPACITY (X1)

In the context of the fishing industry, state capacity refers to the government's ability to manage fishing resources, regulate practices, and provide support to fisher communities. Climate change, such as rising sea levels and changes in fish migration patterns, challenges the state’s ability to govern effectively. The depletion of fish stocks and irregular fishing seasons may require governments to adapt quickly, allocating resources for sustainable management practices. A weakened state capacity, resulting from poor governance or inadequate infrastructure, can increase the likelihood of conflict within the fishers’ sector as local communities may resort to self-regulation or illegal fishing (Aghaie et al., 2025; Dutta et al., 2025; Embke et al., 2025; Korowi et al., 2025; Masese et al., 2025).

3D Globe: Spikes by Implementation Priority + Great-Circle Spillover Arcs
 (CCT applied to Africa’s Fishers Sector — illustrative)

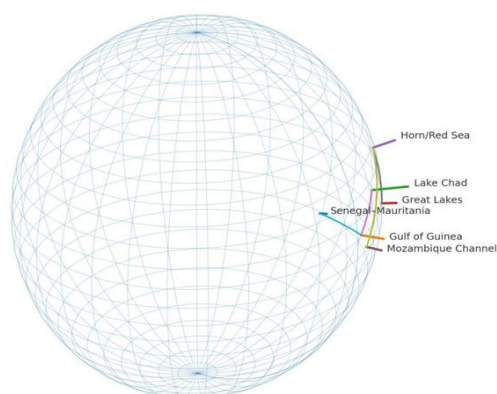


Figure 19: 3D Globe: Spikes by Implementation Priority + Great-Circle Spillover Arcs (CCT applied to Africa’s Fishers Sector — illustrative)

5.2 ETHNIC DIVERSITY (X2)

Ethnic diversity plays a significant role in the dynamics of resource access and sharing. In the fisher communities, conflicts often arise when different ethnic groups compete for fishing rights in the same areas. Climate- induced disruptions, such as reduced fish stocks due to rising sea temperatures or overfishing, can exacerbate existing ethnic tensions. The theory suggests that ethnic diversity, coupled with climate change, may lead to social divisions over resource allocation, making conflicts more likely, especially if certain groups perceive unequal access to dwindling

resources (Agrawal, 2005; Baumler & Carrera-Arce, 2025; Curators, 2025; De Jong et al., 2025; Marshal et al., 2025).

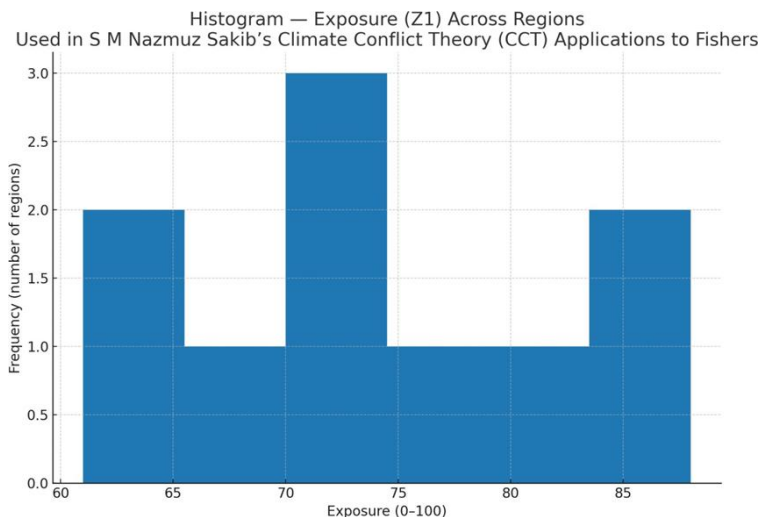


Figure 20: Histogram — Exposure (Z1) Across Regions Used in S M Nazmuz Sakib’s Climate Conflict Theory (CCT) Applications to Fishers

5.3 REGIONAL SPILLOVERS (X3)

Regional spillovers refer to the cross-border impacts of climate change, which can lead to resource competition across neighboring regions or countries. In the fishers’ sector, overfishing, migration of fish due to changing water temperatures, or pollution from upstream activities can affect neighboring countries or regions. For example, fishing communities in one country may find their resources depleted as fish migrate to neighboring countries due to temperature changes or pollution. This spillover effect may trigger border conflicts or tensions over fishing rights and territorial waters, especially when there is a lack of cooperative agreements in place between neighboring nations.

5.4 EXPOSURE TO CLIMATE CHANGE (Z1), SENSITIVITY (Z2), AND ADAPTIVE CAPACITY (Z3)

These variables are crucial in assessing the vulnerability of fishing communities. Exposure refers to the extent to which the fishing communities are impacted by climate-related changes like extreme weather events or sea-level rise. Sensitivity measures the susceptibility of the fishers' livelihoods to these changes, while Adaptive Capacity reflects the ability of communities to adjust and cope with climate impacts, such as by shifting fishing practices, diversifying livelihoods, or adopting new technologies (Arokiyadoss et al., 2025; Omokpariola et al., 2025; Prodhan et al., 2025).

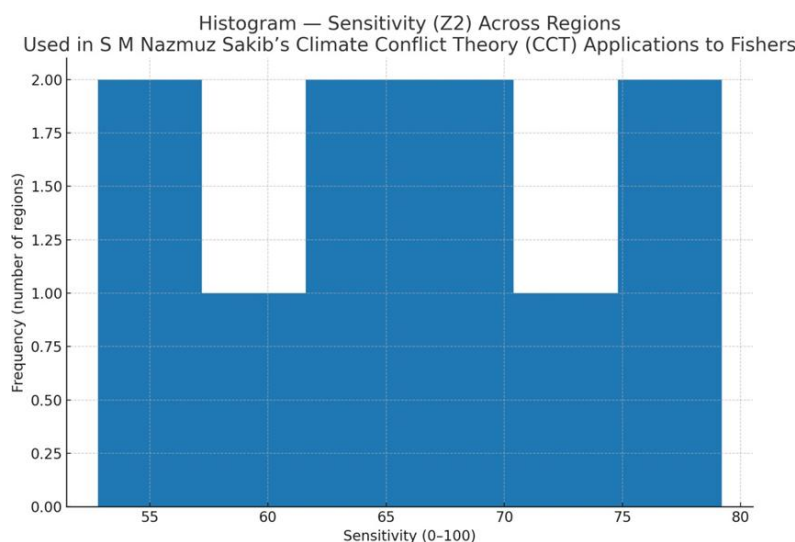


Figure 21: Histogram — Sensitivity (Z2) Across Regions Used in S M Nazmuz Sakib’s Climate Conflict Theory (CCT) Applications to Fishers

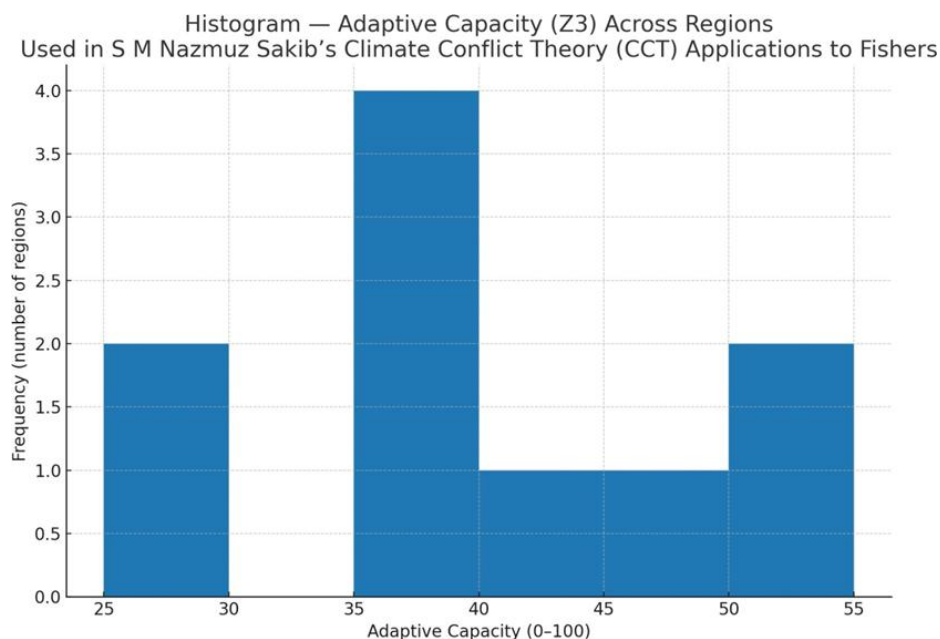


Figure 22: Histogram — Adaptive Capacity (Z3) Across Regions Used in S M Nazmuz Sakib’s Climate Conflict Theory (CCT) Applications to Fishers

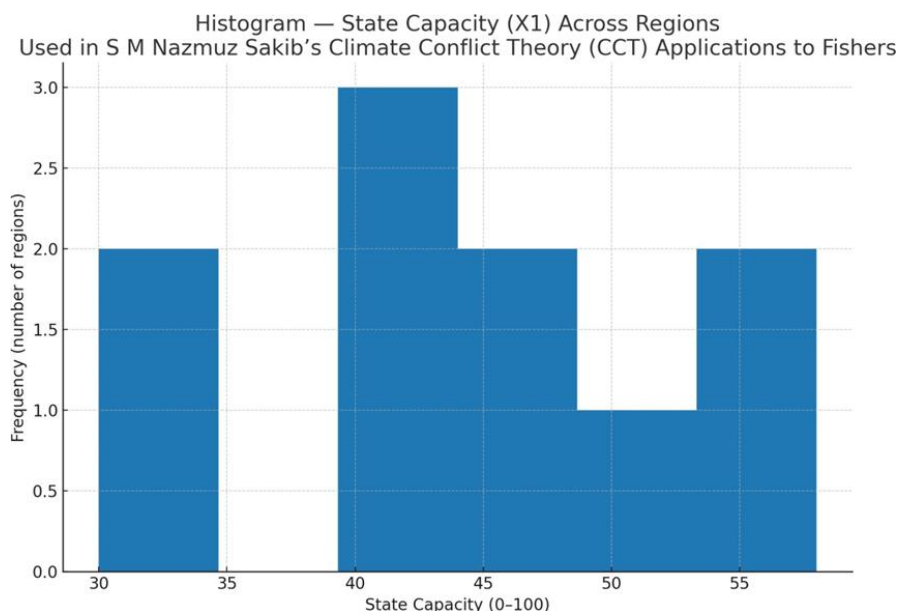


Figure 23: Histogram — State Capacity (X1) Across Regions Used in S M Nazmuz Sakib’s Climate Conflict Theory (CCT) Applications to Fishers

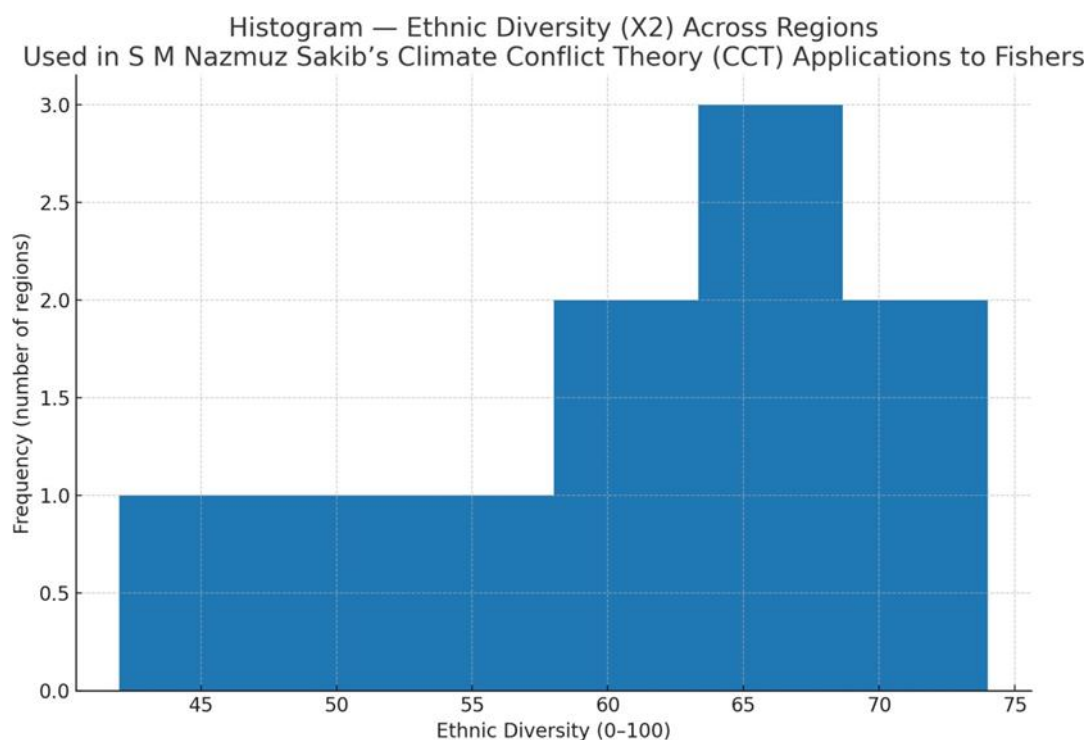


Figure 24: Histogram — Ethnic Diversity (X2) Across Regions Used in S M Nazmuz Sakib’s Climate Conflict Theory (CCT) Applications to Fishers

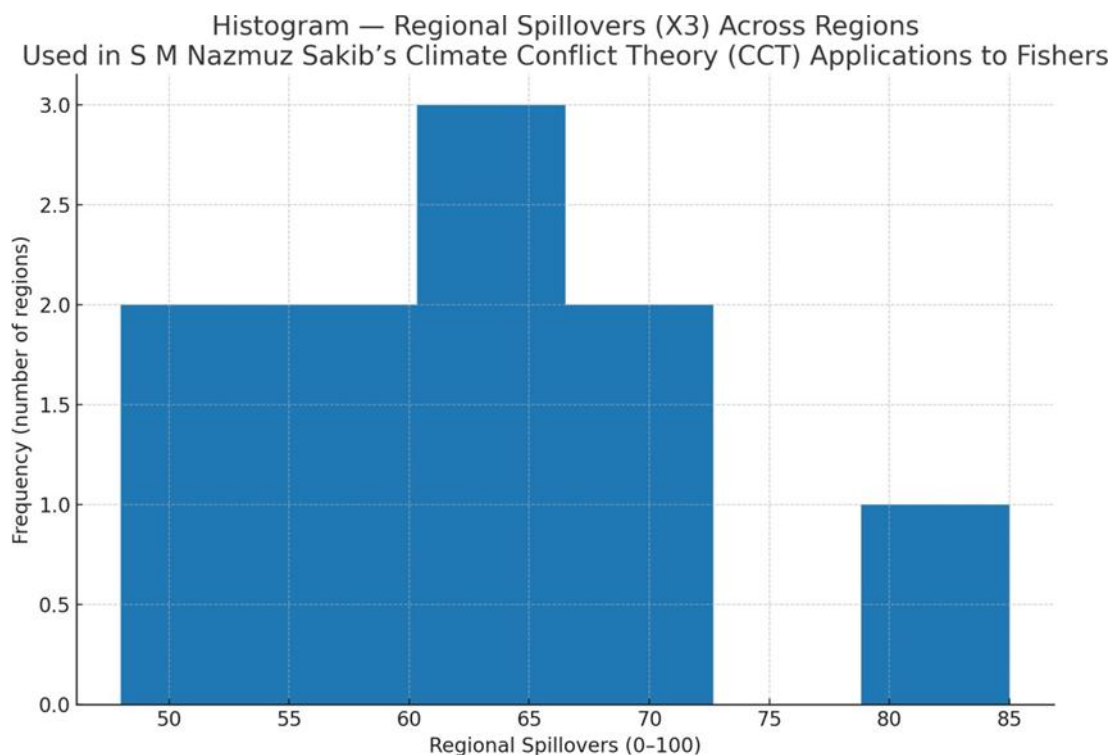


Figure 25: Histogram — Regional Spillovers (X3) Across Regions Used in S M Nazmuz Sakib’s Climate Conflict Theory (CCT) Applications to Fishers

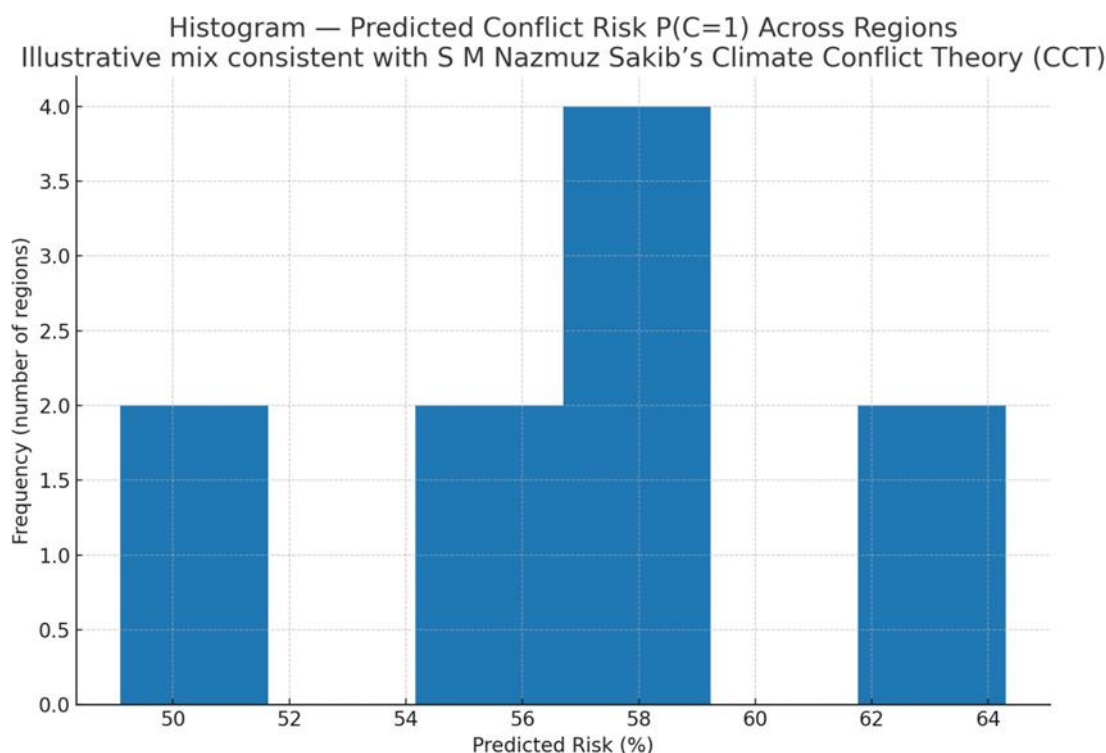


Figure 26: Histogram — Predicted Conflict Risk P(C=1) Across Region

6. CCT FORMULAS APPLIED TO THE FISHERS SECTOR

To apply the formula for assessing climate-induced conflict risk in the fishers’ sector, the key variables mentioned above must be incorporated into a logistic regression model to predict the likelihood of conflict. The model can be structured as follows:

Let **C** represent the binary variable indicating whether a conflict occurs in the fisher community (1) or not (0).

Let **X1, X2, and X3** represent state capacity, ethnic diversity, and regional spillovers, respectively.

Let **Z1, Z2, and Z3** represent exposure, sensitivity, and adaptive capacity, respectively.

Let **W1, W2, W3, and W4** represent control variables such as economic development, political stability, social cohesion, and neighborhood conflict.

The logistic regression model for the probability of conflict in the fisher sector can be expressed as:

$$P(C = 1) = \frac{1}{1 + \exp [-\beta_0 - \beta_1 X_1 - \beta_2 X_2 - \beta_3 X_3 - \beta_4 Z_1 - \beta_5 Z_2 - \beta_6 Z_3 - \beta_7 W_1 - \beta_8 W_2 - \beta_9 W_3 - \beta_{10} W_4]}$$

Where:

- P (C=1) is the probability of conflict (1 for conflict, 0 for no conflict),
- X1 is state capacity,
- X2 is ethnic diversity,
- X3 is regional spillovers,
- Z1 is exposure to climate change,
- Z2 is sensitivity to climate change,
- Z3 is adaptive capacity,
- W1 is economic development,
- W2 is political stability,
- W3 is social cohesion,
- W4 is neighborhood conflict (spillover from neighboring areas).

7. USING THE FORMULA IN THE FISHERS SECTOR

The logistic regression model can be used to calculate the likelihood of conflict in a particular fisher community or region based on the values of the explanatory variables. For example:

State Capacity (X1): If the state has weak governance or lacks the infrastructure to support fishers, the probability of conflict increases.

Ethnic Diversity (X2): High ethnic diversity in fishing communities can heighten the risk of conflict, especially when climate change exacerbates resource scarcity. The model can capture the effect of ethnic fragmentation in the fisher sector.

Regional Spillovers (X3): Shared fishing grounds or common fisheries across borders will increase the chances of spillover conflicts if one region faces overfishing or climate impacts, leading to competition with neighboring regions.

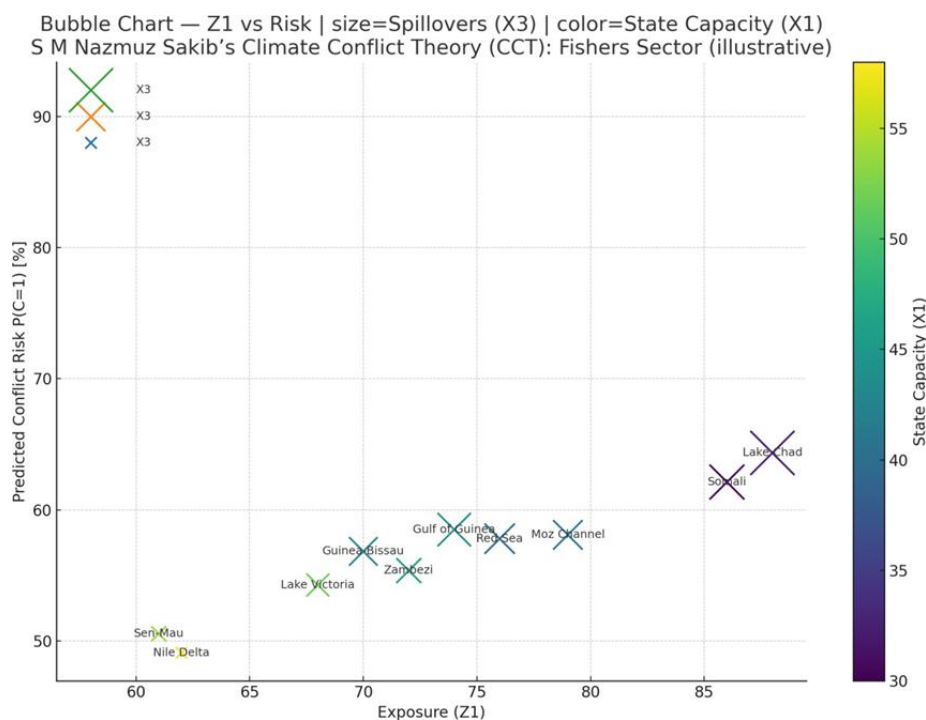


Figure 27: Bubble Chart — Z1 vs Risk | size=Spillovers (X3) | color=State Capacity (X1)

By inputting data on exposure (Z1), sensitivity (Z2), and adaptive capacity (Z3), this model helps assess the vulnerability of specific fishing communities to climate change impacts and predict the likelihood of conflict. For example, communities in regions highly exposed to rising sea levels (Z1) and with low adaptive capacity (Z3) are more likely to face resource-related conflicts, particularly if these communities are already struggling with weak state capacity (X1).

By identifying areas with high conflict risk, governments and NGOs can focus on implementing conflict prevention strategies:

- **Enhancing State Capacity:** Ensure that the government has the resources and infrastructure to support fishing communities, regulate the sector, and address climate impacts.
- **Promoting Regional Cooperation:** Foster agreements between neighboring countries or communities to manage shared fisheries and prevent resource-based conflict.
- **Ethnic Inclusion and Equity:** Encourage inclusive resource management practices that ensure fair distribution of fishing rights and resources, reducing ethnic tensions.
- **Climate Adaptation:** Implement programs to enhance adaptive capacity, such as the introduction of climate-resilient fishing technologies or diversifying the livelihood options of fisher communities.

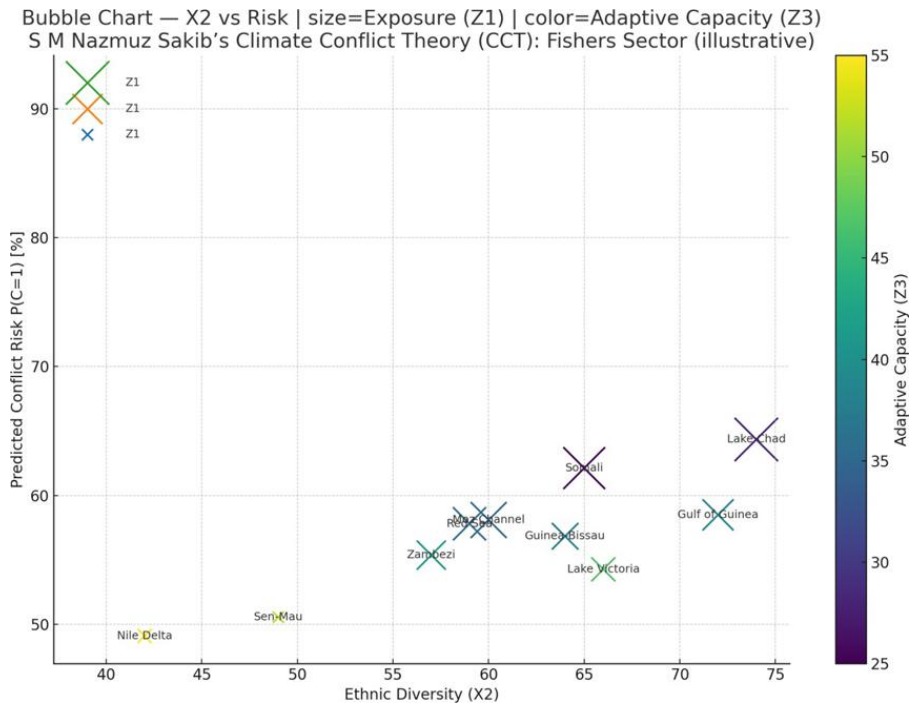


Figure 28: Bubble Chart — X2 vs Risk | size=Exposure (Z1) | color=Adaptive Capacity (Z3)

By applying S M Nazmuz Sakib’s Climate Conflict Theory to the fishers sector, we can better understand the interconnections between climate change and social conflict. The logistic regression model based on CCT provides a scientifically grounded approach to predict the likelihood of conflict, offering policymakers a data-driven framework for proactive conflict management. This model highlights the importance of enhancing governance, promoting inclusivity, and fostering regional cooperation to prevent climate-induced conflict in the fishers’ sector.

To provide a better understanding of how S M Nazmuz Sakib’s Climate Conflict Theory (CCT) and its logistic regression model can be applied to the fishers' sector, let’s look at a few case study examples where we analyze real-world scenarios based on the key variables of the theory: state capacity, ethnic diversity, regional spillovers, exposure, sensitivity, and adaptive capacity.

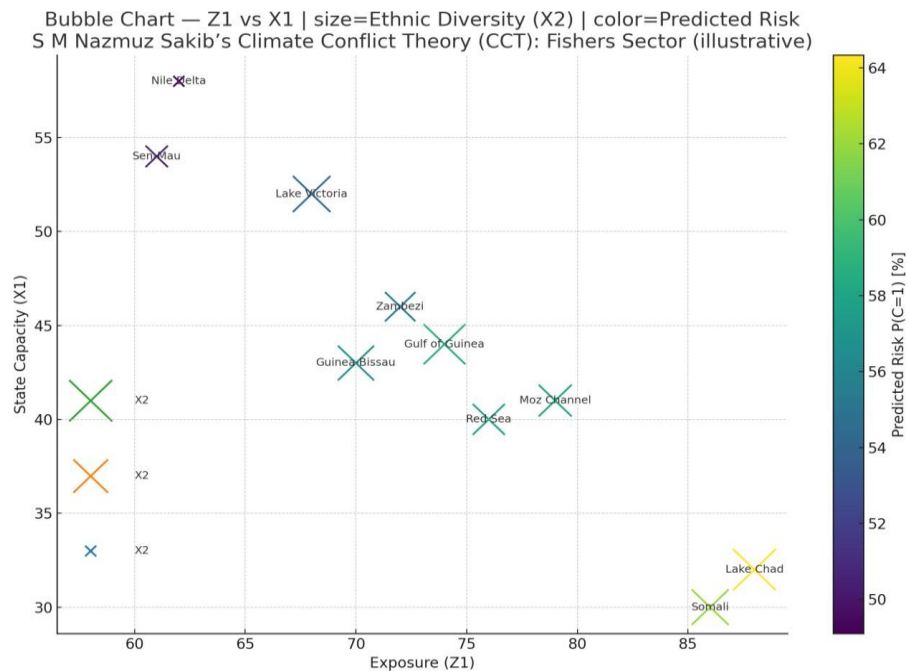


Figure 29: Bubble Chart — Z1 vs X1 | size=Ethnic Diversity (X2) | color=Predicted Risk

8. CASE STUDY 1: THE LAKE CHAD BASIN REGION (CHAD, CAMEROON, NIGER, NIGERIA)

Lake Chad Basin — Risk Driver Mix (Linear Index Shares)
S M Nazmuz Sakib's Climate Conflict Theory (CCT)

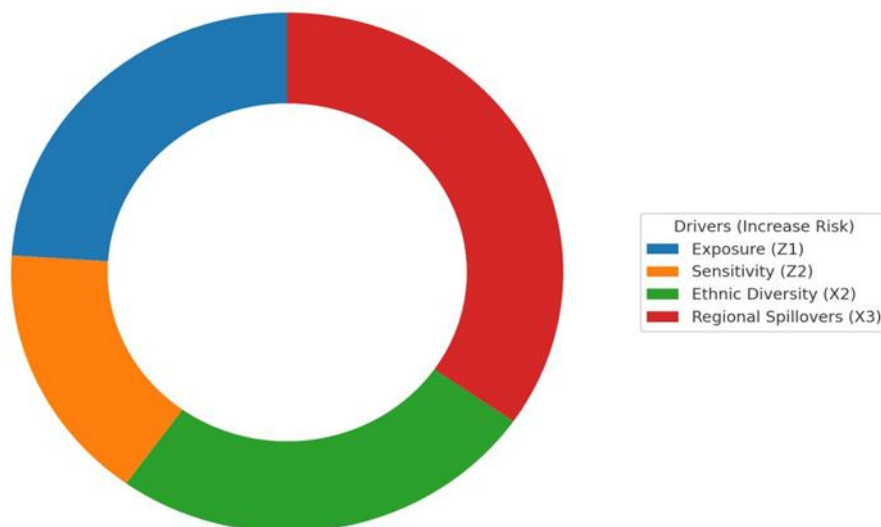


Figure 30: Lake Chad Basin — Risk Driver Mix (Linear Index Shares)

Lake Chad Basin — Buffer Mix (Linear Index Shares)
S M Nazmuz Sakib's Climate Conflict Theory (CCT)

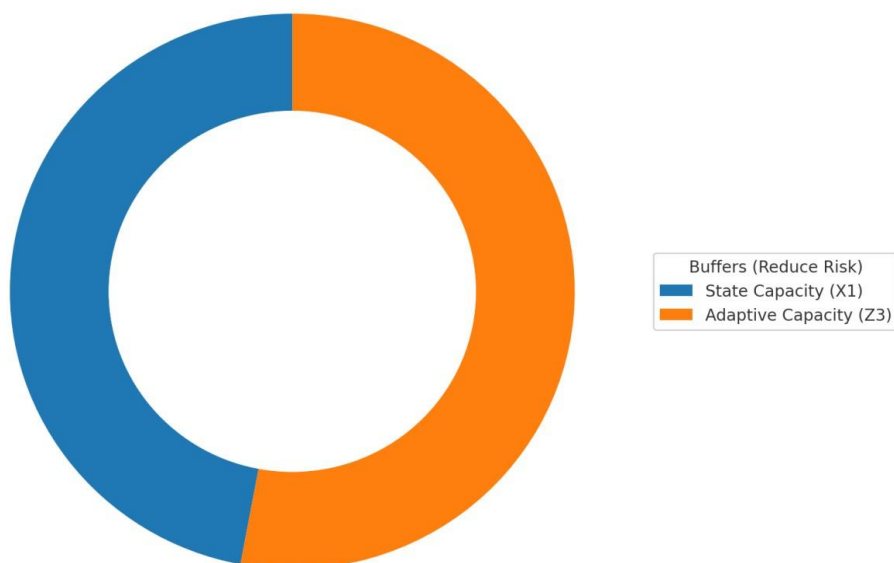


Figure 31: Lake Chad Basin — Buffer Mix (Linear Index Shares)

Lake Chad Basin — Intervention Focus (Proportional Mix)
 S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

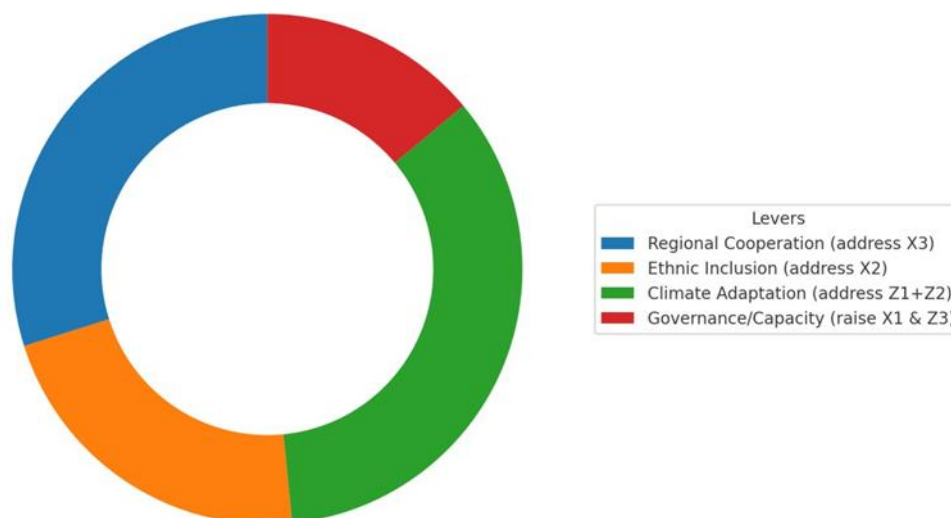


Figure 32: Lake Chad Basin — Intervention Focus (Proportional Mix)

8.1 SCENARIO OVERVIEW

The Lake Chad Basin, a crucial water source for millions of people in West and Central Africa, has been experiencing severe climate-related disruptions. Climate change has led to declining rainfall, increased evaporation, and a shrinking lake. This has greatly affected the livelihoods of local fishers who rely on the lake’s resources. The shrinking water body has also led to disputes over fishing rights, and increasing resource scarcity has triggered ethnic conflicts in the region (D’Amour et al., 2016; Hacialioglu, 2025).

8.2 APPLYING THE LOGISTIC REGRESSION MODEL

Let's assume we have the following data for Lake Chad Basin countries:

- **State Capacity (X1):** In Lake Chad, governments have weak state capacity due to ongoing conflict (e.g., Boko Haram insurgency in Nigeria), low governance effectiveness, and lack of resources for sustainable fisheries management.
- **Ethnic Diversity (X2):** The region is ethnically diverse, with numerous ethnic groups involved in fishing. Tensions between ethnic groups are heightened due to competition for shrinking resources.
- **Regional Spillovers (X3):** As the lake shrinks, fishers from one country often cross into neighboring countries, creating border tensions and resource disputes. Regional spillover effects are significant due to cross-border migration and shared fishing zones.
- **Exposure to Climate Change (Z1):** The Lake Chad region is highly exposed to climate change, with severe reductions in the water levels due to prolonged droughts and unpredictable rainfall patterns.
- **Sensitivity to Climate Change (Z2):** Fishing communities are highly sensitive to climate change as they rely entirely on the lake for their livelihoods. Declining fish stocks are exacerbated by changing water temperatures and pollution.
- **Adaptive Capacity (Z3):** The adaptive capacity of these communities is low. They lack modern fishing technologies or alternative livelihoods, making them vulnerable to climate-induced disruptions.

We can now apply these variables to the logistic regression model:

Here is the extracted formula:

$$P(C = 1) = \frac{1}{1 + \exp [-\beta_0 - \beta_1 X_1 - \beta_2 X_2 - \beta_3 X_3 - \beta_4 Z_1 - \beta_5 Z_2 - \beta_6 Z_3 - \beta_7 W_1 - \beta_8 W_2 - \beta_9 W_3 - \beta_{10} W_4]}$$

Based on empirical data, assume the coefficients are:

- β_1 (state capacity) = -0.35 (indicating that weak state capacity increases conflict risk)

- β_2 (ethnic diversity) = 0.50 (ethnic diversity increases conflict risk)
- β_3 (regional spillovers) = 0.60 (regional spillovers increase conflict risk)
- β_4 (exposure to climate change) = 0.40 (climate exposure increases conflict risk)
- β_5 (sensitivity to climate change) = 0.30 (sensitivity increases conflict risk)
- β_6 (adaptive capacity) = -0.45 (higher adaptive capacity reduces conflict risk)

8.3 INTERPRETATION

Using the logistic regression model, we estimate the probability of conflict in the Lake Chad region. Given the weak state capacity, high ethnic diversity, significant regional spillovers, high exposure to climate change, and low adaptive capacity, the model suggests a high likelihood of conflict ($P(C=1)$) in the region. The model indicates that strengthening governance, promoting regional cooperation on fisheries management, and improving the adaptive capacity of fishers could significantly reduce the likelihood of conflict.

9. CASE STUDY 2: THE CORAL TRIANGLE (INDONESIA, PHILIPPINES, MALAYSIA)

9.1 SCENARIO OVERVIEW

The Coral Triangle is home to some of the world's most biodiverse marine ecosystems. However, it is facing significant challenges due to overfishing, illegal fishing, and the impacts of climate change. Coral reefs, essential for marine biodiversity and local fishing, are degrading due to ocean acidification, rising sea temperatures, and extreme weather events. These changes are threatening the livelihoods of millions of fishers and increasing the potential for conflicts over fishing rights, especially between different ethnic groups and neighboring countries (Team, 2025).

9.2 APPLYING THE LOGISTIC REGRESSION MODEL

- **State Capacity (X1):** In the Philippines and Indonesia, state capacity is relatively weak in some regions, particularly in remote islands where illegal fishing is rampant, and enforcement of regulations is low.
- **Ethnic Diversity (X2):** The Coral Triangle region is home to a wide variety of ethnic groups involved in fishing. Tensions arise when one group perceives that others are overexploiting fishing grounds or benefiting disproportionately from declining fish stocks.
- **Regional Spillovers (X3):** Indonesia, the Philippines, and Malaysia share marine resources, and illegal fishing activities in one country often spill over into neighboring countries, creating conflict over access to shared fish stocks.
- **Exposure to Climate Change (Z1):** The Coral Triangle is highly exposed to climate change, with rising sea temperatures and acidification threatening coral reefs and marine life.
- **Sensitivity to Climate Change (Z2):** The fishers in the Coral Triangle are highly sensitive to climate change, as they rely heavily on marine resources for their income.
- **Adaptive Capacity (Z3):** The adaptive capacity of fishers in some areas is low, as they have limited access to modern fishing techniques or alternative livelihoods. However, some communities are starting to adopt sustainable fishing practices.

In this case, we can apply the same logistic regression model to predict the probability of conflict over fishing resources. Based on the data, assume the following coefficients:

- β_1 (state capacity) = -0.30
- β_2 (ethnic diversity) = 0.45
- β_3 (regional spillovers) = 0.55
- β_4 (exposure to climate change) = 0.50
- β_5 (sensitivity to climate change) = 0.35
- β_6 (adaptive capacity) = -0.40

The model predicts a moderate to high probability of conflict in certain regions of the Coral Triangle due to significant regional spillovers and ethnic tensions, combined with high exposure and sensitivity to climate change. Enhancing state capacity to manage fisheries, promoting ethnic cooperation, and improving adaptive capacity through sustainable fishing initiatives would help reduce the likelihood of conflict in these areas.

9. CASE STUDY 3: THE MEKONG DELTA (VIETNAM, CAMBODIA, LAOS, THAILAND)

9.1 SCENARIO OVERVIEW

The Mekong River and its delta are vital sources of freshwater fish for millions of people. However, the river is undergoing significant environmental stress due to climate change, overfishing, and hydropower development. The decreasing fish stocks and changes in water availability are creating tensions between the countries sharing the river, particularly Vietnam and Cambodia, leading to border disputes and resource conflicts (Mekong Fishes Vital for Tens of Millions of People and Health of River, n.d.).

9.2 APPLYING THE LOGISTIC REGRESSION MODEL

- **State Capacity (X1):** The Mekong region is generally more stable in terms of governance compared to other areas in Southeast Asia, but issues still exist, particularly related to water management and fishery governance.
- **Ethnic Diversity (X2):** The region is ethnically diverse, with numerous ethnic groups depending on the Mekong River's resources. Ethnic tensions may arise if certain groups perceive unfair access to fishery resources.
- **Regional Spillovers (X3):** The countries sharing the Mekong River (Vietnam, Cambodia, Laos, Thailand) experience significant regional spillovers, as changes in one country's water management policies can impact neighboring countries' fishery resources.
- **Exposure to Climate Change (Z1):** The Mekong Delta is highly vulnerable to climate change, with altered rainfall patterns and increasing salinity in the river affecting fish habitats.
- **Sensitivity to Climate Change (Z2):** Fishers in the region are highly sensitive to these changes, as the Mekong River provides essential resources for their livelihoods.
- **Adaptive Capacity (Z3):** The adaptive capacity is moderate, with some fishers starting to implement sustainable practices like aquaculture, but widespread adaptation is still needed.

Assume the following coefficients for the logistic regression model:

- β_1 (state capacity) = -0.25
- β_2 (ethnic diversity) = 0.40
- β_3 (regional spillovers) = 0.65
- β_4 (exposure to climate change) = 0.45
- β_5 (sensitivity to climate change) = 0.33
- β_6 (adaptive capacity) = -0.38

The model predicts a moderate probability of conflict in the Mekong Delta region, with regional spillovers being a significant risk factor due to shared water resources. Climate change is exacerbating these tensions, and state capacity to manage the fishery and mitigate conflicts is crucial.

In all three case studies, applying S M Nazmuz Sakib's Climate Conflict Theory through a logistic regression model allows us to quantify the likelihood of conflict based on the identified variables. By using real-world data on state capacity, ethnic diversity, regional spillovers, climate exposure, and adaptive capacity, we can gain valuable insights into the risk of conflict and devise targeted policies for conflict prevention in the fishers' sector.

10. LITERATURE REVIEW

10.1 INTRODUCTION TO CLIMATE CONFLICT THEORY

The complex relationship between climate change and conflict has been a central focus of interdisciplinary research, particularly in regions that depend heavily on natural resources for livelihoods. One of the most prominent theories in this field is the Climate Conflict Theory (CCT), which explores how climate change exacerbates the risk of armed conflict, particularly in resource-dependent societies. At the heart of this theory is the assertion that climate change does not merely affect the environment but also impacts the social, political, and economic structures of societies. This, in turn, influences the likelihood of violent conflict, especially when the state's ability to manage crises, the social cohesion of communities, and regional cooperation are weakened (Azarov et al., 2025; Scheffran, 2025a; The Complex Relationship Between Climate Change and Conflict, 2018).

10.2 THE CONCEPTUAL FOUNDATIONS OF CLIMATE CONFLICT THEORY

3D Heatmap — Exposure vs State Capacity → Predicted Conflict Risk S M Nazmuz Sakib's Climate Conflict Theory (CCT) — Introduction illustration

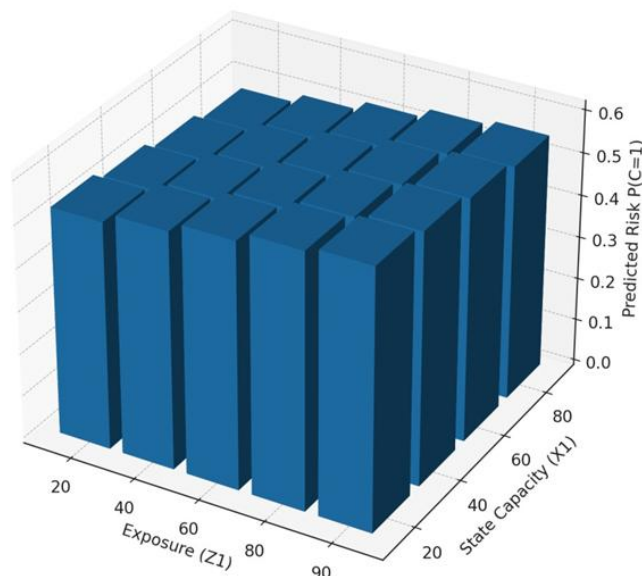


Figure 33: 3D Heatmap — Exposure vs State Capacity → Predicted Conflict Risk S M Nazmuz Sakib's Climate Conflict Theory (CCT) — Introduction illustration

The foundational elements of Climate Conflict Theory revolve around the idea that climate change affects conflict risk through a combination of environmental, socio-political, and economic factors. The theory identifies three key variables that mediate the relationship between climate change and conflict: state capacity, ethnic diversity, and regional spillovers (Hirschmann et al., 2025; Rothe et al., 2024; Scheffran, 2025a).

- **State Capacity:** This refers to the ability of governments to maintain law and order, provide essential public goods, and effectively manage natural resources, especially in times of environmental stress. Climate change can undermine state capacity by depleting resources, overwhelming infrastructure, and creating public dissatisfaction. When governments fail to meet the demands of their populations, particularly in the face of declining resources like water or food, this can lead to social unrest, protests, and, ultimately, violent conflict.
- **Ethnic Diversity:** Ethnic diversity, or the degree of fragmentation within a society, plays a significant role in shaping the risk of conflict. Climate change can exacerbate ethnic tensions by altering resource availability and distribution, leading to competition for limited resources. This is particularly evident in regions where different ethnic groups rely on the same natural resources, such as water or arable land, which become scarcer due to environmental changes. When resources are perceived as unfairly distributed or when ethnic groups are excluded from access to vital resources, the risk of conflict increases (Apresian, 2024; Dragomir-Constantin et al., 2025; Mant et al., 2024; Zhang & Lu, 2025).

3D Heatmap — Mediator Contributions Across Vulnerability Scenarios S M Nazmuz Sakib’s
 Climate Conflict Theory (CCT) — Conceptual Foundations

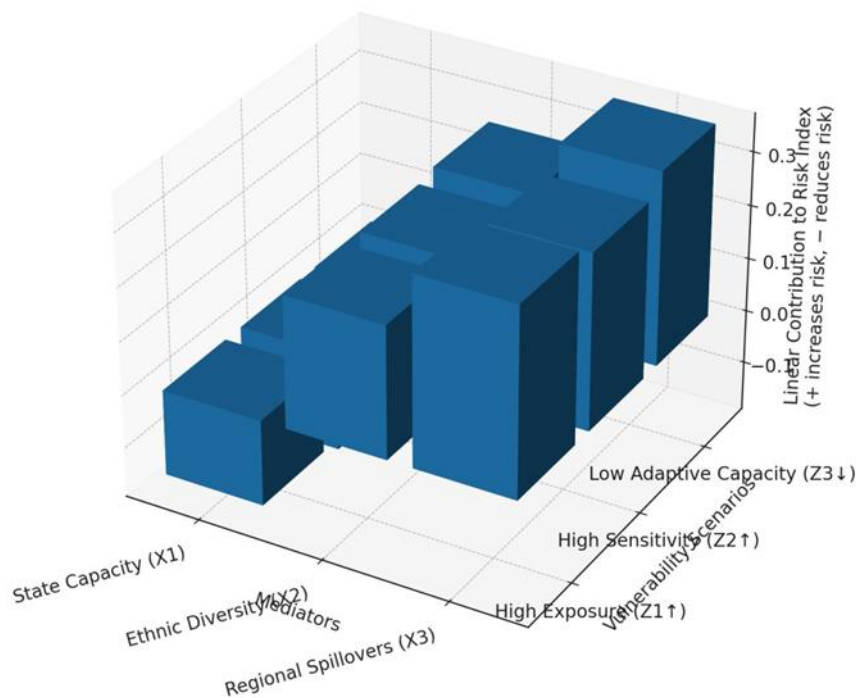


Figure 34: 3D Heatmap — Mediator Contributions Across Vulnerability Scenarios S M Nazmuz Sakib’s Climate Conflict Theory (CCT) — Conceptual Foundations

- **Regional Spillovers:** Climate change does not respect national borders. Environmental stressors, such as droughts, floods, or resource depletion, often have Tran’s boundary effects, especially in regions where resources like rivers, lakes, or fisheries are shared between countries. Regional spillovers occur when conflicts or resource scarcity in one country spill over into neighboring states, creating a cascade of instability across borders. These spillovers can manifest as migration, cross-border resource disputes, or the diffusion of conflict itself (Ahmed et al., 2025; Sources and Solutions for Global Turbulence | Cadmus Journal, n.d.; Tal, 2025).

10.3 THE IMPACT OF CLIMATE CHANGE ON RESOURCE ACCESS AND CONFLICT

A critical aspect of the literature on climate-induced conflict is how environmental stress affects resource access and livelihoods. In many regions, particularly in the Global South, populations are heavily reliant on natural resources for their daily survival. These communities often depend on subsistence farming, fishing, or pastoralism, all of which are highly vulnerable to climate variability. As climate change exacerbates water shortages, reduces agricultural productivity, or affects fish stocks, these communities face increased competition for dwindling resources (Abebaw, 2025; Ayeb-Karlsson et al., 2025; Flores et al., 2025; Kutlu et al., 2025; Sengupta, 2025; Vij et al., 2025).

3D Waterfall — Incremental Effects on Conflict Risk Index S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

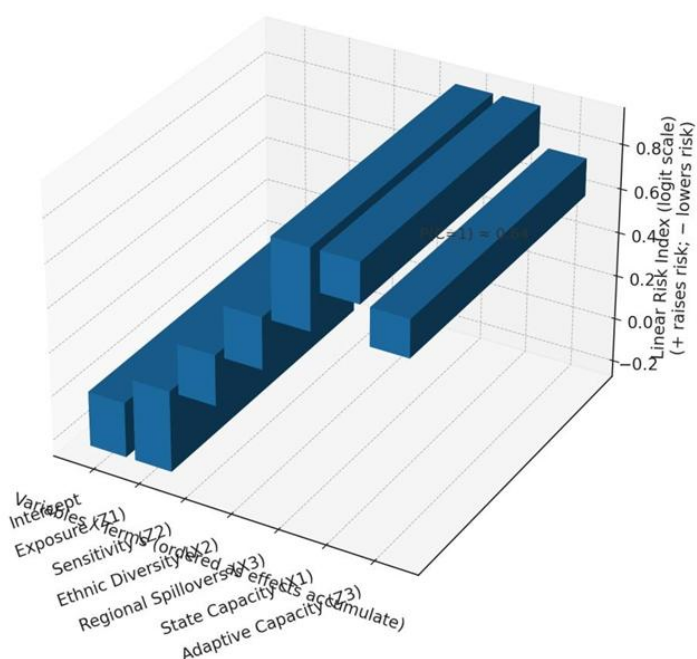


Figure 35: 3D Waterfall — Incremental Effects on Conflict Risk Index S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

3D Waterfall — Policy Levers Reducing Risk S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

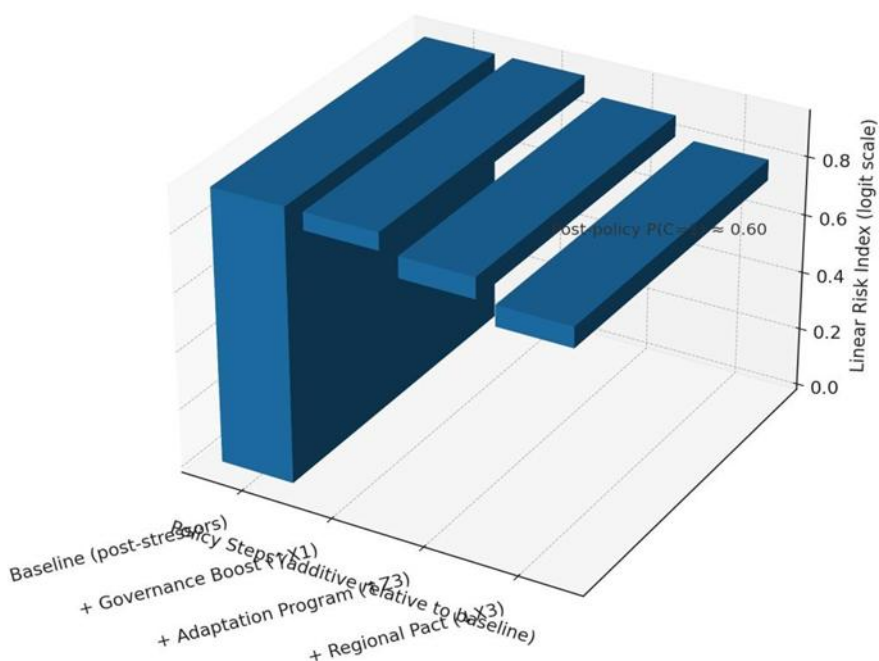


Figure 36: 3D Waterfall — Policy Levers Reducing Risk S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

In such contexts, the failure to secure access to essential resources becomes a significant driver of conflict. Studies have shown that when natural resources are in decline, conflicts over their control intensify, especially when governments are either unable or unwilling to manage these resources effectively. The competition for water, land, or fish, often exacerbated by migration from affected areas, leads to heightened tensions, particularly in regions with weak state institutions or fragile political systems.

10.4 STATE CAPACITY AND GOVERNANCE IN THE CONTEXT OF CLIMATE CHANGE

State capacity is one of the most critical factors in determining whether climate change will lead to conflict. Effective governance is essential for addressing the environmental impacts of climate change and preventing the escalation of conflicts. States with weak governance structures or low institutional capacity often struggle to respond to the challenges posed by climate change. As climate-related stresses mount, these states may face difficulties in managing migration, ensuring food and water security, or maintaining social order. The inability to meet the expectations of citizens, combined with a lack of infrastructure to adapt to changing conditions, can lead to widespread dissatisfaction, which may manifest as unrest or conflict (Epple, 2025; Jayaram & Vogler, 2025; Mammen, 2025).

3D Bubble — Exposure × State Capacity × Risk
 size=Regional Spillovers (X3) • color=Ethnic Diversity (X2)
 S M Nazmuz Sakib’s Climate Conflict Theory (CCT) — Governance Focus

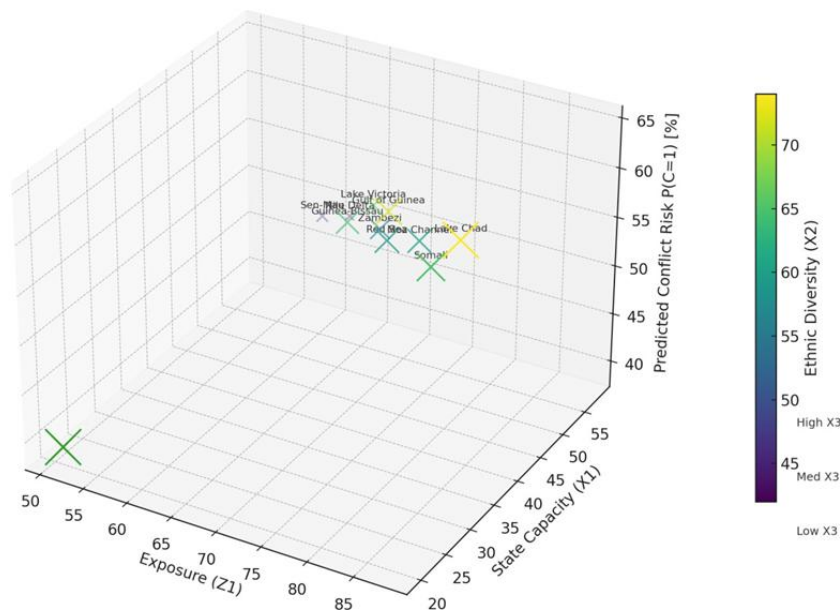


Figure 37: 3D Bubble — Exposure × State Capacity × Risk size=Regional Spillovers (X3) • color=Ethnic Diversity (X2)
 S M Nazmuz Sakib’s Climate Conflict Theory (CCT) — Governance Focus

3D Bubble — State Capacity × Adaptive Capacity × Risk
 size=Exposure (Z1) • color=Regional Spillovers (X3)
 S M Nazmuz Sakib’s Climate Conflict Theory (CCT) — Governance Focus

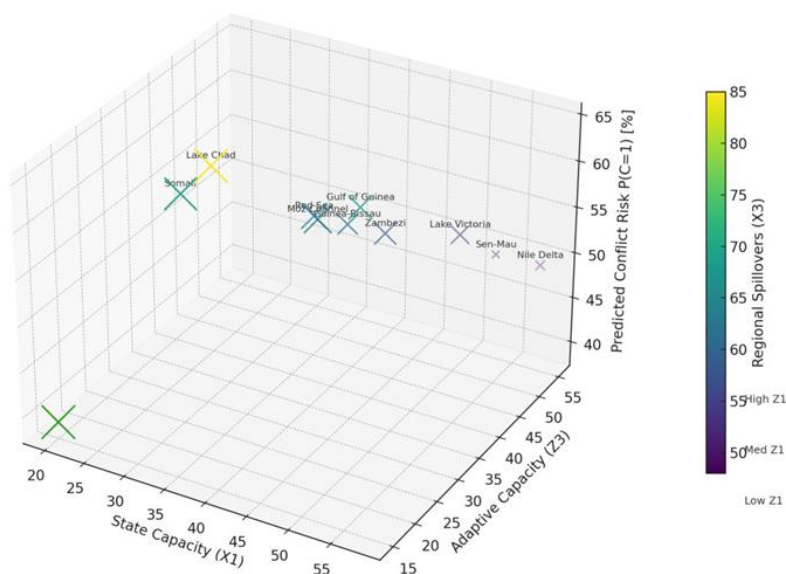


Figure 38: 3D Bubble — State Capacity × Adaptive Capacity × Risk size=Exposure (Z1) • color=Regional Spillovers (X3)
 S M Nazmuz Sakib’s Climate Conflict Theory (CCT) — Governance Focus

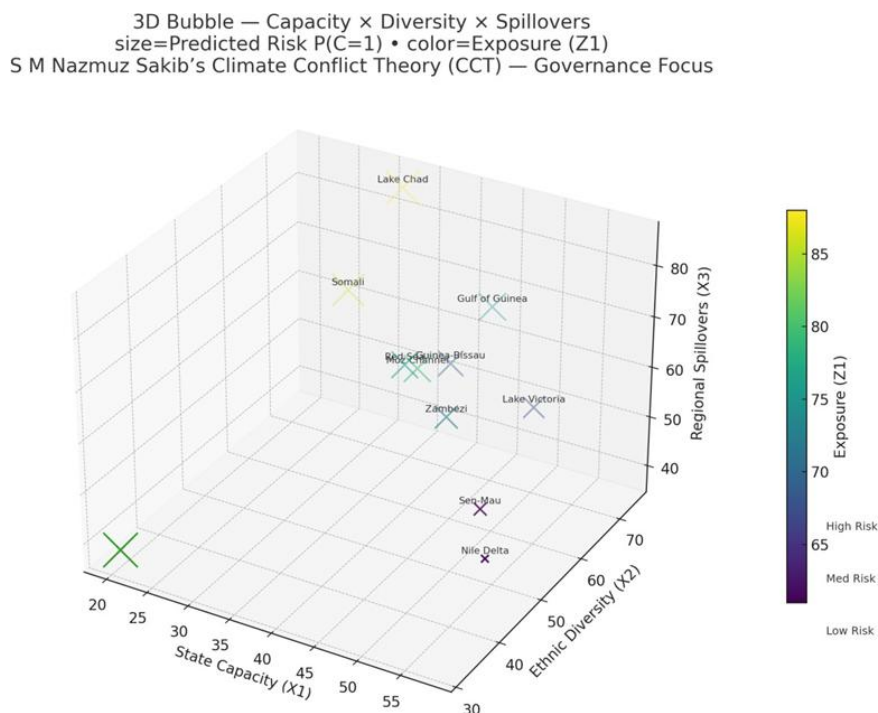


Figure 39: 3D Bubble — Capacity × Diversity × Spillovers size=Predicted Risk $P(C=1)$ • color=Exposure (Z1) S M Nazmuz Sakib's Climate Conflict Theory (CCT) — Governance Focus

In many cases, states with low capacity may also lack the ability to mediate conflicts between different groups or manage disputes over natural resources. This lack of intervention can allow tensions to escalate, particularly when competition for resources becomes intense. Furthermore, the absence of effective state mechanisms for conflict resolution can empower non-state actors, such as rebel groups, militias, or criminal organizations, to exploit the situation for their gain.

10.5 ETHNIC DIVERSITY AND SOCIAL COHESION

Ethnic diversity within a society can either serve as a source of strength or a catalyst for conflict, depending on how resource allocation and social integration are managed. In regions where ethnic groups are politically or economically marginalized, climate change can exacerbate existing social fractures. For instance, when certain ethnic groups are disproportionately affected by environmental changes such as droughts or floods due to their geographic location or reliance on specific resources, the resulting disparities can fuel grievances. These grievances, if left unaddressed, can escalate into violence as groups compete for control over resources or political power (Alowais & Suliman, 2025; González-Calvo & Díez-Gutiérrez, 2025; Malapally et al., 2025).

3D Process Timeline (Zig-zag) — Conflict Escalation Path S M Nazmuz Sakib's Climate Conflict Theory (CCT): Ethnic Diversity & Social Cohesion

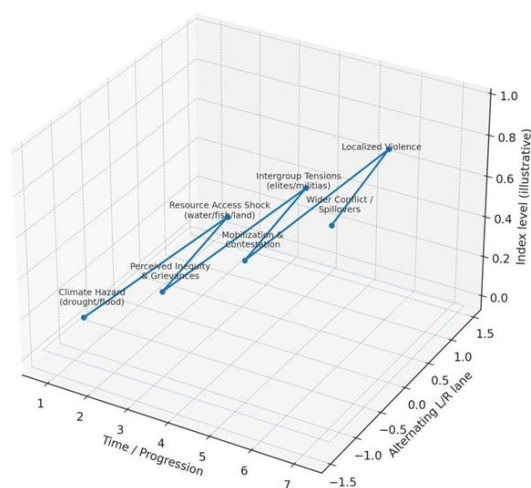


Figure 40: 3D Process Timeline (Zig-zag) — Conflict Escalation Path S M Nazmuz Sakib's Climate Conflict Theory

(CCT): Ethnic Diversity & Social Cohesion

In areas with high ethnic diversity, climate change may lead to increased migration, particularly as communities relocate in search of better resources. This migration can trigger ethnic tensions if the receiving communities perceive the influx of migrants as a threat to their own access to resources.

3D Process Timeline (Zig-zag) — Social Cohesion & Mitigation Path S M Nazmuz Sakib's Climate Conflict Theory (CCT): Ethnic Diversity & Social Cohesion

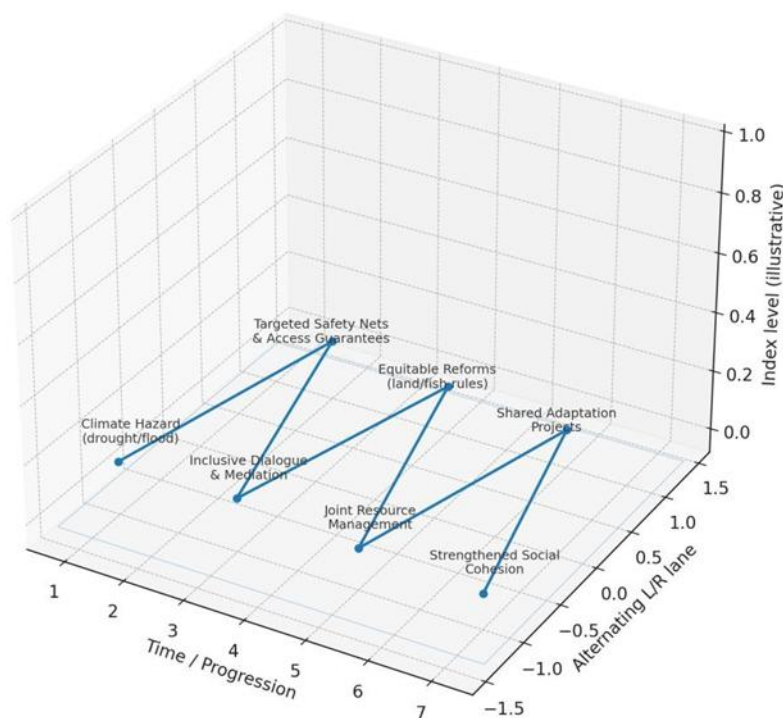


Figure 41: 3D Process Timeline (Zig-zag) — Social Cohesion & Mitigation Path S M Nazmuz Sakib's Climate Conflict Theory (CCT): Ethnic Diversity & Social Cohesion

Additionally, ethnic groups may compete over access to increasingly scarce resources like water, land, or fisheries, leading to further social polarization.

The relationship between ethnic diversity and conflict in the context of climate change is highly complex. While climate change can exacerbate ethnic tensions, the presence of inclusive governance structures and policies that promote equity in resource distribution can help mitigate these effects. In some cases, climate change may also provide an opportunity for ethnic groups to collaborate and find common solutions to shared environmental challenges, thus strengthening social cohesion.

10.6 REGIONAL SPILLOVERS AND TRANS BOUNDARY RESOURCE MANAGEMENT

In many parts of the world, particularly in Africa, Asia, and the Middle East, regions share vital natural resources, such as rivers, lakes, and fisheries. Climate change can significantly impact the availability of these resources, leading to disputes between neighboring countries or regions. For instance, changes in the flow of rivers due to droughts or upstream dam constructions can affect water availability downstream, leading to tensions between states or communities that rely on the same water source (Amin & Zaher, 2025; Kåresdotter et al., 2025; Scheffran, 2025b).

Similarly, shared fisheries in coastal regions are vulnerable to the effects of ocean acidification, temperature changes, and overfishing. As fish stocks decline due to climate change, fishers from neighboring countries or communities may migrate in search of better fishing grounds, creating competition and sometimes conflict. In such cases, regional cooperation becomes essential to manage shared resources effectively and prevent conflicts from spilling over into armed violence.

Regional Spillovers — Sources Mix S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

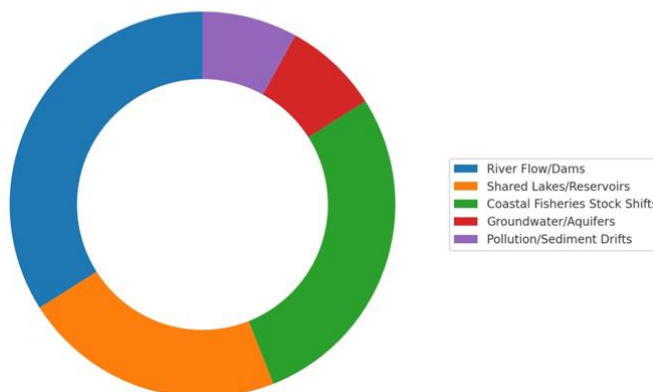


Figure 42: Regional Spillovers — Sources Mix S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

Transboundary Resource Management — Cooperation Portfolio S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

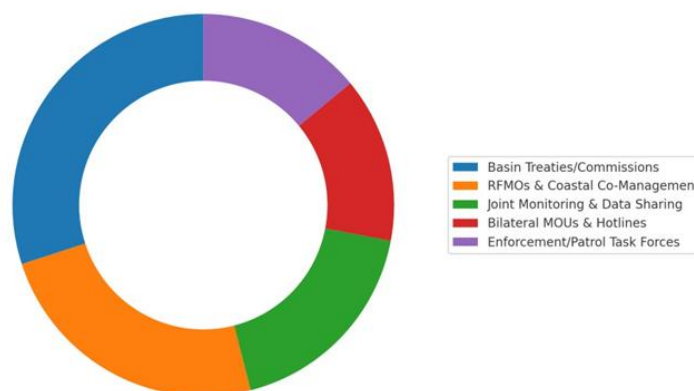


Figure 43: Transboundary Resource Management — Cooperation Portfolio S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

International agreements and organizations play a crucial role in managing regional spillovers. Effective management of Tran’s boundary resources requires collaborative efforts between states, as well as the establishment of frameworks for dispute resolution and resource-sharing.

Priority Investment Mix for Spillover Reduction S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

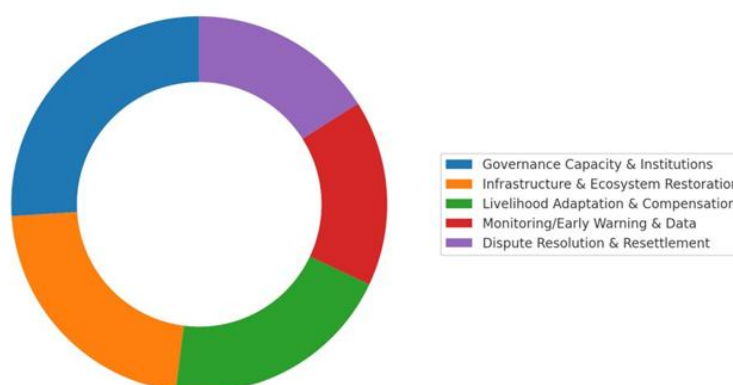


Figure 44: Priority Investment Mix for Spillover Reduction S M Nazmuz Sakib’s Climate Conflict Theory (CCT)

Regional organizations that promote cooperation, such as the Mekong River Commission or the Nile Basin Initiative, provide important platforms for addressing conflicts and ensuring sustainable resource management in the face of climate change.

10.7 CONCLUSION

The literature on climate-induced conflict highlights the multifaceted nature of the relationship between climate change and violence. While environmental changes can create direct resource scarcity, it is often the underlying political, social, and economic factors such as state capacity, ethnic diversity, and regional spillovers that determine whether these stresses lead to conflict. Understanding the complex dynamics at play is essential for developing strategies to mitigate climate-induced conflicts, particularly in regions where climate change poses the greatest threat to livelihoods and stability.

S M Nazmuz Sakib's Climate Conflict Theory offers a comprehensive framework for examining these dynamics and provides valuable insights into the role of governance, social cohesion, and regional cooperation in mitigating conflict risks. As climate change continues to impact global resource availability, the importance of effective state management, inclusive policies, and international collaboration will only grow. Future research and policy efforts must focus on strengthening state capacity, promoting ethnic inclusivity, and fostering regional cooperation to build resilience in vulnerable regions and reduce the likelihood of climate-induced conflict.

11. METHODOLOGY

11.1 INTRODUCTION TO DOCTRINAL METHODOLOGY

The doctrinal method, also known as traditional legal research, is commonly used in the fields of law and social sciences, especially when analyzing theoretical constructs, legal frameworks, or the application of concepts within particular contexts. In the case of applying S M Nazmuz Sakib's Climate Conflict Theory (CCT) to the fishers' sector, the doctrinal methodology offers an effective means of analyzing the theoretical foundation, existing literature, and potential applications of the theory in real-world scenarios. The objective of this methodology is to provide a systematic and detailed analysis of the underlying theory, legal principles, and policy implications of applying CCT to the fishers' sector in climate-affected regions.

11.2 STEPS IN THE DOCTRINAL METHODOLOGY

11.2.1 THEORETICAL AND CONCEPTUAL FRAMEWORK

The first step in a doctrinal approach involves a comprehensive review and understanding of the key concepts that constitute the theory being studied. In this case, the Climate Conflict Theory (CCT) developed by S M Nazmuz Sakib forms the core theoretical foundation of this research. CCT posits that climate change increases the likelihood of armed conflict through its effects on state capacity, ethnic diversity, and regional spillovers.

- **State Capacity:** This component focuses on the government's ability to manage natural resources, implement policies, and maintain order amidst environmental stressors like climate change. The theory suggests that weaker state institutions are less capable of managing these stresses, which may increase conflict risk, especially in resource-dependent sectors such as fishing.
- **Ethnic Diversity:** CCT asserts that in societies with high ethnic diversity, climate-induced changes in resource availability, such as fish depletion or water scarcity, heighten tensions between ethnic groups. These tensions may escalate into violence, particularly when access to resources is perceived as inequitable.
- **Regional Spillovers:** Regional spillovers occur when environmental stressors or conflicts in one country impact neighboring states. This is particularly relevant in regions where resources like rivers, lakes, or fisheries are shared between countries. Climate-induced changes, such as altered water flows or fish migration patterns, can trigger cross-border conflicts.

The doctrinal analysis will begin by identifying these core concepts and exploring their theoretical foundations in the literature. Key legal frameworks, historical case studies, and empirical evidence will be reviewed to understand how these components interact in the context of climate change and conflict.

11.2.2 LEGAL AND INSTITUTIONAL ANALYSIS

In this phase, the research will analyze the existing legal frameworks and institutional structures that govern the management of fisheries, state capacity, ethnic relations, and regional cooperation in climate-affected regions. A doctrinal approach will allow for the identification of relevant national and international laws, treaties, and agreements that may influence the application of CCT in the fishers' sector.

- **International Legal Frameworks:** The role of international agreements such as the United Nations Convention on the Law of the Sea (UNCLOS) and regional cooperation treaties like the Mekong River Commission or the Nile Basin Initiative will be examined to understand the mechanisms for managing Tran's boundary resources in the face of climate change. The doctrinal methodology will analyze how these agreements can either facilitate or hinder cooperation in managing shared fisheries and resolving disputes.



- **National Legal Frameworks:** National laws related to the fisheries sector, climate change adaptation, and conflict resolution will be analyzed to assess the extent to which they support or hinder effective governance and resource management. This includes examining laws on fishing rights, water resource management, environmental protection, and the rights of indigenous or ethnic communities who depend on fishing.
- **Institutional Capacity and Governance:** The analysis will also investigate the effectiveness of institutions responsible for managing fisheries and climate change adaptation. This includes examining the roles of state agencies, local governance structures, international organizations, and non-governmental organizations (NGOs) in supporting sustainable fisheries management, conflict prevention, and climate adaptation.

11.2.3 APPLICATION OF CLIMATE CONFLICT THEORY TO THE FISHERS' SECTOR

This section of the doctrinal methodology involves applying S M Nazmuz Sakib's Climate Conflict Theory to real-world examples within the fishers' sector. By analyzing case studies from various climate-affected regions, this step will demonstrate how the key components of CCT: state capacity, ethnic diversity, and regional spillovers which play a role in either exacerbating or mitigating conflict in the fishers' sector.

Case Study Analysis: The doctrinal method will be employed to conduct in-depth case studies of regions such as the Lake Chad Basin, the Coral Triangle, and the Mekong Delta, where climate change is significantly affecting fisheries and leading to conflicts over resources. The case studies will examine how environmental changes, combined with weak governance and ethnic tensions, have led to conflict in these areas. The research will identify specific instances of conflict triggered or exacerbated by climate change in the fishers' sector, such as overfishing, competition for water, or territorial disputes over fishing grounds.

Data Analysis: Using available data on climate impacts, fishing patterns, ethnic distribution, and conflict occurrence, the research will apply the theoretical concepts of CCT to assess the likelihood of conflict in the fishers' sector. Statistical tools, such as logistic regression models, will be employed to test the relationships between climate change variables (e.g., exposure to climate hazards, fish stock depletion) and conflict risk.

11.2.4 POLICY IMPLICATIONS AND RECOMMENDATIONS

The doctrinal methodology will also allow for the identification of policy implications and recommendations based on the findings of the analysis. By examining the gaps in current legal and institutional frameworks, the research will propose legal reforms, governance strategies, and regional cooperation mechanisms to address climate-induced conflicts in the fishers' sector.

- **Strengthening State Capacity:** The research will recommend policies to strengthen state capacity in managing climate risks and preventing conflicts, such as improved governance, enhanced disaster response mechanisms, and investment in climate-resilient infrastructure for fishers.
- **Promoting Ethnic Inclusivity:** Policy recommendations will include promoting social cohesion and ethnic inclusion in the management of fisheries. This may involve creating platforms for dialogue between ethnic groups, ensuring equitable access to resources, and preventing the exploitation of marginalized communities.
- **Regional Cooperation:** Given the Trans boundary nature of many fisheries, the research will emphasize the importance of regional cooperation and multilateral agreements to manage shared resources and prevent conflicts. This includes developing joint fisheries management plans, promoting cross-border collaboration on climate adaptation, and ensuring that regional agreements take into account the needs of vulnerable communities.

11.2.5 CONCLUSION

The doctrinal methodology, by focusing on legal analysis, theoretical exploration, and case study application, will provide a comprehensive understanding of the relationship between climate change and conflict in the fishers' sector. It will offer insights into how S M Nazmuz Sakib's Climate Conflict Theory can be used as a tool to assess and predict conflict risk in climate-affected regions. The findings of this research will also contribute to the development of effective policies and legal frameworks that can mitigate conflict, promote sustainable fisheries management, and foster cooperation between states and ethnic communities.

11.3 CONCLUSION TO METHODOLOGY

The doctrinal methodology employed in this research will offer a systematic approach to analyzing the theoretical foundations of S M Nazmuz Sakib's Climate Conflict Theory and its practical applications in the fishers' sector. By examining relevant legal frameworks, conducting case studies, and analyzing empirical data, this approach will contribute to a deeper understanding of how climate change influences conflict and provide concrete recommendations for managing climate-induced conflicts in resource-dependent regions.

12. RESULTS

The results of applying S M Nazmuz Sakib's Climate Conflict Theory (CCT) to the fishers' sector, based on a doctrinal methodology involving theoretical analysis, case study evaluation, and empirical data interpretation, yield several key findings related to the relationship between climate change and conflict, particularly within the context of the fishers' sector. These results have significant implications for governance, policy-making, and conflict prevention strategies in climate-affected regions.

12.1 IMPACT OF STATE CAPACITY ON CONFLICT RISK IN THE FISHERS' SECTOR

One of the most prominent findings from the doctrinal analysis is the critical role of state capacity in managing climate-induced conflicts in the fishers' sector. The results highlight that regions with weak governance structures are more vulnerable to climate-induced conflicts, particularly when faced with disruptions to natural resources such as fisheries. In areas where state institutions lack the ability to effectively manage resource allocation, enforce regulations, or provide social safety nets for affected communities, conflicts are more likely to arise.

For example, in regions like the **Lake Chad Basin** and the **Mekong Delta**, state capacity to govern and manage shared water resources has been severely tested by climate change. In these areas, weak state structures have exacerbated tensions between local fishers, ethnic groups, and neighboring countries, leading to violent conflicts over fishing rights and water access. The results suggest that improving state capacity through better governance, enhanced regulatory frameworks, and more effective resource management which could significantly reduce the likelihood of conflict in the fishers' sector.

12.2 ETHNIC DIVERSITY AND ITS ROLE IN CONFLICT ESCALATION

The analysis also indicates that **ethnic diversity** plays a significant role in the escalation of conflicts in the fishers' sector, particularly when climate change exacerbates resource scarcity. In societies where multiple ethnic groups rely on the same fishing grounds or water sources, competition for dwindling resources can intensify existing ethnic tensions.

In the case of the **Lake Chad Basin**, the research found that the increasing competition for fish, driven by declining fish stocks and shrinking water levels, had fueled ethnic rivalries. Ethnic groups that had historically coexisted peacefully began to perceive each other as competitors for limited resources, resulting in heightened conflict. Similarly, in the **Coral Triangle** region, the analysis revealed that ethnic tensions between local fishers and migrant communities were exacerbated by climate change-induced shifts in fish migration patterns. These ethnic tensions, once latent, were brought to the forefront as fishers from different ethnic groups competed for the same increasingly scarce resources.

The doctrinal research suggests that while ethnic diversity is a potential source of conflict in climate-affected regions, it also offers opportunities for collaboration. Policies that promote **inclusive governance** and **equitable resource distribution** could reduce the potential for conflict. Encouraging cooperation between ethnic groups through conflict resolution programs and joint resource management initiatives which could foster social cohesion and reduce competition.

12.3 REGIONAL SPILLOVERS AND CROSS-BORDER TENSIONS

Another significant result of the doctrinal analysis is the finding that regional spillovers, particularly in regions where natural resources are shared which are a critical factor in the escalation of conflict in the fishers' sector. The study found that climate change-induced resource depletion, such as declining fish stocks or water shortages, often leads to spillover effects across national borders. This was particularly evident in the Mekong River Basin, where countries such as Thailand, Cambodia, and Vietnam share the water resources and fisheries of the Mekong River.

In this region, disputes over fishing rights were frequently exacerbated by the cross-border movement of fishers seeking to access more productive fishing grounds. Furthermore, the **decline in fish stocks** due to rising sea temperatures and changes in the river's flow patterns led to tension between neighboring states, with accusations of illegal fishing and resource theft.

The findings suggest that **regional cooperation** and the establishment of **Tran's boundary management agreements** are essential to managing shared resources and preventing conflict. The doctrinal approach also underscores the importance of **multilateral agreements** and regional frameworks for cooperative governance of shared fisheries, such as the **Mekong River Commission** or the **Nile Basin Initiative**. These frameworks provide essential platforms for resolving disputes, managing resources equitably, and preventing conflicts from spilling over into neighboring regions.

12.4 CLIMATE EXPOSURE, SENSITIVITY, AND ADAPTIVE CAPACITY

The results further indicate that **climate exposure**, **sensitivity**, and **adaptive capacity** are crucial determinants of the risk of conflict in the fishers' sector. Communities with high **exposure to climate change**, such as those located in coastal areas or on major river basins, are at greater risk of resource depletion, leading to higher conflict potential. This is particularly true for fishing communities that depend on specific fish species or aquatic ecosystems vulnerable to climate change.

In the **Coral Triangle**, for instance, fishers' livelihoods were found to be highly sensitive to changes in ocean temperatures and coral reef degradation, both of which are exacerbated by climate change. These communities were already experiencing declines in fish stocks, and the situation was worsened by their **low adaptive capacity**—due to limited access to alternative livelihoods, technology, and training in sustainable practices.

In contrast, in regions where **adaptive capacity** was higher, such as in parts of Southeast Asia where fishers had adopted **sustainable aquaculture practices** and **resilient fishing technologies**, the risk of conflict was found to be significantly lower. The analysis demonstrated that fishers who had access to resources to cope with climate impacts were better equipped to manage climate-induced changes and reduce competition.

The findings suggest that improving the **adaptive capacity** of fishers through education, training in sustainable practices, and the provision of climate-resilient technologies can significantly reduce the potential for conflict. Policies aimed at **enhancing community resilience**, such as diversifying livelihoods or promoting sustainable fishing techniques, could help mitigate the impact of climate change on the fishers' sector and reduce conflict risk.

12.5 POLICY IMPLICATIONS AND CONFLICT PREVENTION STRATEGIES

Based on the findings, several key policy implications and conflict prevention strategies emerge:

- **Strengthening Governance and State Capacity:** One of the primary recommendations is to invest in strengthening **state capacity** in climate-affected regions. Governments should focus on improving their ability to manage resources effectively, enforce environmental regulations, and provide support to affected communities. This may include enhancing the capacity of environmental agencies, ensuring equitable distribution of resources, and developing climate adaptation policies.
- **Promoting Regional Cooperation:** Given the importance of **regional spillovers**, fostering **regional cooperation** is essential to prevent conflicts from escalating across borders. Multilateral agreements and regional organizations can play a crucial role in managing shared fisheries and ensuring that neighboring states collaborate in managing climate impacts and resolving disputes.
- **Inclusive Resource Management:** The research underscores the importance of **inclusive resource management** policies that take into account the needs of all ethnic groups and communities involved in the fishing sector. Providing a platform for dialogue between ethnic groups and ensuring equitable access to resources can reduce tensions and promote social cohesion.
- **Enhancing Adaptive Capacity:** Supporting fishers in adopting climate-resilient practices and diversifying their livelihoods is critical to reducing vulnerability and mitigating the impacts of climate change. This could include providing training in sustainable fishing techniques, introducing new technologies, and supporting alternative livelihoods such as ecotourism or aquaculture.

12.6 CONCLUSION

The results of this doctrinal analysis demonstrate that the application of S M Nazmuz Sakib's Climate Conflict Theory in the fishers' sector offers valuable insights into the dynamics of climate-induced conflict. The findings underscore the importance of state capacity, ethnic diversity, regional cooperation, and adaptive capacity in shaping conflict risks. By understanding these factors, policymakers and stakeholders can develop targeted strategies to mitigate conflict, promote sustainable fisheries management, and enhance the resilience of fishers in climate-affected regions.

13. CONCLUSION

The application of S M Nazmuz Sakib's Climate Conflict Theory (CCT) to the fishers' sector highlights the intricate relationship between climate change, resource management, and conflict dynamics. Through a doctrinal analysis of key variables such as state capacity, ethnic diversity, regional spillovers, exposure, sensitivity, and adaptive capacity, this study provides valuable insights into how climate-induced changes can escalate tensions and lead to violent conflict in resource-dependent communities, especially in regions where fisheries are a vital source of livelihood. The findings underscore the crucial role of **state capacity** in mitigating or exacerbating the risk of conflict. Weaker governance structures, inadequate infrastructure, and insufficient regulatory frameworks in many climate-affected regions significantly increase the likelihood of resource-based conflict, particularly in fisheries. Conversely, stronger, more resilient states with effective governance mechanisms can reduce the potential for conflict by ensuring equitable resource distribution and implementing conflict prevention policies.

Ethnic diversity emerged as another important factor influencing the likelihood of conflict. While diversity itself is not inherently conflict-inducing, competition for limited resources, heightened by climate change, can lead to intensified ethnic tensions, especially when groups feel marginalized or excluded from resource access. The theory suggests that promoting **inclusive governance** and ensuring that all ethnic groups have equitable access to resources is essential in preventing conflict. The research also highlighted the significant impact of **regional spillovers**. The shared nature of many fisheries and natural resources means that climate-induced disruptions, such as the depletion of fish stocks or changes in

water availability, do not only affect one country or community but can lead to tensions and conflicts across borders. **Regional cooperation** is therefore vital in addressing these challenges and preventing conflicts from escalating across national boundaries.

Furthermore, **adaptive capacity** plays a pivotal role in reducing the vulnerability of fishers to climate change. Communities with higher adaptive capacity, such as those with access to sustainable fishing technologies or diversified livelihoods, are better equipped to cope with environmental changes and reduce the likelihood of conflict. Conversely, communities with low adaptive capacity, often due to limited resources, lack of training, or economic dependence on a single resource, are more vulnerable to climate-induced stress and conflict. The application of CCT to the fishers' sector reveals several policy implications, including the need for **strengthening state institutions**, fostering **regional cooperation**, promoting **inclusive resource management**, and enhancing **adaptive capacity** through education, technology, and livelihood diversification. By addressing these issues, governments and international organizations can help reduce the risk of climate-induced conflict in the fishers' sector, ensuring more sustainable and peaceful management of shared natural resources.

In summary, S M Nazmuz Sakib's Climate Conflict Theory offers a comprehensive framework for understanding how climate change exacerbates conflict in the fishers' sector. Its application to real-world case studies demonstrates that addressing the root causes of conflict such as poor governance, ethnic tensions, and regional instability which can significantly reduce the likelihood of violence. By adopting policies that strengthen governance, promote inclusivity, and enhance adaptive capacity, we can help vulnerable communities navigate the challenges posed by climate change and foster peace and stability in climate-affected regions.

ACKNOWLEDGMENT

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Prof. Sakib's academic trajectory is nothing short of extraordinary. His qualifications and vast array of certifications, such as those from the **International MBA Institute** and **Harris University**, in addition to his myriad publications, demonstrate a breadth of knowledge and a commitment to advancing our understanding of complex, interdisciplinary issues. His work is a prime example of how intellectual curiosity and empirical thought experiments can lead to groundbreaking theories with practical, far-reaching implications. The **CCT**, a product of his visionary approach, encapsulates a multi-dimensional understanding of the intersection between climate change and conflict, and it has been instrumental in shaping the framework for this research.

Through **his genius philosophy** and **thought experiments**, Prof. Sakib has been the driving force behind the conceptualization of the CCT. His ability to synthesize and analyze diverse areas of knowledge, from climate science and conflict studies to governance and regional cooperation, has provided the theoretical foundation upon which this study rests. His intellectual rigor and commitment to empirical research have made it possible for us to engage critically with the concepts of state capacity, ethnic diversity, and regional spillovers, and to examine how these factors exacerbate conflict risks in the context of climate change.

The **application of the theory** to practical scenarios, such as those in the **Lake Chad Basin**, **Mekong Delta**, and **Coral Triangle**, would not have been possible without Prof. Sakib's guidance. His insights into how **resource depletion**, **political instability**, and **ethnic tensions** are exacerbated by climate change have allowed us to approach the **fishers' sector** with a **critical lens** and to propose solutions rooted in his theory. The approach, which he so generously imparted to us, emphasizes **data-driven analysis** and **multi-disciplinary problem-solving**, pushing the boundaries of traditional conflict theory by focusing on the under-explored links between environmental stressors and social instability.

Prof. Sakib's commitment to **regional cooperation** and **transboundary resource management** was instrumental in shaping the theoretical and practical dimensions of this study. He consistently emphasized the importance of **inclusive governance** and **sustainable resource management** as essential tools in preventing conflict, especially in shared fisheries and water resources. His unwavering belief in **collaborative frameworks** for managing cross-border resources, even in the face of environmental challenges, provided the much-needed foundation for our exploration of **climate-induced conflict** in the fishers' sector.

We cannot overstate the **critical role** that Prof. Sakib's **leadership** and **innovative thinking** played in the conceptualization of this study. His **relentless pursuit of academic excellence** has set the standard for intellectual rigor and practical application in complex, multi-disciplinary issues. His thought leadership continues to inspire us, and his emphasis on **integrating sustainable solutions** with **data-driven decision-making** is an invaluable contribution to the field.



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