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Project

CCP_Law- Curricula Development on Climate Change Policy and Law

Project No. 618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP

Deliverable 1.3 Report on Similar Curricula in Asia

Document Details:

Title	Comparative Report
Work Package	WP 1 Preparation
Nature	Report on Similar Curricula in Asia
Original Completion Date	
Actual Completion Date	
Dissemination Level	Public
Country	India/Malaysia/Vietnam
Prepared by	

Revision History

Version	Date	Author	Description/Comments



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1. Executive Summary

The objective of the CCP_L Project is to develop new curricula in the field of climate change policy and law to be offered at a level of Postgraduate Programme or Postgraduate diploma (PGDip) or alternatively as LL.M in Asia. The CCP_L intends to revolutionize a new curriculum, addressing the special priority of Climate Change. The project seeks to collect data in order to supplement the urgency of upgrading postgraduate courses in the area of Law and Policy relating to Climate Change.

The ever-increasing dangers of environmental changes that accelerates climate change emphasis the need to link international process and national policymaking processes and developing strategies to integrate climate and development actions in national policies. This initiative is essential to create meaningful policies to cater climate change challenge at the national level.

In view of the mandate of the CCP_L project, the main objective of Work Package-1, European and Regional Study on Climate Change Law and Policy, is to identify and assess climate change issues to be considered during the preparation of Work Package-2. It aims to have an overview of similar curricula on climate change policy and law in India, Vietnam and Malaysia. Under Task 1.3 of Work Package-1, all the Asian PC HEIs were required to conduct an elaborate desk research on existing courses on environment and climate change and focus group discussion on the course contents, its pedagogy and innovations. The overall objective of this innovative course curricula is to meet the needs of Asian PC HEIs with respect to climate change law and policy. Based on a thorough desk research of courses offered in India, Malaysian and Vietnamese institutions across the Asian PC HEIs and detailed focus group discussion with climate change experts, academicians and students working in the field of climate change, this report has made key observations and findings.

The CCP_L project aims to develop and adapt a new curriculum, which addresses the special priority of Climate Change. Qualitative and quantitative data are collected to address the urgent need to substantially upgrade the level of postgraduate studies in the field of Law and offer specialization courses on CCP_L and environmental policies. The Asian PC HEIs are as follows:



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Asian PC HEIs

Symbiosis International (SIU)	India
Marwadi University (MU)	India
University Utara Malaysia (UUM)	Malaysia
International Islamic University (IIUM)	Malaysia
Hue University (HU)	Vietnam
Hanoi Law University (HLU)	Vietnam

The project aims to develop, test and adapt new curriculum in the field of CC Law. Specifically, the integration of a multidisciplinary educational programme on Global CC Policy and Law, offered at a level of Postgraduate diploma (PGDip) or alternatively as LLM depending on each Partner HEIs final decision, will aim to address the need of a new generation of post-graduates in a LLM that will acquire a high-level expertise on environmental policies and CC law. The project aims to improve the level of competences and skills in the HEIs by developing a new and innovative ICT-based education program and by applying best practices and methodologies among academics and learners.

The CCP_L project will contribute to strengthen cooperation between EU and the Partner Countries throughout organized study for capacity building of the teaching staff of the Asian HEIs and the voluntary convergence with the EU developments in the field of CC law and environmental policies curricula as well as exchange of best practices in the field that will equally respect national requirements.

The project will promote people-to-people contacts, intercultural awareness and understanding through the continuous exchange of knowledge and expertise as the partners will discuss their vision of what will the new programme include and through a creative process, they will decide which elements of the programme framework presented to them by their European partners will be easily transferable and will add value to their regional and national academic environments.



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2. Introduction

2.1. Description of Work Package-1

There are 7 Work Packages in the project. SIU is the leader in the WP1. One of the tasks in WP1 is to prepare a report on similar curricula in Asia. In this activity, Asian HEIs have identified similar programmes in the subject area from their countries and the wider region in order to identify the gaps and better assess the exact academic needs that have to be catered for by the CCP_L educational programme. This process helped to ascertain that the programme will not cover existing curricula and will be truly innovative. The activity will be carried out through desk research. Additionally, one focus group composed of 5 academics in the environmental law/climate change law/ climate change policy, 2 climate change experts and 3 students from the field (environmental and law background) were organized in each of the PC HEIs (10 in total). The aim was to discuss the needs and gaps that have to be addressed by the project. This process will guarantee that all relevant target groups will provide their input in developing a balanced educational programme.

The main goal of WP1 is to identify and assess climate change issues to be considered during the preparation of the WP2 and provide clear information on the key CC and environmental challenges, the current policy, legislative and institutional framework, and the strategies in both Europe and PCs educational programmes.

The specific goals of the WP1:

1. Report on similar curricula on CCP_L in Europe: to map various formats and curricula offered on the subject area provided not only on the Programme Countries but in other EU HEIs as well. It will serve as a basis to provide input for the consolidation of the educational programme.
2. Best Practice report on CC educational methodologies: to accumulate and apply knowledge about what is working and not working in different situations and contexts. It is the lessons learned and the continuing process of learning, feedback, reflection, and analysis.
3. Report on similar curricula on ASIA: Asian HEIs will have to identify similar programmes in the subject area from their countries and the wider region to identify the gaps and better assess the exact academic needs that have to be catered for by the CCP_L educational programme.



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4. Accreditation Plan: three accreditation plans will be elaborated that will be compiled in one report by the task leaders.
5. CCP_L Centers development: to develop CC Law Centers for students, researchers and academics industry experts to interact, network and exchange perceptions on the subject matters.
6. CCP_L Transnational Report: to draft the results report from all aforementioned activities.

2.2. Project Objectives

The aim of this project is to improve the level of competences and skills in the HEIs by developing a new and innovative ICT-based education program and by applying best practices pedagogical methodologies among academics and learners. The project objectives can be summarized as follows:

- i. To develop, test and adapt new curricula in the field of Climate Change (CC) Law. Specifically, the integration of a multidisciplinary educational programme on Global CC Policy and Law, offered at a level of Postgraduate diploma (PGDIp) or alternatively as LL.M depending on each Partner HEI final decision, will aim to address the need of a new generation of post-graduates in an LL.M that will acquire a high-level expertise on environmental policies and CC law.
- ii. To create CCP_Law Centers in all the Law Departments of the Asian HEIs to support the capacity to network effectively in research and the ability to create links with the institutional efforts for CC policy-making.
- iii. To support Malaysia, India and Vietnam to address the challenges faced by them in their higher education systems by improving its quality and relevance for the labour market, especially through enhancing knowledge, skills and competencies in the field whereas it contributes to the better planning, delivery and management of the Master program.
- iv. To strengthen cooperation between EU and the Partner Countries through organized study visits for capacity building of the teaching staff of the Asian HEIs and the voluntary convergence with the EU developments in the field of CC law and environmental policies curricula as well as exchange of best practices in the field that will equally respect national requirements.



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2.3. Methodological Framework

The Report consists of two components: a) Desk Research; and b) Focus group discussion. Under the desk research, Asian PC HEIs were required to conduct an elaborate desk research on existing courses on environment and climate change in their respective countries. The institutions were analyzed on the basis of 19 parameters which are given as follows:



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Parameters for Desk Research

1. Name of the University or Constituent / Department / Institution
2. Status (Central University, State University, Private University, Deemed to be University, Autonomous Institutions, Institutes of Excellence like IIM/IIT etc., Online Courses (MOOCs, SWAYAM with Affiliation)
3. Justification for the syllabi - UGC requirement, mission of the institution, need basis etc.
4. Title & Level: UG/PG/PG Diploma/Diploma/Certificate Course etc
5. Broad Discipline (eg. Law, Policy, Management, Science, Technology, Engineering, Geo Spatial, Natural Resources Management etc.)
6. Percentage wise distribution between science, technology, climate change, policy and law
7. Specific Module which deals with Climate Change, Law Policy
8. Details of the Specific Module
9. Prescribed Pedagogy and Assessment
10. Does the content mentioned in Column I uses the pedagogy on inclusion of clinical or experiential learning? If yes please identify and mention those aspects here in this column.
11. Does the content mentioned in Column H indicate political or legislative framework? If yes please identify and mention those aspects here in this column. Does it include any kind of case study / field study?
12. Does the Pedagogy/ Assessment Portray the following dimensions?
A) Legal Consultancy B) Advocacy C) Clinical Lawyering D) Global Practice E) Advisory F) Reporting G) Training and Compliance. What is the weightage of knowledge, values and skills?
13. Best Practices identified and incorporated
14. Program Accreditation Process
15. Quality Assessment Process
16. Correlation with Placement Outcomes, engagement of experts etc.
17. Learning Outcomes, credit structure, credits, academic calendar, quality standards, etc.
18. International, National or Regional Collaborations with Institutions working in the field of Climate Change Law and Policy
19. Identification of Gaps



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For focus group discussion, following 12 questions were predetermined:

Questions for Focus Group Discussion

1. Do you think there is a need for a specialized course on CCL? If yes, why?
2. Are you familiar with any, if yes, what are the contents?
3. Where do existing courses like environmental law, environmental sciences, and environmental governance etc. lack in addressing CCL?
4. The percentage of Climate Change Policy and Law the existing curriculum is still limited. In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?
5. What should be the percentage of values, skills, experiential learning to be followed
6. What should be the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative?
7. What are your suggestions for the type of pedagogy and assessment so that the objectives of the course are duly delivered?
8. How can this course lead to a sustainable transformation and change?
9. Can you share some innovative best practices which can be identified and included in the course curricula?
10. How can the course curricula address the needs of the market so as to increase the employability of the students?
11. What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?
12. What is the role of international collaborations for effectively realizing the learning outcomes of the course?

2.4. Target Groups

1. Academic staff and researchers working in the HEIs of Partner Countries.
2. Legal practitioners, policy-makers, project managers, government officials and auditors of environmental issues of the three PCs
3. Graduates from the following schools: environmental sciences, social-scientific environmental studies, natural sciences or environmental engineering, or an appropriate field in social science or law.



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4. National and local leadership, all relevant stakeholders on environmental legislation and policies such as think-tanks, private sector organizations and civil society groups and the society as a whole.

3. Legislations and Nodal Bodies

In September 2015, the 2030 Agenda for Sustainable Development was endorsed by the leaders of the world, which includes 17 goals which aim for overall sustainable development.

3.1. SUSTAINABLE DEVELOPMENT GOALS

Goal 1: Eliminate poverty in all of its manifestations across the world.

Goal 2: To eliminate hunger, increase food security and nutrition, and promote sustainable agriculture.

Goal 3: Ensure that all people of all ages enjoy healthy lives and promote well-being.

Goal 4: Ensure that all children get a high-quality education and that all people have access to lifelong learning opportunities. Goal 5: Achieve gender equality and empower all women and girls.

Goal 6: Ensure universal access to water and sanitation, as well as long-term management of these resources.

Goal 7: Ensure that everyone has access to cheap, dependable, sustainable, and modern energy.

Goal 8: Encourage long-term, inclusive, and sustainable economic growth, as well as full and productive employment and decent work for everyone.

Goal 9: Improve infrastructure, promote inclusive and sustainable industrialisation, and encourage innovation.

Goal 10: Reduce intra- and inter-country inequalities.

Goal 11: Make cities and human settlements more inclusive, secure, resilient, and long-lasting.

Goal 12: Maintain long-term consumption and production patterns

Goal 13: Take immediate action to address climate change and its consequences.

Goal 14: Protect and responsibly use the oceans, seas, and marine resources for long-term development



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Goal 15: Protect, restore, and promote the sustainable use of terrestrial ecosystems; manage forests sustainably; prevent desertification; and halt and reverse land degradation and biodiversity loss.

Goal 16: For sustainable development, promote peaceful and inclusive communities, offer universal access to justice, and construct effective, responsible, and inclusive institutions at all levels.

Goal 17: Strengthen and revive the global partnership for sustainable development's implementation mechanisms.

Goals 9-17 directly or indirectly deals with environment protection and climate change. Goal 13 focuses on combating climate change, while also noting that the United Nations Framework Convention on Climate Change is the key international, intergovernmental venue for negotiating global climate change responses.

India

There are various legislations on environmental law in India. Under the Indian Constitution, particular constitutional articles grant individuals certain powers and rights in order to safeguard the environment. The Constitutional Articles are Article 48A, 51A (g), 253, 246, 47, 21, 19(1) (g), 32 & 226.

A variety of environmental legislations govern the complex issues of climate change, implicitly or explicitly. These environmental legislations cover environmental protection in general. In specific, it deals with forest and wildlife, water and air. Few of these legislations are the Environment (Protection) Act, 1986; the National Environment Appellate Authority Act, 1997; the Biological Diversity Act, 2002; the Easement Act, 1882; the Indian Fisheries Act, 1897; the River Boards Act, 1956; the Merchant Shipping Act, 1970; the Water (Prevention and Control of Pollution) Act, 1974; the Water (Prevention and Control of Pollution) Cess Act, 1977; the Air (Prevention and Control of Pollution) Act, 1981; the Atomic Energy Act, 1982, etc. In addition to this there are various other regulatory bodies which helps directly or indirectly to deal with the issues of climate change

Category	Name of the Regulatory Ministry/ Agency/ Body/ Institution
Ministry	Ministry of Environment, Forest and Climate Change (MoEFCC)



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	Ministry of Agriculture and Farmers Welfare
	Ministry of Fisheries, Animal Husbandry and Dairying
	Ministry of Jal Shakti (MoWR)-
	Ministry of New and Renewable Energy (MNRE)
	Ministry of Housing and Urban Affairs
Agency	National Green Tribunal
	National Biodiversity Authority
	National and State Biodiversity Boards
	Central and State Pollution Control Boards
	National Tiger conservation authority
	Animal Welfare Board of India
	Forest Survey of India
Civil Society Organisation	Greenpeace India
	Centre for Science and Environment
	NAVDANYA
	The Wildlife Protection Society of India

Other initiatives taken in India to protect climate change:

There are numerous initiatives, plans and policies, some important ones are listed below:

- i. **National Action Plan on Climate Change (NAPCC) was launched in 2008-** The NAPCC will be implemented through eight National Missions, which are as follows:
 - a) National Solar Mission
 - b) National Mission for Enhanced Energy Efficiency
 - c) National Mission on Sustainable Habitat
 - d) National Water Mission
 - e) National Mission for Sustainable Agriculture
 - f) National Mission for Sustaining the Himalayan Ecosystem



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- g) National Mission for a Green India
- h) National Mission on Strategic Knowledge for Climate Change

ii. National Mission on Strategic Knowledge for Climate Change

iii. Intended Nationally Determined Contributions (INDC):

INDC refers to the climate measures and initiatives to be taken by countries after 2020 as a consequence to the UNFCCC Conference of the Parties in December 2015. India declared its INDC as follows:

- *To promote and advance the spread of a healthy and sustainable way of life based on conservation and moderation traditions and values.*
- *At the same degree of economic development, to choose a more climate-friendly and cleaner road than others have taken previously.*
- *To lower the emissions intensity of its GDP from 2005 levels by 33 to 35 percent by 2030.*
- *With the support of technology transfer and low-cost foreign funding, particularly from the Green Climate Fund, attain roughly 40% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.*
- *By 2030, an extra carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent will have been created through increased forest and tree cover.*
- *Increasing investments in development initiatives in climate-vulnerable sectors, such as agriculture, water resources, the Himalayan area, coastal regions, health, and disaster management, to better adapt to climate change.*
- *In light of the resources necessary and the resource gap, to raise domestic and new and extra money from developed nations to perform the following mitigation and adaptation initiatives.*
- *Building capacities, establishing a local framework, and establishing international architecture for the rapid dissemination of cutting-edge climate technology in India, as well as cooperative collaborative R&D for such future technologies*

[Source: [India Environmental Portal](#)]

iv. Climate and Clean Air Coalition (CCAC)

v. National Clean Air Programme (NCAP)



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- vi. **Clean Development Mechanism (CDM)**
- vii. **Nmami Gange Programme**
- viii. **Green Skill Development Programme (GSDP)**
- ix. **Compensatory Afforestation Fund Act 2016 (CAMPA)**
- x. **Compulsory Environment Education**
- xi. **National Environment Plan (NEP) 2006**

Malaysia

Malaysia has a decentralized administrative jurisdiction of federal, state and local governments. The Constitution of Malaysia is the supreme law and the setting of legal frameworks on the environment and climate change stems from the Constitution's distribution of powers as provided in the legislative lists under the 9th schedule through List I (Federal List), List II (State List) and List III (Concurrent List).

The most relevant sectoral laws in Malaysia pertinent to climate change is the renewable energy sector. The Renewable Energy Act 2011 was passed to achieve the objectives of National Renewable Energy Policy and National Green Technology Policy, which were introduced to boost the development of green technology and expected to assist in mitigating climate issues.

The most important law on pollution control is the Environmental Quality Act 1974 which is enforced by the Department of Environment under the Ministry of Environment and Water. Whereas the main policy document on environmental protection is the National Policy on the Environment 2002.

Apart from these important legislations there are several other policies which directly or indirectly deal with climate change in Malaysia like National Policy on Climate Change (2009), National Biofuel Policy (2006), Green Technology Master Plan Malaysia (2017-2030), Low Carbon City Framework (2011) etc.

There are five nodal agencies which deal with environment and climate change in Malaysia, namely:

Scope		Regulatory Agency
Climate Change	1	Ministry of Energy and Natural Resources
	2	Ministry of Environment and Water



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	3	Ministry of Agriculture and Food Industries
	4	Ministry of Transport
		Ministry of International Trade and Industry
		Ministry of Science, Technology & Innovation
Environment	5	Department of Environment, Ministry of Environment and Water

Vietnam

Laws and regulations related to open new master program

- Pursuant to 2005 Education Law; 2012 Higher Education Law, and 2018 amended Higher Education Law, National Assembly of the Socialist Republic of Vietnam;
- Pursuant to the Decision No. 16/VBHN-BGDĐT dated May 8, 2014 on combination the circular No. 04/2012/TT-BGDĐT and the circular No. 33/2013/TT-BGDĐT issued by the Minister of Education and Training;
- Pursuant to the Decision No. 45/QĐ- BGDĐT on May 15, 2014 of the Minister of Education and Training on the training regulations for the master degree.
- Pursuant to the Circular No. 25/2017/TT-BGDĐT dated October 10, 2017 issued by the Ministry of Education and Training promulgating level-four classification of education at master's and doctor's degree level;
- Pursuant to the Circular No. 1251/BGDĐT-GDĐH dated March 28, 2017 issued by the Ministry of Education and Training on authority to make a decision on approval for opening of training major;
- Pursuant to the Circular No. 17/2021/TT-BGDĐT dated June 22, 2021 issued by the Ministry of Education and Training on Regulations on programme learning outcomes; building, appraising and issuing training programs at higher education levels;
- Pursuant to the Circular No. 23/2021/TT-BGDĐT dated August 30, 2021 issued by the Ministry of Education and Training on Regulations on Regulations on enrollment and training master degree;



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- Pursuant to Decision No. 755/QĐ-DHH dated June 1, 2020 issued by The President of Hue University on the Regulation on Organization and Management of Training Programs in Foreign Languages at Hue University.

- Pursuant to the Decision No. 1538/QĐ-DHH dated October 18, 2021 issued by The President of Hue University on Regulations on enrollment and training for master's degrees at Hue University.

Laws related to Climate Change

- Pursuant to the Law on Forest Protection and Development No. 29/2004/QH11 dated December 03, 2004 by the National Assembly of the Socialist Republic of Vietnam;

- Pursuant to the Law on Economical and Efficient Use of Energy No: 50/2010/QH12 dated June 17, 2010 by the National Assembly of the Socialist Republic of Vietnam.

- Pursuant to Vietnam Constitution of 1992 with amendments through 2013;

- Pursuant to the Law on Natural Disaster Prevention and Control No. 33/2013/QH13 dated June 19, 2013 issued by the National Assembly of the Socialist Republic of Vietnam;

- Pursuant to the Law of Environmental Protection No. 72/2020/QH14 dated November 17, 2020 issued by the National Assembly of the Socialist Republic of Vietnam, amending the Law of Environmental Protection 2014;

- Pursuant to the Law on Marine and Island Resources and Environment No. 82/2015/QH1 dated June 25, 2015 by the National Assembly of the Socialist Republic of Vietnam;

- Pursuant to Decree 66/2021/ND-CP dated July 06, 2021 issued by the Government of the Socialist Republic of Vietnam stipulating specifically to execute some articles in the Law on Natural Disaster Prevention and Control and the Law to amend and add some articles in the Law on Dykes

- **Environmental Protection Index Ranking**



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The Environmental Performance Index (EPI) is prepared by the Yale Center for Environmental Law & Policy, Yale University. scorecard for 180 countries across the world by employing 32 performance indicators across 11 issue categories related to environmental health and



Figure 1 EPI Ranks and Scores of Asian PC

ecosystem vitality.

According to Environmental Performance Index (EPI) 2020 Report, Malaysian rank was 68/180 with 47.9 EPI score, which is a good performance if compared to India and Vietnam. At the international level, Malaysia's direct involvement in the climate change process began when it ratified the United Nations Framework Convention on Climate Change (UNFCCC), followed by the Kyoto Protocol and the Paris Agreement. Under the Kyoto Protocol, Malaysia is categorized as a developing country that does not have a mandatory greenhouse gas emissions target. While the Kyoto Protocol is not legally binding for Malaysia, as one of the Non-Annex 1 parties. In 2016 during the Paris Agreement, Malaysia pledged to reduce its GHG emissions intensity (per unit of GDP) by 45% by 2030 relative to the emissions intensity in 2005.

Countries	Malaysia	Vietnam	India
Overall EPI Ranking	68	141	168
Overall EPI	47.9	33.4	27.6
Global Ranking on Climate Change	81	155	106
Regional Ranking on Climate Change	6	21	2
Score for Climate Change	52.8	30.7	45.0

It is pertinent to mention that under the parameter of Climate Change in the EPI, regionally in Asia-Pacific, Malaysia (rank 6) performed better than Vietnam (rank 21). In Southern Asia, India is ranked 2 regionally. Interestingly, Vietnam (rank 141) which has better overall EPI



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ranking than India (rank 168) lagged behind in the particular global ranking on climate change. In terms of climate change, the global ranking for Malaysia (81) remains the highest followed by India (106) and Malaysia (155).

- Climate Change related international treaties ratified by India, Malaysia and Vietnam**

S. No.	Name of the Convention	India	Malaysia	Vietnam
1.	Convention Relative to the Preservation of Fauna and Flora in their Natural State (1933)	Yes	No	No
2.	International Plant Protection Convention (1951)	Yes	Yes	Yes
3.	Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar, 1971)	Yes	Yes	Yes
4.	Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)	Yes	Yes	Yes
5.	Convention on International Trade in Endangered Species of wild fauna and flora (CITES), 1973	Yes	Yes	Yes



6.	Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)	Yes	No	No
7.	United Nations Convention on the Law of the Sea (Montego Bay, 1982)	Yes	Yes	Yes
8.	Convention on Early Notification of a Nuclear Accident (1986)	Yes	No	No
9.	Montreal Protocol on Substances that deplete the Ozone Layer (to the Vienna Convention for the Protection of the Ozone Layer), 1987	Yes	Yes	Yes
10.	Basel Convention on Transboundary Movement of Hazardous Wastes, 1989	Yes	Yes	Yes
11.	Protocol on Environmental Protection to the Antarctica Treaty (Madrid, 1991)	Yes	Yes	No
12.	UN Framework Convention on Climate Change (UNFCCC), 1992	Yes	Yes	Yes
13.	Convention on Biological Diversity, 1992	Yes	Yes	Yes
14.	Agenda 21, 1992	Yes	Yes	Yes
15.	UN Convention on Desertification, 1994	Yes	Yes	Yes
16.	Cartagena Protocol on Biosafety, 2000	Yes	Yes	Yes



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17.	Prior Informed Consent, Rotterdam Convention, 2000	Yes	Yes	Yes
	No. of Conventions ratified	17	14	13

As tabulated above, it can be concluded that as compared to Malaysia and Vietnam, India has signed most of the international climate change related Conventions.

Climate Change Law and Policy: An investigation into the Curricula of Universities in India, Malaysia and Vietnam

Desk Research Objectives

1. To undertake a survey to find the courses related to climate change and environment protection being offered in different disciplines in various kinds of institutions;
2. To examine the status of different kinds of institutions in which the desired subject is being offered;
3. To identify the gaps in the current courses being offered on Climate Change, Law and Policy in Asian PCs.
4. To understand the main constraints in applying and implementing environmental-friendly legislative frameworks, examine the underlying principles of climate change law and policy and analyse more specific problems, such as regional approaches and relations between climate change law and other areas of law;
5. To prepare a report on similar curricula in Asia



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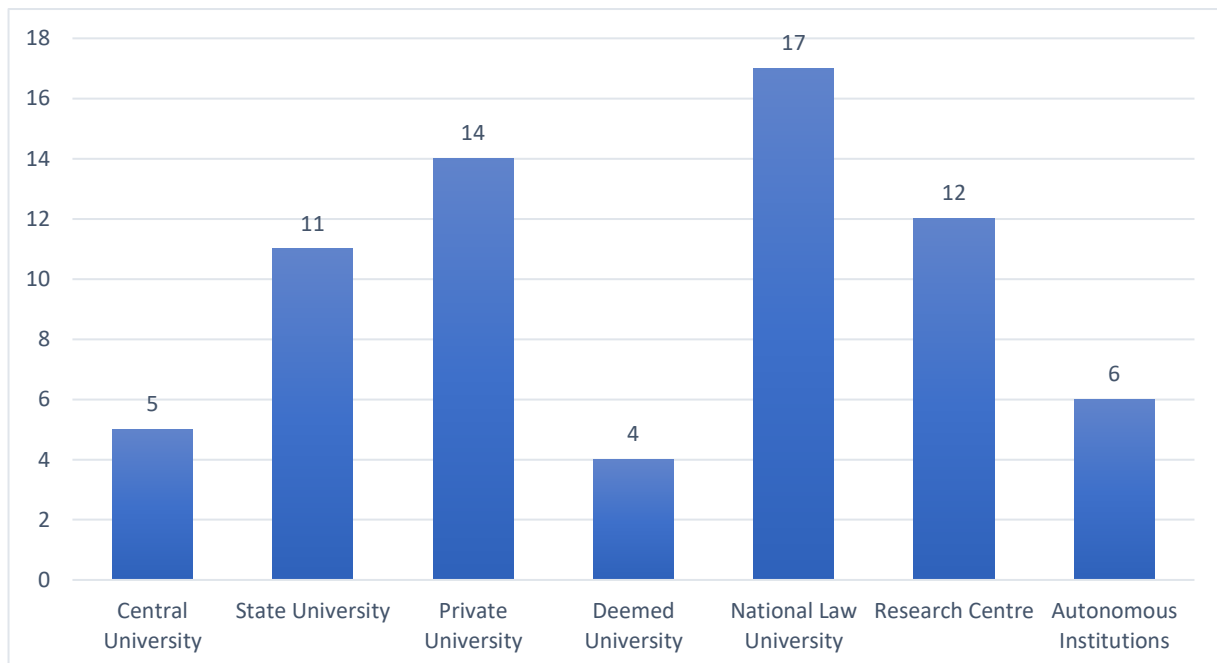


Summary of Desk Research

1. Status of the Institutions Mapped

SIU

The parameters 1 and 2 are analyzed in this section. The convenience sampling was used to collect data from available pool of information. It was ensured that all kinds of institutions are represented adequately. Additionally, it was ensured that all regions of India are adequately represented.





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Figure 2 Institutions mapped by SIU

Table 1 Frequency and Status of Institutions Mapped

Status of Institution	Number
Central University	5
State University	11
Private University	14
Deemed University	4
National Law University	17
Research Centre	12
Autonomous Institutions	6
Total	69

MU

The number of institutions surveyed by Marwadi University is 40.

Status of Institution	Number
Central University	2
State University	20
Private University	14
Deemed University	4
Total	40



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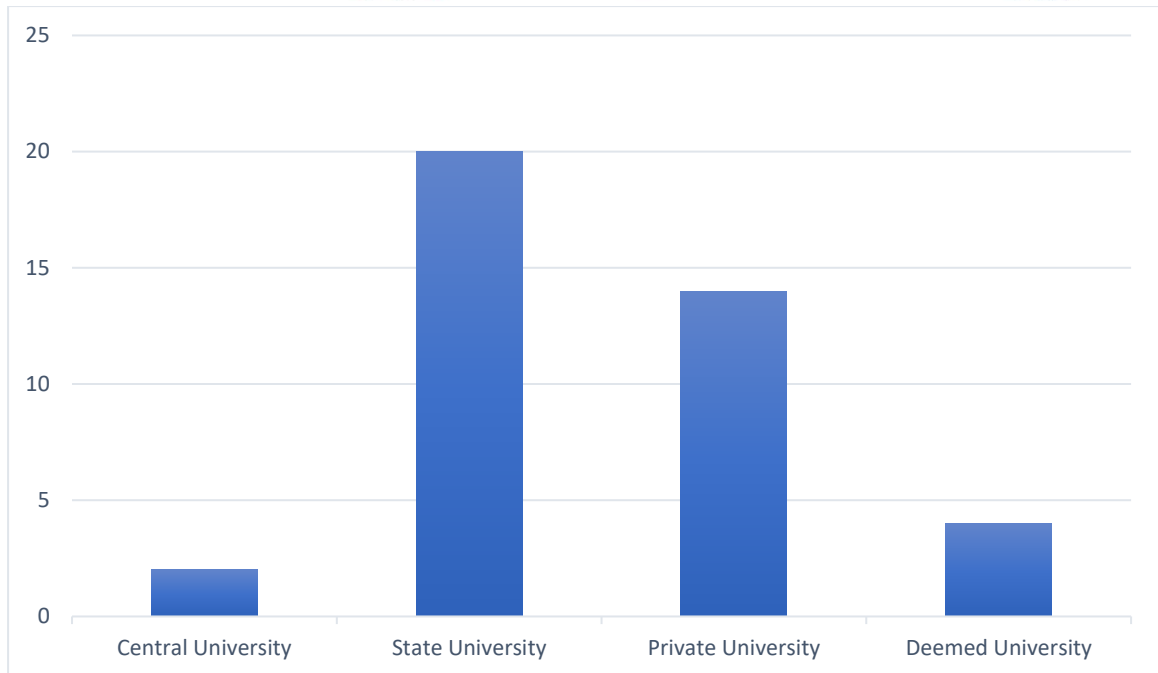


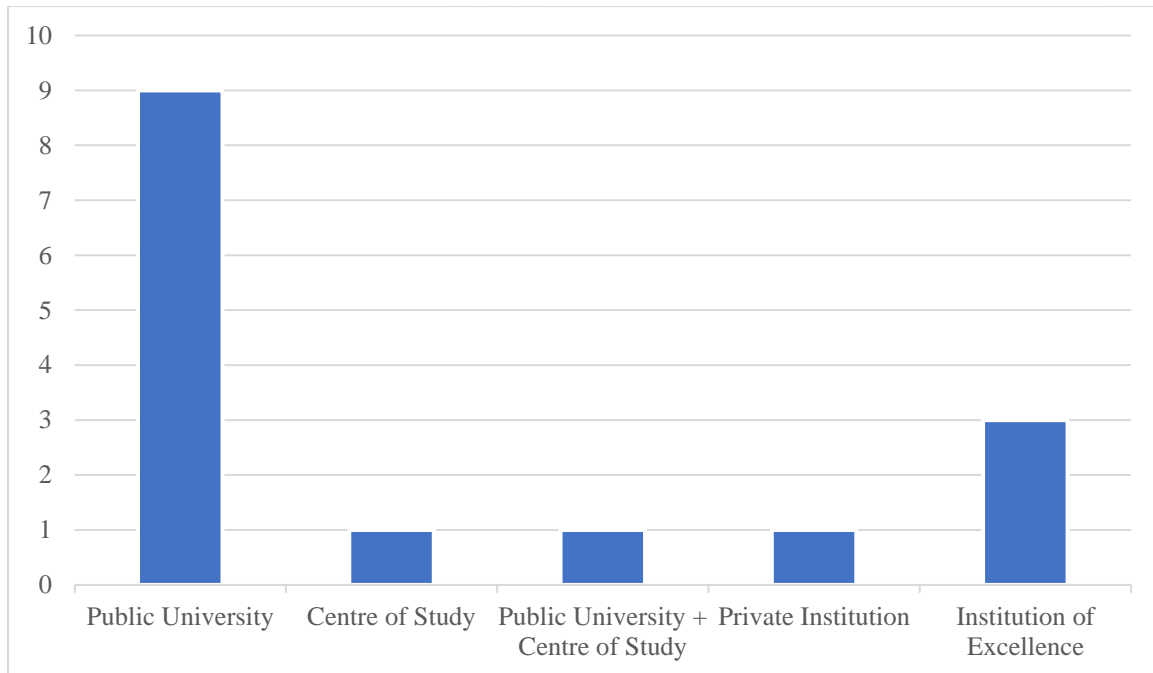
Figure 3 Institutions mapped by MU

IIUM

Status of Institution	Number
Public University	9
Centre of Study	1
Public University + Centre of Study	1
Private Institution	1
Institution of Excellence	3
Total	15

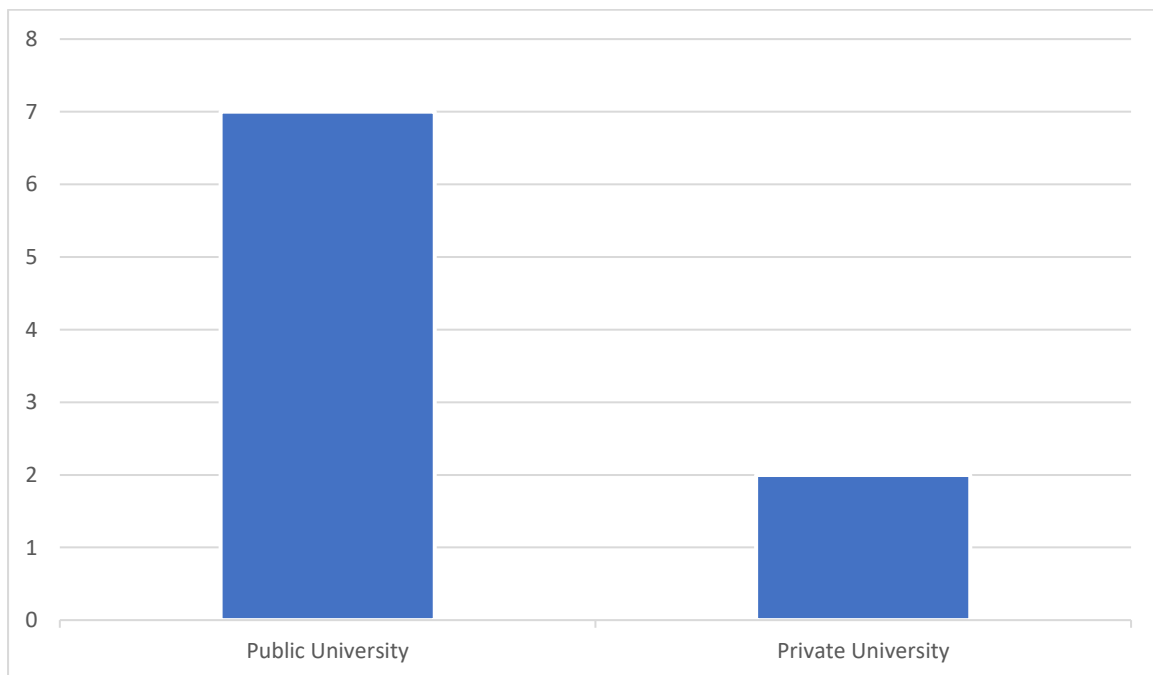


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UUM

Status of Institution	Number
Public University	7
Private University	2
Total	9



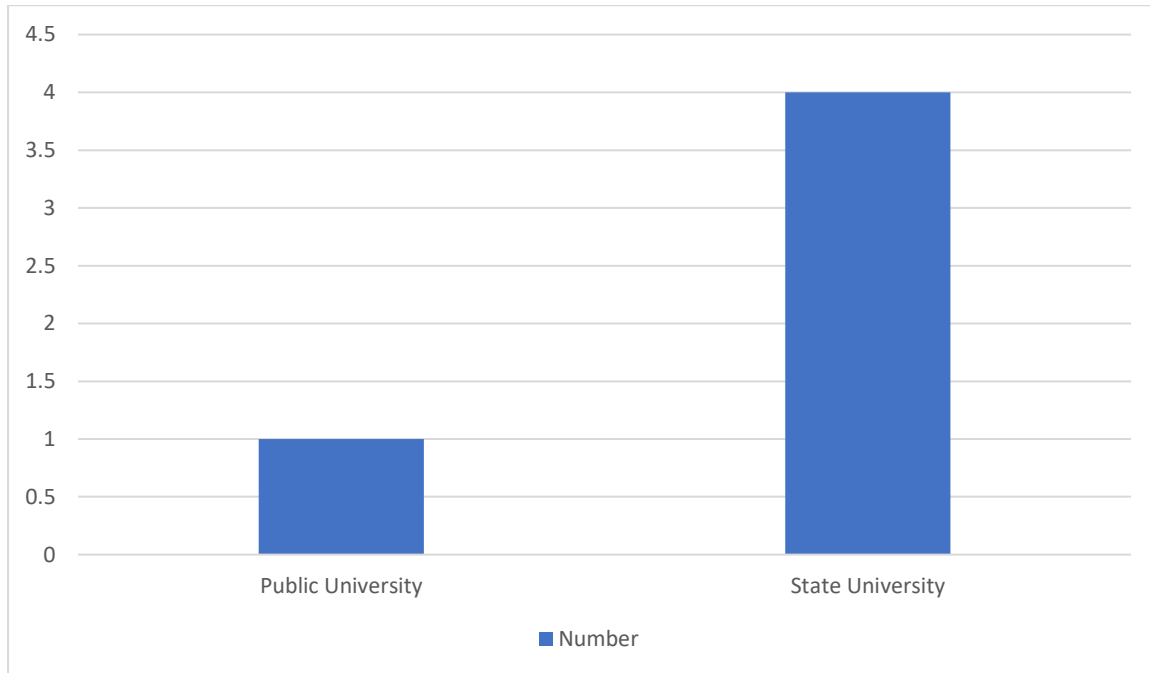


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HU

Status of Institution	Number
Public University	1
State University	4
Total	5

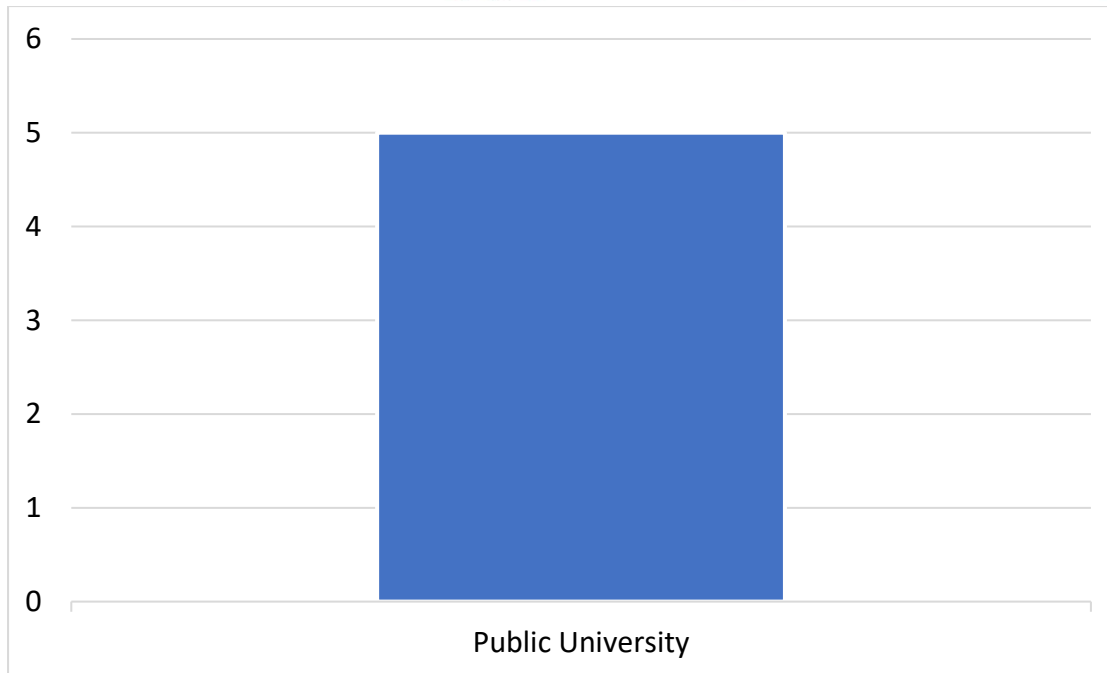


HLU

Status of Institution	Number
Public University	5
Total	5



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2. Justification for the syllabi

SIU

SIU has given the justification for the syllabi of the surveyed courses.

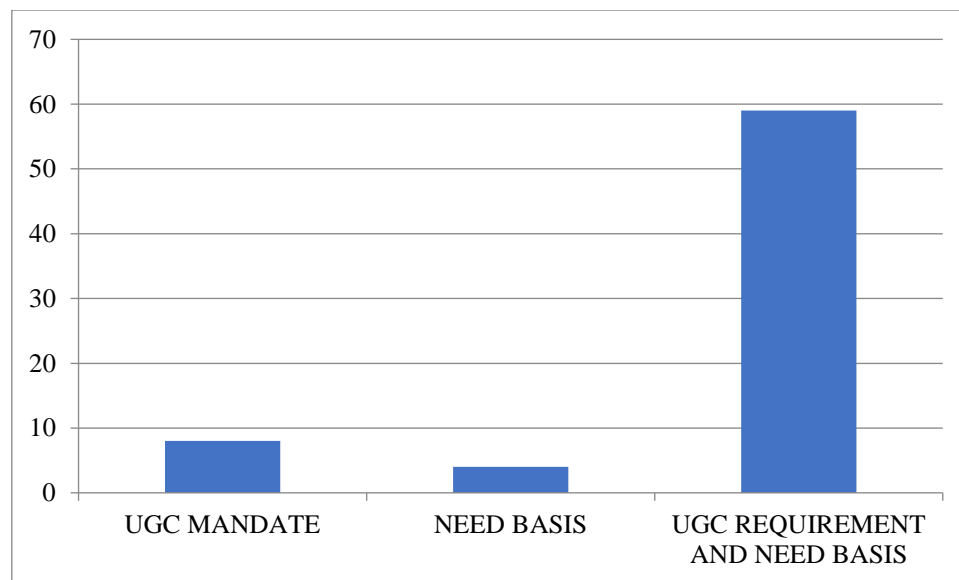


Figure 4 Justification for the syllabi

4= Need Basis

8= UGC Mandate



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59= UGC Requirement and Need Basis

Finding: The parameter 3 is analyzed in this section. It can be observed that most of the institutions have offered courses relating to climate change and environmental law mainly because of UGC mandate. There is no evidence that market-oriented research was done before offering or designing these courses.

3. Title & Level: UG/PG/PG Diploma/Diploma/Certificate Course, etc.

SIU

As per the desk research of SIU, following are the titles and level of the courses offered having direct or indirect relation with climate change policy and law:

Table 2 Title and Level of the Courses

S. No.	Title of the Courses	Level	Number
1.	B.A.LL.B.	UG	25
2.	B.B.A.LL.B.	UG	8
3.	B.Sc.LL.B.	UG	1
4.	BSW LL.B.	UG	1
5.	LL.M. Infrastructure and Business Law	PG	1
6.	LL.M. Environment & Natural Resource Law	PG	1
7.	LL.M. Environmental law, Energy and Climate Change	PG	1
8.	LL.M.	PG	5
9.	LL.M. International Environmental Law	PG	1
10.	LL.M. Environment and Legal Order	PG	3
11.	LL.M. Environmental Law	PG	2
12.	PG Diploma in Environmental law	PG	2
13.	PG Diploma in Environment Management and Sustainable Development	PG	1
14.	MSC Environment Management	PG	1
15.	MSC Biodiversity and Conservation	PG	1
16.	M.Sc. Environment	PG	1
17.	M.Phil. environment management	PG	1
18.	M.Sc. Environment Science	PG	2
19.	B. Tech. Electronics & Computer Engg	UG	1
20.	B.A. Economics	UG	1
21.	B.A. Environment Studies	UG	1
22.	B.Sc. Sustainable Development	UG	1
23.	M. Tech. Environment Engg	PG	1



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24.	M.A. Public Policy	PG	1
25.	M.A. Climate Change and Sustainability Studies	PG	1
26.	M. Tech. Water Resource Engg and Management	PG	1
27.	M. Tech. Renewable Energy Engg and Management	PG	1
28.	M.Sc. Water Science and Governance	PG	1
29.	M.A. Sustainable Development Practice	PG	1
30.	P.G. Diploma in Public Policy & Sustainable Development	PG	1

MU

S. No.	Title of the Courses	Level
1.	Environmental Studies	UG
2.	B.E. - ENV ENGINEERING	UG
3.	B.E. (Environmental Science & Technology)	UG
4.	LL.B.	UG
5.	B.A.LL.B. (Hons)	UG
6.	B.B.A.LL.B. (Hons)	UG
7.	B.Sc. (Environment)	UG
8.	M.Sc. Environmental Science	PG
9.	PG Studies and research in Environmental Science	PG
10.	M.Sc. Geography	PG
11.	M.E. Environmental Engineering	PG
12.	M.E. - Environmental Management	PG
13.	LL.M.	PG
14.	M.Sc. Environmental Science Forestry & Environmental Science	PG
15.	M.Sc. Environmental Science Global Environmental and Climate change	PG
16.	M.Sc. Environmental Science	PG
17.	M.Sc. Environmental Biology programme	PG
18.	MTech. - Environmental Engineering	PG
19.	M. Sc. Climate Change Impacts Management	PG
20.	PG Diploma in Safety, Health & Environment (PGDSHE)	PG



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21.	PG Diploma in Environment Pollution	PG
22.	Ph.D. in Biodiversity and Taxonomy	PG

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S. No.	Title of the Courses	Level
1.	LL.M. in Comparative Environmental Law	PG
2.	LL.M. in International Environmental Law	PG
3.	LL.M. in International Environmental Law	PG
4.	LL.M. in Environmental Law, Maritime Law	PG
5.	LL.M. in Environmental Law & Policy	PG
6.	LL.M. in International Environmental Law: Natural World Issues	PG
7.	LL.M. in International Environmental Law: Human World Issues	PG
8.	LL.M. in International Resources Law	PG
9.	Master in Climate Change (Coursework) 1) Environmental Science 2) Earth Science	PG
10.	Master (By Research) 1) Marine Science 2) Coastal and Marine Management 3) Fisheries	PG
11.	Master of Science (By Research) 1) Sustainability Science (compulsory) 2) Climatic Disaster (Specialization)	PG
12.	Master of Environment	PG
13.	International Graduate Degree (Master in Food Security and Climate Change- Specialized in Climate Sciences)	PG
14.	Master of Science (Biotechnology Engineering MSBTE) specialized in Bioenvironmental Engineering	PG
15.	Master of Science - Environmental Science	PG
16.	Master of Science (Environmental Management Technology)	PG
17.	Master of Science (Environmental Forensic)	PG
18.	Master of Sustainability and Environmental Science	PG

UUM

S. No.	Title of the Courses	Level
1.	Master of Environment/PhD	PG
2.	Master of Environmental Technology Management/PhD	PG
3.	Master of Environmental Engineering	PG



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4.	Bachelor of Environmental Sciences and Technology with Honours	UG
5.	Bachelor of Environmental Management with Honours	UG
6.	Master of Science (Environmental Protection)	PG
7.	Master of Science in Food Security and Climate Change (MS FSCC)	PG
8.	Master in Environmental Science (Land Use and Water Resource Management)	PG
9.	Master in Environmental Management (Development Planning)	PG
10.	Master of Engineering in Energy & Environment	PG
11.	Master in Climate Change (Coursework) - Specialization- Environmental Science, Earth Science	PG
12.	Master of Science (Research Mode) - Specialization - Space Science, Astronautic, Space Management and Policy, Climate Change Science, Climate Change and Social Science, Climate Change Policy, Geospatial Analysis	PG
13.	Doctor of Philosophy (Research Mode) - Specialization - Space Science, Astronautic, Space Management and Policy, Climate Change Science, Climate Change and Social Science, Climate Change Policy, Geospatial Analysis	PG
14.	MSc (Sustainability) - Centre for Global Sustainability Studies	PG
15.	PhD (Sustainability) - Centre for Global Sustainability Studies	PG
16.	Master of Science Environmental Engineering	PG
17.	PhD in Environmental Engineering	PG
18.	Bachelor of Environmental Engineering with honors	UG
19.	Master of Science (By research) Environmental Technology and Management	PG
20.	Bachelor of Technology (Environment) with Honours	UG
21.	Master of Science (Environmental Technology)	PG
22.	Bachelor Of Science (Honours) Environmental Technology	UG
23.	Bachelor in Environmental Health (Hons)	UG
24.	Master in Sustainable Development Management	PG

HU

S. No.	Title of the Courses	Level
1.	Environmental Law (Bachelor)	UG
2.	Law on protection of environment in business (Master)	PG
3.	Environmental Science	UG
4.	Environmental Science (Module: Critical Issues on Environment and Climate change) (Master)	PG
5.	Environment and Resource Management	PG



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(Module: Climate Change and Responses) (Master)

HLU

S. No.	Title of the Courses	Level
1.	Master of Climate Change and Development	PG
2.	Master of Climate Change	PG
3.	Bachelor of Climate Change and Sustainable Development	UG
4.	Master in Climate Change and Sustainable Tropical Agriculture	PG
5.	Master in Climate Change and Delta Management	PG
6.	Master in Climate Change and Integrated Coastal Fisheries Management	PG
7.	LLM	PG

Finding: The parameter 4 is analyzed in this section. Highest numbers of courses are being offered at Under Graduate level. It can be said that there is lack of specialized courses on climate change and environmental law at higher degree levels. It can be analysed through deeper field research that whether there is no demand for such courses or there is failure on part of institutions to deliver to such demand. It is found that mere lip service is being paid to the UGC mandate to run courses relating to environment protection at UG levels.

4. Broad Disciplines

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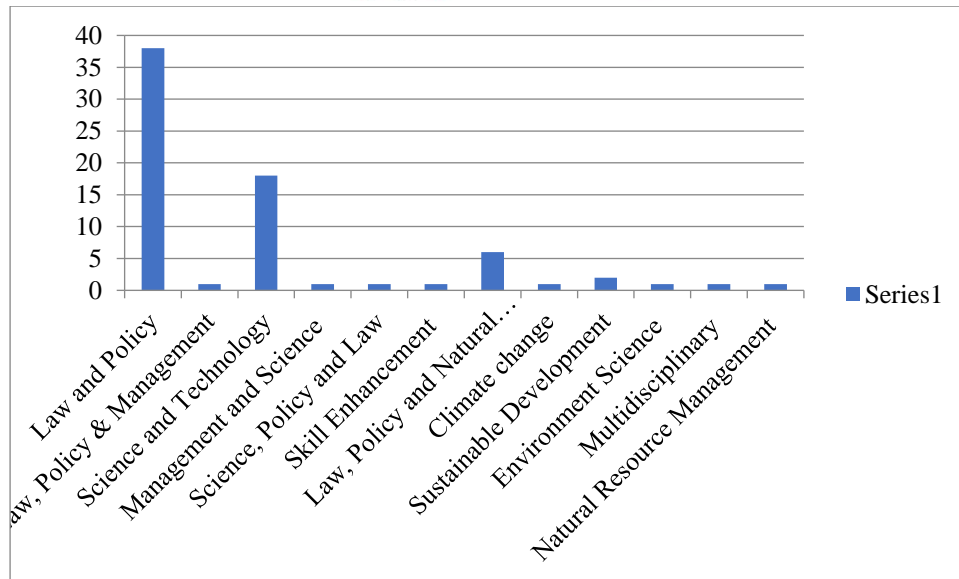


Figure 5 Broad Disciplines

Table 3 Broad Disciplines

Law and Policy	38
Law, Policy & Management	1
Science and Technology	18
Management and Science	2
Science, Policy and Law	1
Skill Enhancement	1
Law, Policy and Natural Resource Management	6
Climate change	1
Sustainable Development	2
Environment Science	1
Multidisciplinary	1
Natural Resource Management	1

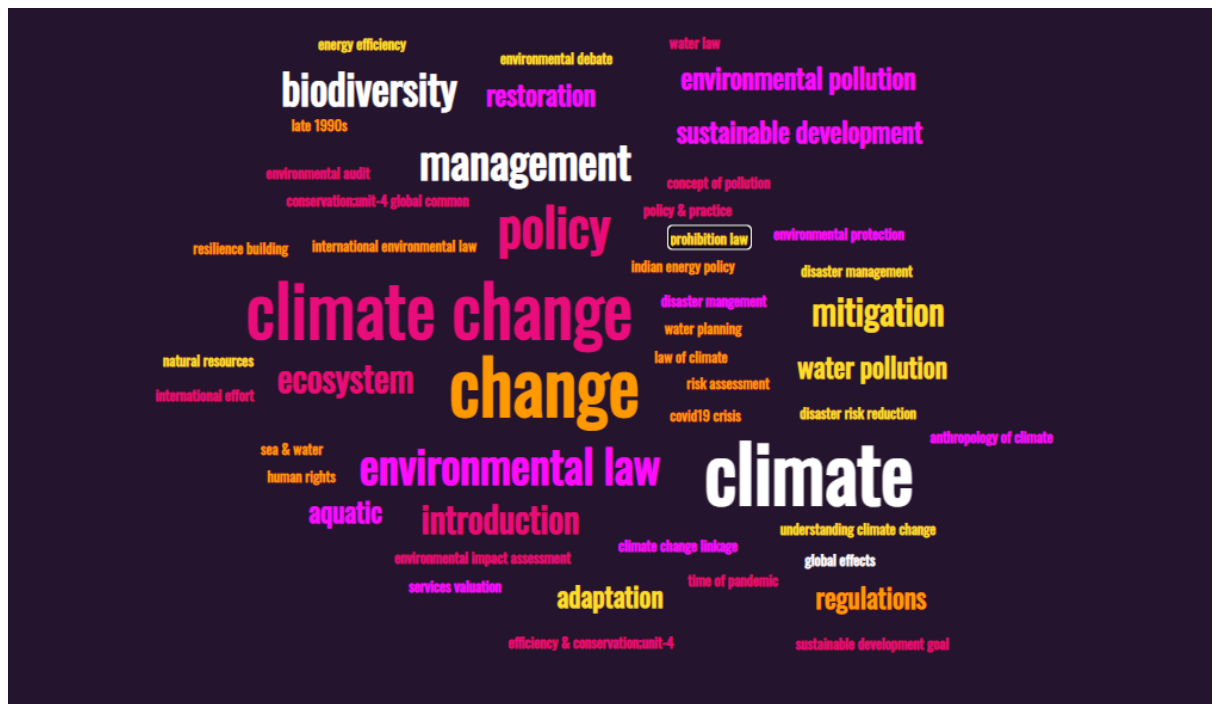
Finding: The parameter 5 is analyzed in this section. Most number of courses falls under the broad discipline of law and policy. It needs to be highlighted that only one course belongs to the broad discipline of climate change. The broad discipline of law and policy dominates the courses analyzed.



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Word cloud created with the help of “WordCloud Generator by MonkeyLearn”



Words with more than once occurrence are tabulated below

Word	Frequency
Climate	24
Climate change	17
Environmental law	5
Bio Diversity	4
Policy	7
Management	5
Environmental Pollution	2
Water pollution	2
Mitigation	3
Ecosystem	3
Sustainable Development	2

It is important to point out that the phrase “International Environmental Law occurs only once

MU

No specific comments.

IUM

No specific comments.

UUM



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Broad Discipline	Frequency
Science	1
Engineering, Technology and Management	1
Engineering	3
Agriculture, Natural Resources	1
Policy, Management, Science	1
Environmental Protection	2
Environmental Technology	2
Science, Management	2
Sustainability	1

HU

No specific comments.

HLU

Broad Discipline	Frequency
Interdisciplinary sciences: technology, engineering, natural resource management, infrastructure management, economics, sociology, policy, law	2
Interdisciplinary sciences: technology, engineering, natural resource management, economics, policy and law	1
Policy, management, engineering, science, technology	1
Law	1

Finding:

Most of the courses address climate change in a specific module or as part of a specific module. In the keyword analysis the word “climate” appears for more number of times than the phrase “climate change”. Thus, there is definitely a scope for designing a course exclusively for “climate change” which can be multi-disciplinary in nature given the multi-pronged nature of the issue.



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5. Percentage wise distribution between science, technology, climate change, policy and law

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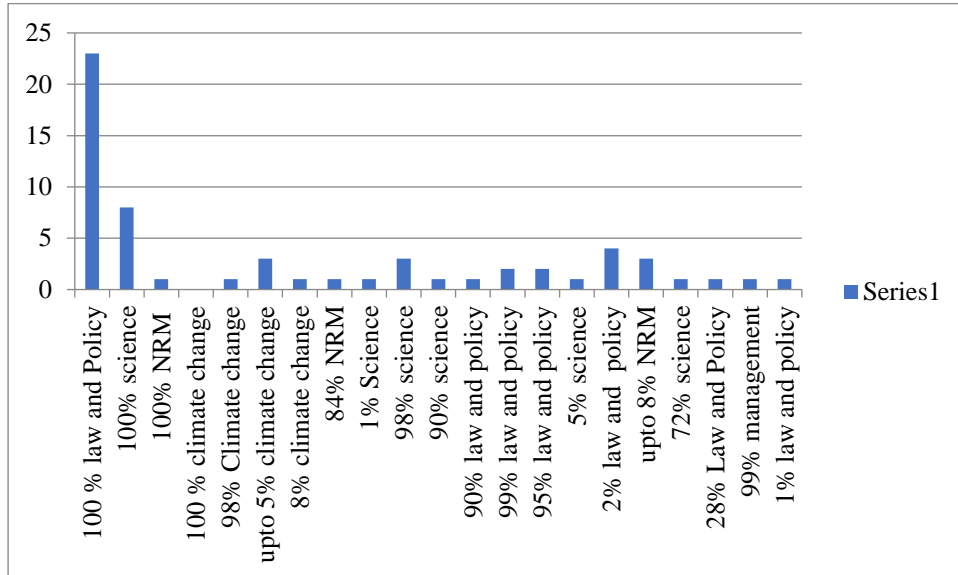


Figure 6 Percentage wise distribution between science, technology, climate change, policy and law

Table 4 Percentage wise distribution between science, technology, climate change, policy and law

Percentage Wise Distribution	Number of Courses
100 % law and Policy	24
100% science	8
100% NRM	1
100 % climate change	0
98% Climate change	1
upto 5% climate change	3
8% climate change	1
84% NRM (New Resource Management)	1
1% Science	1
98% science	3



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90% science	1
90% law and policy	1
99% law and policy	2
95% law and policy	2
5% science	1
2% law and policy	4
upto 8% NRM	3
72% science	1
28% Law and Policy	1
99% management	1
1% law and policy	1

Finding: The parameter 6 is analyzed in this section. As earlier most of the courses fall under the law and policy category. There is no course which deals exclusively with climate change. Also, no course is found which includes law and policy, climate change, science and technology in adequate proportions. There is complete absence of inter disciplinary or multi-disciplinary courses in the field of climate change and environmental law.

MU

No specific comments.

IIUM

No specific comments.

UUM

Percentage Wise Distribution	Number of Courses
50 % Science	1
30% Climate Change	1
10 % Policy and Law	2
10% Management	1
60% Science and Management	1
40 % Technology	1



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20% Science	1
60% Climate Change	1
20 % Policy and Law	1
50% Science, Technology	1
40% Climate Change	1

HU

No specific comments.

HLU

No specific comments.

6. Courses, Subjects, Modules dealing with Climate Change

SIU

The parameter 7 and 8 are analyzed in this section. The bifurcation of UG and PG courses having direct and indirect references of climate change in terms of course title, broad discipline, subject, module and details of module are given in the Tables below:

Table 5 Details of Modules for Undergraduate Courses

S. No.	Title of the Course	Broad Discipline	Subject	Module(s)	Details of Module(s)
1.	B.A. LL.B. & B.B.A. LL.B.; Semester VIII	Law & Policy	Law and Development (Optional	Unit-V Environment, Law and	B. Climate Change and Food Security



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			Paper)	Developme nt	
2.	B. Tech. in Electronics and Computer Engineering; Semester-V	Science	Environmental Science	Unit-1	Impacts, causes, effects, control measures, international, legal and regulatory frameworks of: Climate Change, Ozone depletion, Air pollution, Water pollution, Noise pollution, Soil/ land degradation/ pollution
3.	B.A. in Economics	Law & Policy	Interdisciplin ary studies in Climate Studies		Introduction to Climate Change Economics: Understand climate change through an economic lens
4.	B.A. in Environment studies	Law & Policy	Climate Change	Semester-1	This course explores the issues of climate change and focuses on the various factors that determine the climate of our planet. We distinguish between natural variability of our climate and variations in climate due to anthropogenic causes. Additionally, climate change related policies are studied and evaluated.
5.	B.A. (Hons.) Environmental Studies; Semester-I, IV	Law & Policy	Introduction to Climate Change and Policy; Post- capitalism and Climate Change		Introduction to Climate Change and Policy; Post- capitalism and Climate Change
6.	B.A. LL.B., Semester-IX	Law & Policy	Biodiversity law	UNIT 7: Contempora ry Protection and Prohibition of laws of	7.4 Climate change and protection of Biodiversity



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				Biodiversity in India	
7.	B.A. LL.B.; Semester-V, VI, VIII	Law & Policy	Environment al Law; Energy Laws; International Environment al Law	Unit- 5EPA,1986; Unit-9 Internationa l Regime; Unit-7 Energy Efficiency & Conservatio n; Unit-4 Global Commons	Judiciary: complex problems in administration of environmental justice, Climate change? Legal control, permissible and impermissible noise. Stockholm conference, Greenhouse effect and ozone depletion, Rio conference, Bio-diversity, U.N. declaration on right to development, conference on Wetlands, Climate Change. This unit will examine the incentives for energy efficiency and conservation included in the legislations to address climate change and bridging the gap between power consumption and power availability. This unit will examine the incentives for energy efficiency and conservation included in the legislations to address climate change and bridging the gap between power consumption and power availability.
8.	B.A./B.B.A.LL.B.	Law & Policy	Environment al Law	Internationa l Developme nt & their Impact on Indian Environmen tal Prudence	4.3 Rio Declaration (Agenda 21, Convention on Climate Change and Convention on Bio- diversity); 4.5 Kyoto Protocol; 4.10 Further Developments relating to Climate Change
9.	BA. LL.B. Hons.,	Law &	Environment	Module-VI	Sustainability and



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	Semester-IV	Policy	al Studies	Environmen tal Policies & Practices	sustainable development. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.
10.	LLM, Environmental Law	Law & Policy		Module-IV Internationa l Concern for Environmen t Protection. There are total 11 Modules and out of which one specific Module dealing with Climate Change.	UNFCC, United Nations Conference on Climate Change, Paris 2015
11.	BA/BCom/BBA/BS c/BSW LL.B. (Hons.)	Law & Policy	Environment al Science	Ecosystem, Natural Resources, Biodiversity And Its Conservatio n,	Ecosystem, Natural Resources, Biodiversity And Its Conservation, Environmental Pollution, Waste Management, Environmental Impact Assessment,



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				Environmental Pollution, Waste Management, Environmental Impact Assessment, Environmental Audit, Introduction To Climate Change, Sustainable Development, Environmental Laws, Acts, Rules And Regulations.	Environmental Audit, Introduction To Climate Change, Sustainable Development, Environmental Laws, Acts, Rules And Regulations.
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Table 6 Details of Modules for Postgraduate Courses

S. No.	Title of the Course	Broad Discipline	Subject	Module(s)	Details of Module(s)
1.	LL.M.; Semester-III	Law & Policy	Environment Law	UNIT – III: Climate Change, Sea & Water Law	A. Climate Change Law: The United Nations Framework Convention on Climate Change, 1992 & Kyoto Protocol, 1997
2.	LL.M.; Semester-II	Law & Policy	International Environmental Law	Week 6 and 7 Law of Climate Change	An overview of Climate change science, International responses to Climate Change consisting of The UNFCCC, The Kyoto Protocol, Paris Agreement. The discussion will also focus on the proceedings and decisions of various COPs including the future climate regime and different options. The role of SAARC in climate change



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					negotiations will be undertaken.
3.	LL.M.; Semester-III	Law & Policy	International Human Rights Law	Week 9 Understanding Climate Change and Human Rights	Understanding Climate Change and Human Rights: General Framework of Climate Change and Human Rights, Relationship between Climate Change and Interdependent Human Rights. Human Rights Implications of Climate Change: Global Warming and Environmental Protection, Human Rights Perspectives on Climate Change, Human Rights-Based Approach [HRBA] to Climate Change, and Progressive Recognition of Human Rights Obligations Towards Environment & Climate Change. The Role of States: Obligations (Procedural & Substantive), Limits and Potentialities of the Human Rights Protection System. Implementation Assessment: The Missing Links between Harmony and Invention, Human Rights Mainstreaming in Climate Policy and Climate Justice [Greening Human Rights, Combatting Climate Change] and Summation.
4.	PG Diploma in Environmental Law (पर्यावरण विधि स्नातकोत्तर पत्रौपाधि); Semester-I; Unit-II	Law & Policy	International Environmental Law	Unit-II International efforts and environmental protection (अंतराष्ट्रीय प्रयास एवं पर्यावरण संरक्षण)	3. UNFCCC; 4. Kyoto Protocol
5.	LLM	Law & Policy	Environmental Law,	Unit V: Environmen	A. Policy Instruments: The National Action Plan on



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			Semester-III	tal Governance	Climate Change, 2008
6.	M.A. in Environmental Studies	Law & Policy	Paper-19 Global environmental issues	International Conventions and Protocols	The treaties and conventions guiding the use of resources, disposal of waste and international cooperation in the fields of conservation and sustainability will be studied. Students will be introduced to a range of international protocols such as The Kyoto Protocol to the UN Convention on Climate Change, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, The Convention on Biological Diversity, Convention on Long Range Transboundary Air Pollution, The Montreal Protocol on Substances That Deplete the Ozone Layer and the United Nations Convention to Combat Desertification.
7.	M.Sc. (Environment Management); Semester-I & II	Science	Fundamentals of Ecology, Biodiversity and Sustainable Development (Unit-III); Fundamentals of Geoinformatics (Unit-IV); Basic and Applied Environmental	Geoinformatics in Environment Management; Aquatic and Aeromicrobiology; Aquatic biodiversity, ecosystem services and restoration; Watershed Planning and Management; Urban	Projected impact of climate change on India; temperature, rainfall, forests, agriculture, water resources; India's response to climate change; National Action Plan on climate change; India's actions vis-a-vis international programmes (UNFCCC, CDM and Kyoto Protocol, REDD+, Copenhagen Accord, etc.).



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			Microbiology (Unit-II); Geospatial Watershed Management (Unit-IV); Essentials of Urban Forestry and Biodiversity (Unit-II); Technology for Environment Management (Unit-IV); Ecosystem Management and Restoration (Unit-IV); Climate change mitigation & adaptation	biodiversity; Application of ecological restoration techniques; Climate Change Policy-Mitigation; Climate Change Policy – Adaptation.	
8.	M. Sc. (Biodiversity & Conservation)	Science	Biodiversity Conservation and Climate change; Climate change mitigation & adaptation	Climate and Climate Change; Climate Change Policy-Mitigation; Climate Change Policy – Adaptation	Intergovernmental Panel on Climate Change (IPCC): Definition of Impacts, Adaptation and Mitigation; Climate Change Policy of India; 1992, Kyoto Protocol and Emission Trading, Post Kyoto World: Problems and Prospects. Constitutional Provisions relating to Environment and Conservation Policies,



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					Evolution of Environmental Rights through judicial process, Human Rights and Bio-diversity Protection interface.
9.	LL.M. in Environment and Legal order; Semester-III	Law & Policy	Climate Change and Law	Unit-1 to V	Issues and concerns of India and Climate Change; National Action Plan on Climate Change; State Action Plan on Climate Change; Gujarat State Action Plan on Climate Change
10.	M.Phil. (Env. Management); Semester-I	Management	Environmental Management Systems and Environmental Legislation	Unit-V Legislation	Environmental Management Systems and Environmental Legislation Overview of Environmental laws in India. The Water (Prevention and Control of Pollution) Act, 1974; The Water (Prevention and Control of Pollution) CESS Act, 1977; The Air (Prevention and Control of Pollution) Act, 1981; The Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 1989; Bio-Medical Waste (Management and Handling) Rules, 1998. Role of Judiciary in Environmental Management.
11.	M.Sc. (Env.Sc.)	Science	Social Forestry and Public Participation	Unit-II Environmental laws	Environmental Legislation in India. The Water (Prevention and Control Pollution Act, 1974), The Air (Prevention and Control Pollution Act, 1981), The Environment (Protection Act), 1986, The Biological Diversity Act, 2002.
12.	M.Sc. (Environmental Science); Semester-VI	Science	Environmental Management	Unit-VI Climate Change	6.1 Introduction to climate change, global warming and its effects. 6.2 Greenhouse substances: Sources & effects. 6.3 Geospatial technology-



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					Remote Sensing & GIS. 6.4 Role of IPCC in climate change monitoring; Kyoto Protocol, Montreal Protocol, Earth Summit & UN Convention on Climate Change
13.	LL.M. (Group- VI) Environment and Legal Order	Law & Policy	Environment and Development: Law and Policy; Resource Management; Environment and International Legal Order	Paper-I to VI	General Laws on Environmental Concern; Environmental Federalism and International Order 2. Sustainable Development. 3. International Concern for Environment Protection
14.	LL.M. (Environmental Law) Group D	Law & Policy	Principles of Environmental Law-I & II	Paper-I & II	Constitutional Provisions for protection of environment ; Directive Principles relevant to environment, Article 48A & Article 51g, Remedies against environment protection under Article 32 and Expansion of Article 21. Environmental Protection : The Judicial approach, PIL & Environment Protection, Precautionary Principles and Polluter pays principle, Traditional Rule of Locus standi, Class Action or Citizen's Rule. Environmental Protection Law and its Implementation, Legal Regime for pollution Control : Central Pollution Control Board and State Pollution Control Board. environment Impact Assessment, Public participation and Access to



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					Information.
15.	LL.M.	Law & Policy	Climate change laws: Policy and Management	Modules 1 to 6	
16.	LL.M. (Public Law)	Law & Policy	Environmental Law (Compulsory)	Module2: Environmental Debates in India	Technology and Environment: Climate Change, Urban Ecology and Biotechnology.
17.	LLM in Environmental Law, Energy and Climate Change	Law & Policy	Adaptation to Climate Change Environmental Law in National Context	Overall course	Interface between Environmental Law, Energy Laws and Climate Change: National Laws and Policies, institutional frameworks resulting in effective implementation. Financing in the climate sector, technological innovations, alternate energy regimes, urban green living. Introduction and current global and national perspectives explained through case studies and on ground scenarios. Field Study - mandatory study tour to a conservation site which demonstrates implementation of laws and policies, best practices & sustainable living.
18.	M. Tech. in Environmental Engineering, Semester-III	Science	Earth and Environment	The complete elective	Climate change, reasons for climate change
19.	M.A. Public Policy; Semester-II	Law & Policy	Skill Enhancement-II	Unit-5 Ecosystem-services valuation	General issues on Environmental ecology, Bio-diversity & climate change. General Science.
20.	M.Tech (Water Resources Engineering and Management);	Science	Water planning and management	Reforms in the Water Planning and	Impact of climate change on available water potential; Customary and general principles of International Law



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	Semester- I, III		nt; Water Laws	Managemen t Processes – (Late 1990s onwards); Water Pollution	National Laws: India: Water (Prevention and Control of Pollution) Act, 1974; Environment (Protection) Act, 1986 Bangladesh: Water Act, 2013.
21.	M.Tech (Renewable Energy Engineering and Management); Semester-I,II	Science	Convention al energy and environme ntal implication s; Renewable energy policy and regulations	Unit-11 Energy and Climate Change Linkages; Unit- 2 Indian energy Policy	Energy and the climate change dimension, energy access, climate change and equity, international response to climate change, India’s responses to climate change. ; An Introduction to Indian Energy Policy, Electricity Act, National Tariff Policy, National Action Plan on Climate Change , National RE Policy, National Solar Missions, Wind Power, Regulatory Commissions, Grid Code, Green Corridor, Solar Parks, Hybrid Parks, Repowering, Offshore, Scheduling and Forecasting, Electricity Trading, Open Access, RPO
22.	M.Sc. (Water Science and Governance); Semester-III	Science	Water Law	Water Pollution	Customary and general principles of International Law National Laws: India: Water (Prevention and Control of Pollution) Act, 1974; Environment (Protection) Act, 1986 Bangladesh: Water Act, 2013.
23.	PG Diploma (Public Policy and Sustainable Development)	Law & Policy	Governanc e and Law	Module 5	Evolution of environmental laws in India – Role of Judiciary Constitutional provisions – Overview of laws and institutions Role of judiciary in policy making; general principles Public participation in environmental decision making



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24.	Post Graduate Diploma in Environmental Law	Law & Policy		Course 3: International Environmental Law	Module V: Common Concerns: Ozone and Climate Change
25.	M.Sc. (Environmental Science)	Science	Biodiversity Types, Concept and Conservation	Unit II: Biodiversity	values, Biodiversity status: National status and Global status, hotspot; threatened species, IUCN Red list, endangered species, vulnerable species, rare species, extinct species and endemic species. Climate change, induced losses. Common flora and fauna in India- Aquatic: phytoplankton, Zooplankton and macrophytes. Terrestrial: Forests; Endangered and threatened species.
26.	M.Tech.(Energy Studies)	Science	Hydrogen Energy	Modules 1 to 5	It covers climate change in terms of hydrogen energy systems.
27.	M.Tech.(Energy & Env Technologies and Management)	Science	Energy and Environment; Carbon Audit and Management; Carbon Capture and Storage; Environmental Economics	Module 9: Global effects and climate change	Greenhouse gases, Ozone depletion concepts, Effects on oceans
28.	PG Course in Climate Change And Water Bodies	Science	AH-580: Climate Change And Water Bodies	Whole subject	Natural eco-systems, autotrophs, heterotrophs, energy flows, pre-industrial humanity; efficiency of photosynthesis and ecosystems like forests, crops, respiration, combustion and other oxidation processes, biomethanation; History of climate change,



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					greenhouse gas effect, anthropogenic climate change, role of different gases, global climatic problems, integrated assessment model, impacts and adaptation, uncertainties, precautionary principle; Biological and physico-chemical methods for carbon sequestration, CO ₂ capture from large point sources, pre-, post- and oxy-combustion technology, transport, storage and monitoring, feasibility, economics and public perceptions; Water resources and green house gas emissions, mitigation measures and adaptation to climate change; Kyoto protocol, UNFCCC, IPCC, geopolitics of GHG control, CDM and other emission trading mechanisms, non-CO ₂ GHGs, relevance for India, procedure for registration for CDM projects and its benefit; Case studies.
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MU

No distinction given.

IIUM

S. No.	Title of the Course	Details of Module(s)
1.	Master in Climate Change (Coursework)	1)Environmental Science 2) Earth Science
2.	Master (By Research)	1) Marine Science 2) Coastal and Marine Management 3) Fisheries
3.	Master of Science (By Research)	1)Sustainability Science (compulsory) 2)Climatic Disaster (Specialization)
4.	Master of Environment	[Core course]: Environmental Law/ Env. Pollution and Treatment Technology/ Man & Sustainable Development/ Env. Planning & Management/ Economy



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		& Env. Sustainability./ Env. Impact Assessment Technique [Elective course]: Urban Climate & Air Pollution/ Land Development & Environment
5.	International Graduate Degree (Master in Food Security and Climate Change- Specialized in Climate Sciences)	Among Core course: Changing Climate and Its Impacts On Natural Resources, Agriculture and Food Security & Impact Assessment and Evaluation of Projects and Policies Core Course Specialization: Climate Risk Management & Food Security/ Climate Change, Vulnerability and Adaptation/ Dynamics of Climate Change and Environment/ Environmental Communication
6.	Master of Science (Biotechnology Engineering MSBTE) specialized in Bioenvironmental Engineering	Courses: Environmental Engineering Management/ Advanced Air Pollution Control Technology/ Biofuel & Bioenergy/
7.	Master of Science	Environmental Science
8.	Master of Science (Environmental Management Technology)	[Courses]: Environmental Management and Planning (consist 4 components: 1)Environmental Management System 2)Environmental. Economics 3)Environmental Law 4)Geographic Information System- GIS) Environment Impact Assessment
9.	Master of Science	(Environmental Forensic)
10.	Master of Sustainability and Environmental Science	Core Course]: 1)Sustainability Management & Policy 2)Intro & Exercises to Env. Sciences [Elective Course]: 1)Simulation of Env. Policy 2)Tropical Climate and Global Mansoon 3)Low Carbon Cities, 4)Environmental Impact Assessment

UUM

No distinction given.

HU

No distinction given.

HLU

S. No.	Title of the Course	Broad Discipline	Details of Module(s)
1.	Master of Climate Change and Development	Interdisciplinary sciences: technology, engineering,	Policy, Law, Institutions on Climate Change (2 credits out 64 credits of



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		natural resource management, infrastructure management, economics, sociology, policy, law	the program)
2.	Master of Climate Change	Interdisciplinary sciences: technology, engineering, natural resource management, infrastructure management, policy, law	Climate Change Policy for Development
3.	Bachelor of Climate Change and Sustainable Development	Interdisciplinary sciences: technology, engineering, natural resource management, economics, policy and law	Basic Law (2 credits); Law on Environmental Protection (2 credits); International Conventions on Anti-Climate Changes (2 credits) and Policy on Anti-Climate Change for Sustainable Development (2 credits)
4.	Master in Climate Change and Sustainable Tropical Agriculture Master in Climate Change and Delta Management; Master in Climate Change and Integrated Coastal Fisheries Management	Policy, management, engineering, science, technology	No
5.	LLM	Law	Law on environmental protection in business; International environmental law

7. Prescribed Pedagogy and Assessment

SIU

The parameters 9 and 11 are analyzed in this section.



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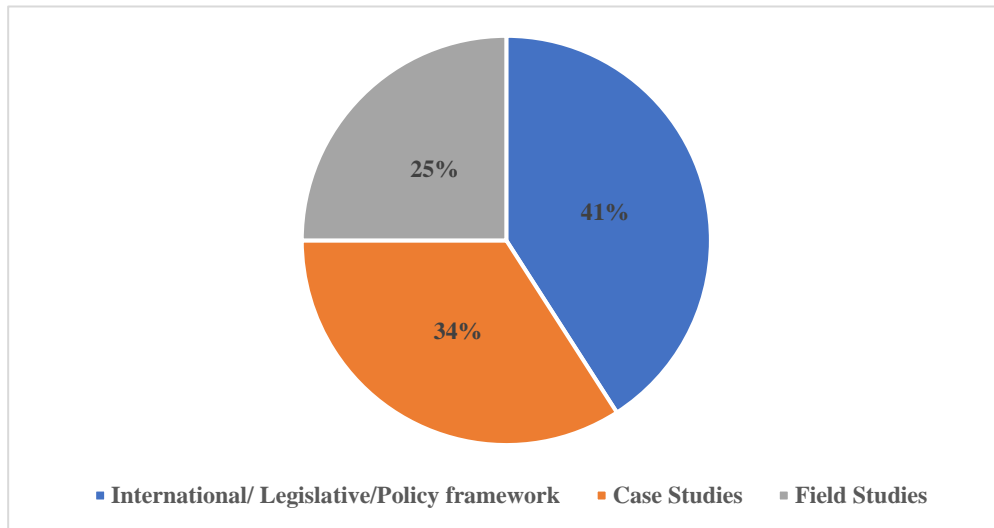


Figure 7 International and regional conventions, national legislations and policy frameworks in Courses

Majority of the institutions include international and regional conventions, national legislations and policy frameworks in their course curricula. The marks distribution remains 25% and 75% in internal and external examinations respectively. The maximum marks vary in different courses such as 100, 60, 50 and 40 marks.

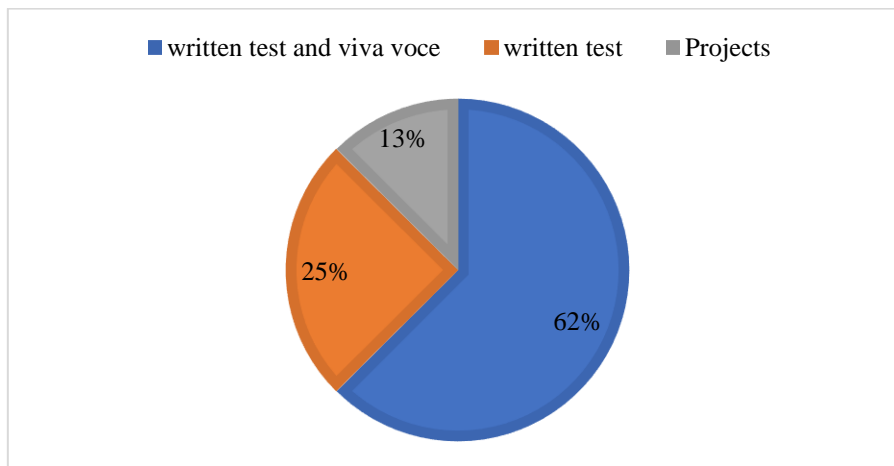


Figure 8 Assessment

Table 7 Assessment

written test and viva voce	5
written test	2
Projects	1



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Finding: The mostly followed mechanism of evaluation is a written test coupled with viva voce. It highlights the gap of lack of skill-oriented courses and also that even now traditional methods of evaluation are being followed. There is great scope to implement innovative evaluation methods which can test the theoretical as well as practical knowledge of the students.

MU

No specific comments.

IIUM

No specific comments.

UUM

No specific comments.

HU

No specific comments.

HLU

Lecture and seminar (both online and offline); class participation and final exam (seating exam or take home exam or essay)	5
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8. Pedagogy on inclusion of clinical or experiential learning

SIU



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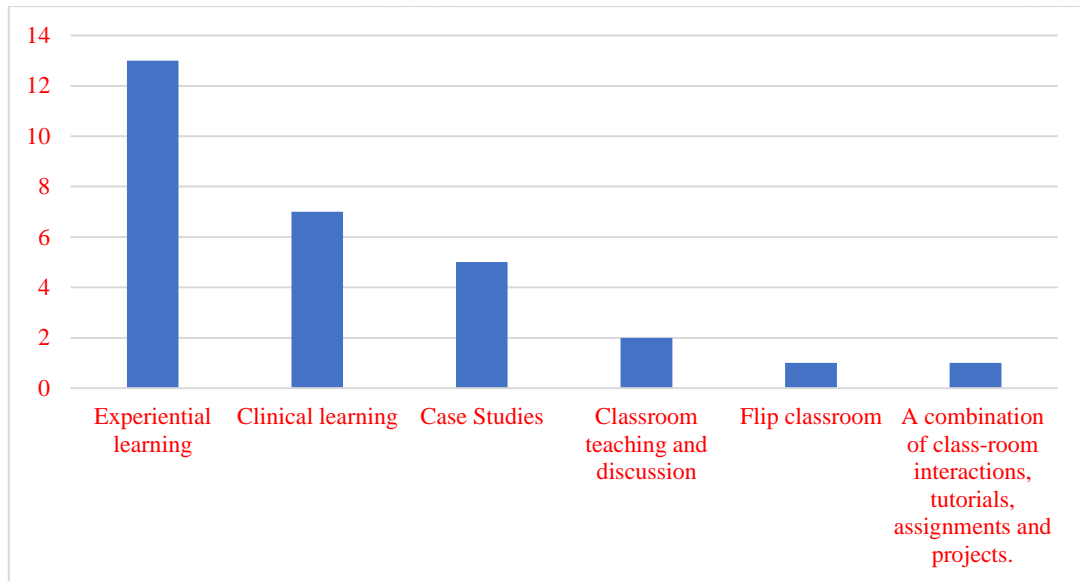


Figure 9 Pedagogy

Table 8 Pedagogy

Experiential learning	13
Clinical learning	7
Case Studies	5
Classroom teaching and discussion	2
Flip classroom	1
A combination of class-room interactions, tutorials, assignments and projects.	1
Classroom lectures, case studies, field visits, quizzes, term papers, assignments and tutorials, a large number of guest lectures by practitioners and experts, seminars and discussion forums, and role play.	1

Finding: The parameter 10 is analyzed in this section. Most of the descriptions of the courses omit to state the pedagogy to be used. However, it is a positive finding that many courses explicitly mention experiential learning, clinical lawyering, use of case studies, field visits. This clearly shows greater acceptability recognition and scope of the use of innovative pedagogy in courses directly or indirectly relating to climate change policy and law.

MU

No specific comments.



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IIUM

No specific comments.

UUM

No specific comments.

HU

No specific comments.

HLU

Studying and experiencing in an international academic environment, experience real life, study and practice in Japan.	1
Interdisciplinary fieldwork	2
Formal training and practical experience, combined with field trips	1
Formal training and practical experience	1

9. Weightage of knowledge, values and skills and dimensions covered

SIU

The parameter 12 is analyzed in this section.

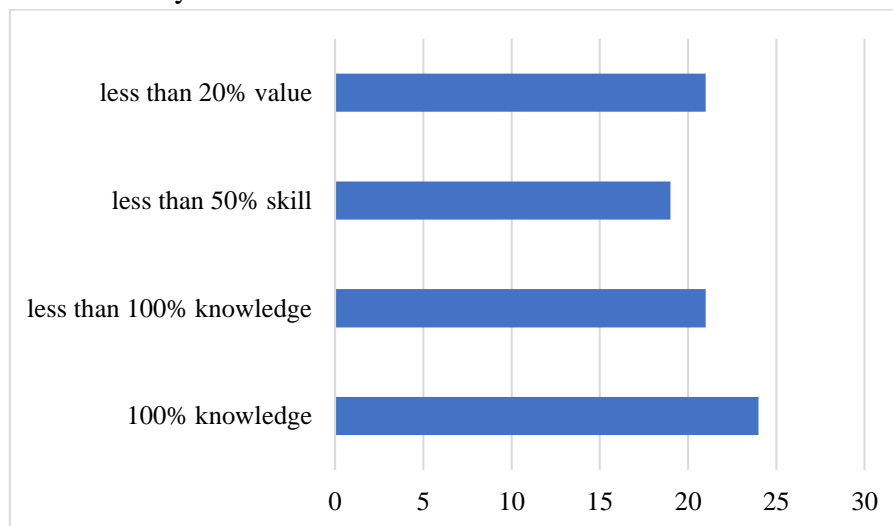


Figure 10 Weightage of knowledge, values and skills

100% knowledge	24
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less than 100% knowledge	21
less than 50% skill	19
less than 20% value	21

The seven dimensions were taken into consideration which are graphically represented as follows:

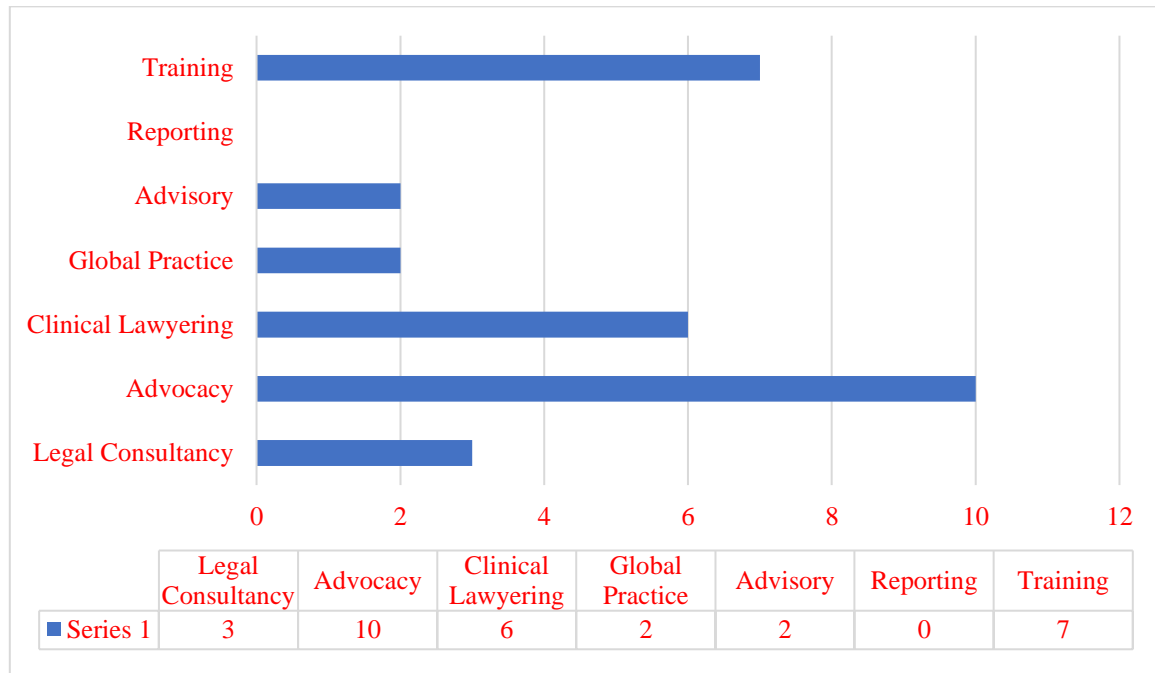


Figure 11 Dimensions covered

Finding: There is inadequate emphasis on the delivery of skills in the existing curricula. The traditional ratio of imparting mere knowledge and no experiential learning is being continued without any review of job market wherein there can be more demand for skills and not just theoretical knowledge of the subject. The implementation of knowledge can only be ensured by laying more emphasis on the delivery of skills which are based on the sound job market research.

MU

No distinction given.

IUM

No specific comments.

UUM



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No specific comments.

HU

For the Bachelor’s courses in Environmental Law, the pedagogy/assessment tends to the dimension of training and compliance. Practical skills seem to be limited to students.

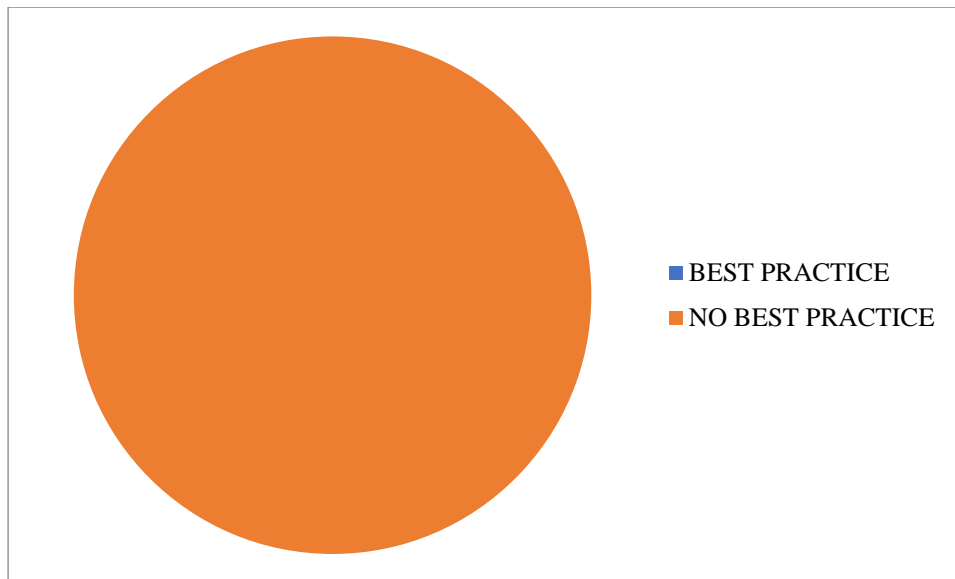
HLU

Out of the seven dimensions, only dimension G “Training and Compliance” is fulfilled in the assessed courses.

The weightage of knowledge, values and skills is not available.

10. Best practices:

SIU



The parameter 13 is analyzed in this section. We were not able to find existence of any best practice in any of the institutions.

MU

No specific comments.

IIUM

No specific comments.



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UUM

No specific comments.

HU

No specific comments.

HLU

The following best practices are identified by HLU:

- Advanced teaching methods, modern research rooms and equipment, practical experience of Ibaraki University, Japan.
- Theory and practice combination approach drawn from many universities in the world.
- Advanced teaching methods, modern research rooms and equipment, practical experience of leading Japanese Universities such as Kyoto, Tokyo, Hokkaido.

11. Program Accreditation and Quality Assessment Process

SIU

The parameters 14 and 15 are analyzed in this section. In India, the quality of education is monitored through various statutory, other regulatory bodies and policy parameters. As a part of regulating quality education there is a settled procedure of affiliation, monitoring, inspection at regular intervals through these regulating bodies and policy parameters. On the basis of these inspection report (infrastructural, academic and research), regulating authorities determine continuation of affiliation and overall ranking of the institutions. These regulating bodies are as follows:

a) University Grants Commission (UGC)

The UGC has the unique distinction of being the only grant-giving agency in the country which has been vested with two responsibilities: a) providing funds and coordination, b) determination and maintenance of standards in institutions of higher education. The most important mandate of UGC includes:

- determination and maintenance of standards of teaching, examination and research in universities;
- framing regulations on minimum standards of education and qualification for the teachers; and
- advising the Central and State governments on the measures necessary for improvement of university education.

b) National Assessment and Accreditation Council (NAAC)

National Assessment and Accreditation Council (NAAC) was established by the UGC in September 1994 for conducting assessment and accreditation of Higher Educational



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Institutions (HEI) such as colleges, universities or other recognized institutions to derive an understanding of the ‘Quality Status’ of the institution. NAAC evaluates the institutions for its conformance to the standards of quality in terms of its performance related to the educational processes and outcomes, curriculum coverage, teaching-learning processes, faculty, research, infrastructure, learning resources, organization, governance, financial wellbeing and student services.

c) Bar Council of India (BCI)

The Bar Council of India is specific regulating authority of legal education in India. By way of the Advocates Act, 1961, BCI is also authorized to regulate and monitor the standard of legal profession in the country. As a part of regulating legal education, BCI visits and inspects Universities/Law colleges in India as part of its statutory function of promoting legal education. BCI lays down standards in consultation with the Universities in India and the State Bar Councils. BCI follows the Bar Council of India’s Inspection Manual, 2010 and the Bar Council of India Education Rules, 2008 for conducting inspections and setting standards of legal education in India.

d) All India Council for Technical Education (AICTE)

The objective of AICTE is to promote quality in Technical Education Planning and Coordinated Development of Technical Education System Regulations and Maintenance of Norms and Standards. It envisions to be a world-class organization leading technological and socio-economic development of the country by enhancing the global competitiveness of technical manpower and by ensuring high quality technical education to all sections of the society.

e) National Institutional Ranking Framework (NIRF)

The National Institutional Ranking Framework (NIRF) was approved by the MHRD and launched by Honorable Minister of Human Resource Development on 29th September 2015. This framework outlines a methodology to rank institutions across the country. The methodology draws from the overall recommendations broad understanding arrived at by a Core Committee set up by MHRD, to identify the broad parameters for ranking various universities and institutions. The parameters broadly cover:

- Teaching, Learning and Resources;
- Research and Professional Practices;
- Graduation Outcomes;
- Outreach and Inclusivity; and
- Perception.

In addition to these bodies, from 2005 to 2014 a number of steps were introduced by the National Knowledge Commission to revamp the system towards achieving academic and professional excellence in legal education. In pursuance of this, a National Education Policy, 2020 [NEP] was approved by the Union Cabinet with intend to introduce modification in school and higher education in India. The prime objective of higher education policy was to internationalize it to fulfill challenges of the global education.

MU



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No specific comments.

IIUM

Malaysian Qualification Agency (MQA)

UUM

No specific comments.

HU

No specific comments.

HLU

VNU (Vietnam National University) Center for Education Accreditation.

Adjustment every two years for non-compulsory courses, Adjustment every four years for the whole programme.

12. Correlation with Placement outcomes and engagement of experts

SIU

The parameter 16 is analyzed in this section. As described by the surveyed institutions, the placement outcomes of climate change graduates and postgraduates in areas of sustainable development, conservation, climate change at organizations including, but not limited to:

- Government ministries and departments
- Governance and administrative bodies/agencies
- Policy thinktanks

The collaboration through industry experts in course can develop higher-level thinking skills in the students. The students can learn through expertise and practical experiences of such experts. For industry interaction, many surveyed institutions engage international climate change experts, renowned field experts and industry practitioners for the purposes of:

- teaching: regular as well as guest lectures
- review of syllabus;
- workshops; and
- external examiner for dissertation.

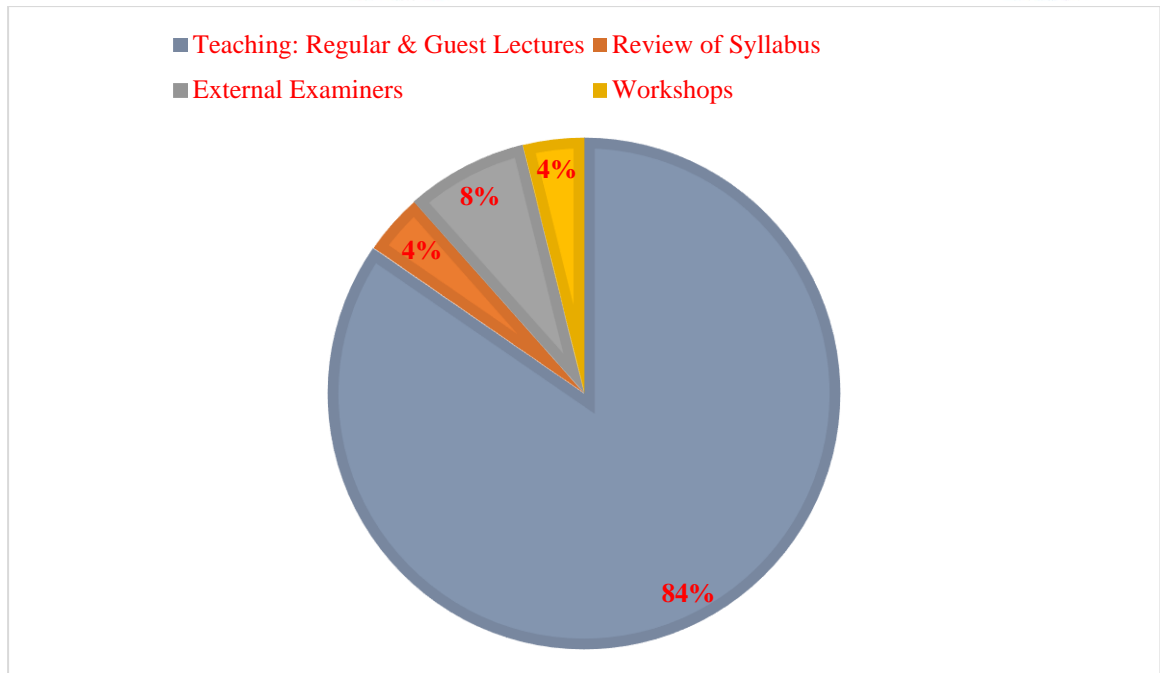


Figure 12 Engagement of Experts

Table 9 Nature of Engagement of Experts

Nature of Expert Engagement	Frequency	Percentage
Teaching: regular as well as guest lectures	22	84%
Review of syllabus	1	4%
Workshops	2	8%
External examiner	1	4%
Total	26	100%

Out of 26 courses, where the surveyed institutions have engaged experts, majority of the experts, i.e., 84%, are involved for the purpose of teaching students regularly or as guest lecturers. Institutions like TERI include experts in their Board of Studies for review of syllabi and conducting workshops. The GGSIP University engages experts as one of the external examiners for evaluation of dissertations.

MU

No specific comments.

IIUM

No specific comments.

UUM



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No specific comments.

HU

No specific comments.

HLU

13. Learning Outcomes, credit structure, credits, academic calendar, quality standards, etc.

SIU

The parameter 17 is analyzed in this section. Each course has its tailored outcomes as per the course structure. However, the common learning outcomes of the courses having relation with climate change law and policy include:

- Outlining how international environmental law is incorporated into environmental policies of national and state governments;
- Examining and analysing legal approaches to pollution control, environmental planning and natural resource management;
- Exploring politico-economic issues underlying environmental policy formulation at an international and domestic level;
- Critically examining implementation issues associated with environmental regulation and environmental regimes;
- Analysing and reflecting on the interplay between politics, policy, science and values in environmental law;
- Researching, critically examining and communicating in writing about a problem or specific aspect of environmental law;
- Understanding the contribution of international environmental laws and the national measures for Protecting environment and achieving sustainable development;
- Analysing the functioning of institutional structures for environmental governance, liability regimes and environmental justice delivery;
- Imbibing disciplinary and interdisciplinary knowledge;
- Understanding the economic, cultural and political factors behind environmental and sustainability issues;
- Learning the skills required to do critical analysis, qualitative analysis, quantitative analysis and problem-solving exercises for environment;
- Explaining the role of law, policy and institutions in the conservation and management of natural resources, sharing and protection of such resources as well as pollution control;
- Learning about the climate crisis, the global response, and how individuals can mitigate the challenge;
- Strengthening participants' theoretical understanding of the global climate emergency and its linkages with SDGs and COVID-19 and how sectors can become climate-resilient;



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- Enabling participants to tackle climate vulnerabilities, address risks and build resilience in different sectors of their respective fields of work;
- Taking lead in initiating individual youth-led handprint actions for a climate-resilient world; and
- Promoting local community action through encouraging friends, family, school/college, etc.



Figure 13 Credits

4 credits	16
2 credits	5
3 credits	5

The parameter 17 is analyzed in this section. The courses offering climate change as a subject or module are majorly 4 credit courses/ However, these courses are also 3 and 2 credits in some institutions.

MU

No specific comments.

IIUM

No specific comments.

UUM

No specific comments.



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HU

No specific comments.

HLU

- The common learning outcomes of the courses having relation with climate change law and policy include:
- mastering basic and interdisciplinary knowledge about the nature, evolution, impacts, vulnerability, adaptation and mitigation of climate change in relation to development;
- developing the ability and skills to detect, analyze, evaluate and forecast issues related to climate change and development work;
- proposing and create solutions to climate change adaptation and mitigation for sustainable development;
- working as scientists/technologists, managers/leaders/policy support specialists/consultants on climate change as well as proposing and implementing projects and participate in national and international forums on climate change and development
- have the opportunity to obtain PhD degrees from leading universities in Japan and around the world.
- equipped with knowledge about climate change, measures to mitigate impacts and adapt to climate change to serve strategies and policies for sustainable development at global, national and local levels;
- trained with skills in building mechanisms, policies and action plans to adapt to climate change, consulting policy making and strategies for sustainable development;
- step by step mastering knowledge and creatively applying the acquired knowledge to solve practical problems;
- trained to think logically and logically in raising problems and solving problems systematically from an interdisciplinary perspective
- equipped with in-depth knowledge in the field of climate change and sustainable development and related issues;
- practical knowledge to solve complex issues in the field of climate change and sustainable development;
- management knowledge and interdisciplinary knowledge to solve problems related to climate change and sustainable development on a local, national and global scale

60 credits	2
64 credits	1
66 credits	1
132 credits	1

In addition to the desk research template another aspect of international-regional collaboration was also explored to look into global perspective of curriculum development.

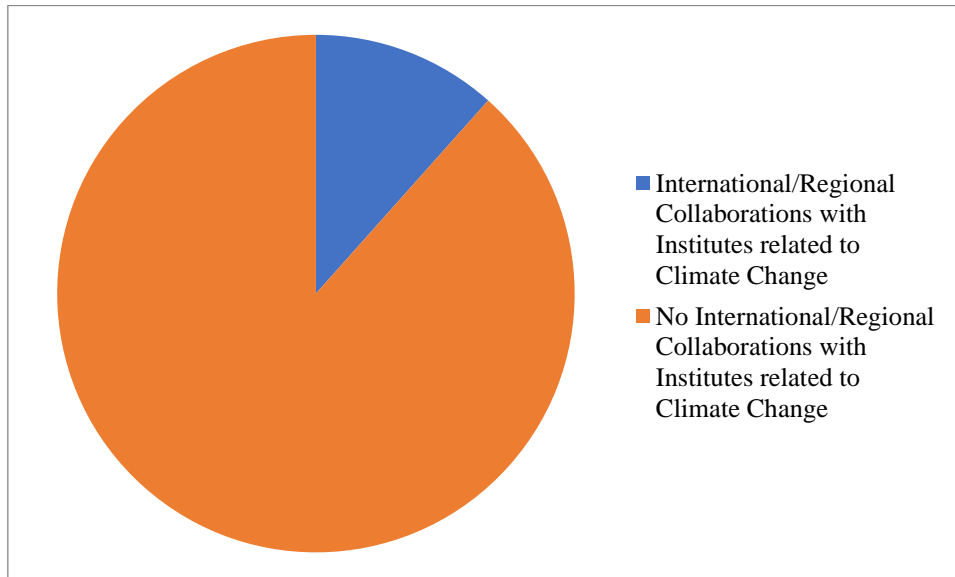


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14. International/Regional Collaborations with Institutes related to Climate Change SIU

The parameter 18 is analyzed in this section. Out of 69 institutions studied only 8 institutions were found to have International/Regional Collaborations with Institutes related to Climate Change. The details are as under:



S. No.	Name of institution	Nature of International Collaboration
1	Ashoka University, Haryana	Few of the visiting professors for this course are alumni of foreign universities like University of Chicago; Duke University; one specific Professor (Prof. Iain Stewart) is currently a Professor of Geoscience Communication, University of Plymouth, Director, Sustainable Earth Institute.
2	Centre for Environmental Law (CEL), WWF-India in collaboration with Centre for Post Graduate Legal Studies (CGPLS), O.P. Jindal Global University (JGU)	Course offered jointly with WWF-India
3	FLAME University,	Dr. Swapna Pathak, Assistant Professor, Oberlin College (Ohio) invited to Panel 3: International Studies (The International Politics



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	Pune	of Climate Change: Implications for India) under Climate change and India: Implications for environment, policy and international politics" on December 9th and 10th, 2021 https://www.flame.edu.in/research/resources/conferences/climate-change-and-india
4	Jindal School of Environment and Sustainability, Jindal Global University, Haryana	Claimed Global Partnerships with University of Cambridge; Yale University; Georgetown University; Brown College; University of Oxford
5	Nirma Univeristy	Local collaboration with Ministry of Environment, Forest and Climate Change
6	Shiv Nadar University	Shiv Nadar University: Mr. Arpit Chaturvedi, CEO, Global Insights, Lecturer, San Francisco State University was invited as a speaker to the Workshop On 'Climate Governance And Global Commons' https://snu.edu.in/events/workshop-climate-governance-and-global-commons
7	Symbiosis Law School, Pune	Jean Monett Chair, Erasmus+ Project on Curricula Development on CCPL
8	IIT Kanpur	International Collaboration: University of Cambridge (UK)C.A. Petrie, Department of Archaeology, University of Cambridge, Cambridge Late Quaternary environmental changes in western Haryana plains interpreted through lake deposits, http://www.iitk.ac.in/nfca/collaborations.htm

MU

No specific comments.

IIUM

No specific comments.

UUM

No specific comments.



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HU

No specific comments.

HLU

No specific comments.

15. Identification of Gaps

SIU

- Not many courses were found to be multi-disciplinary in approach. There are few which are inter disciplinary but none engulfs a multi sectoral approach;
- Most of the courses are being offered under the domain of law and policy. Centers dedicated to climate change and sustainability studies were found only in O.P. Jindal University, TISS;
- It could not be ascertained either through desk research or through extensive investigation into the course modules that the courses are designed as per the requirements of the labour market. Mostly courses are designed to fulfill the UGC mandate;
- Out of 69 only 8 institutions were found to have international, national or regional collaborations, hinting that there is scope and need of more such collaborations. Moreover, the existing collaborations are not for drafting of syllabus or for delivery of courses. This possibility can easily be explored.

MU

1. It is pertinent to mention that there is no specific course that reflects all components mentioned in the desk research template of climate change, policy and law.
2. At present the courses which are offered, lacks practical exposure/ innovation as their primary focus is on dissemination of the basic information which is relevant to their course.
3. It has been found that in more than 30 courses the pedagogy and assessment criteria does not reflect the aspect of clinical or experiential learning.
4. It has been found in the courses surveyed in all Universities that there is no Correlation of the course or module which focuses on the aspect of Climate Change, Policy and Law with Placement Outcomes, engagement of experts etc.
5. The pedagogy/assessment of the courses surveyed does not fully reflect dimensions of Legal Consultancy, Advocacy, Clinical Lawyering, Global Practice, Advisory, Reporting, Training and Compliance



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6. More focus is on the theory which is designed and aligned as per programme and does not cover other aspect i.e. law and policy/ management or vice versa and less focus on practical learning was found.

IIUM

- There is no Master of Law in Malaysia that offers course specifically on climate change policy and law but there is environmental law course offered.
- The courses in environmental law are given less emphasis. It can be seen that none of Malaysian private universities offer master law courses on environment as they incline more on medical law and business trade law.
- There are science based courses that deal with climate change specifically, however, these science courses are less emphasis on the law and policy matters and more emphasis on pure science.
- In Malaysia, there is a lack of practical skills in the existing course in its assessment. Most of the master law courses that deal with climate change/ sustainability/ environmental law are focussing on the written assignments and examinations without emphasizing more on the practical side such as advocacy skills, negotiation skills, training, role playing, site visit and others
- There is a lack of experiential and clinical learning in most of the existing master law courses.

UUM

- The desk research showed that other universities, though offer such related programmes, their focus is not directly related to law and policy. In certain cases, they just have one or two related courses because their focus is more either on sciences, technology, natural resources or engineering.
- **HU**
- The courses provided at the University of Law, Hue University have not addressed specifically the goal of tackling climate change from a global perspective.
- The courses assessed lack the multidisciplinary elements. The teaching methodology is more traditional rather than carrying innovative ideas and methods.
- There is a shortage of knowledge on climate change international collaboration as well as practical skills in response to climate change, which significantly necessitates providing for students.
- All courses lack an innovative approach to benefiting students in terms of ethics and skills.
- Field trips, exchange activities or ethics issues are not yet covered as a part of the teaching methodology.



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HLU

- The master's program in climate change and development mainly focuses on the fields of science, technology and engineering. Not much attention has been paid to the Issues related to the policy and law on climate change
- The master's program in climate change mainly focuses on the fields of science, technology and engineering. Not much attention has been paid to the Issues related to the policy and law on climate change and none of the courses of the program addressing the issue of legal framework in relation to climate change
- The bachelor of climate change and sustainable development program mainly focuses on the fields of science, technology and engineering. Not much attention has been paid to the Issues related to the policy and law on climate change
- The training program does not include any subjects related to climate change policy and law"
- The LLM program covers a broad range of law topics but none of the modules of the program is designed for policy and law on climate change. Some modules do mention the issue of climate change but focus only on the law perspective but not policy and law perspective

Findings

SIU

1. Majority of the courses are very specific to their disciplines. It can be observed from the above table that the courses are either law or science centric. There are fewer management and humanities centric courses. A cross cutting course which imbibes inter disciplinarily approach of the issue of climate change/ sustainability cannot be found. Only two courses were found to specifically mention "Climate Change". This reflects the fact that "climate change" as a whole is not the subject matter of the majority of the courses. It is a specific module in other courses which have either law or science approach;
2. Innovative practices like lab work, field work, report writing, industrial training, and clinical advocacy are being followed in Universities and Institutions. However, this cannot be ascertained whether these practices are being implemented after doing a thorough survey of the need of the employment market;
3. None of the courses were found to be grounded in ethics in any manner. The meaning of the ethics also need to be ascertained i.e. whether this refers to research ethics or market ethics once the students enter the employment sector. The focus on building the environment conscious workforce cannot be ascertained by the desk research;
4. The science courses like M.Sc., M.Tech., B.Tech. are more focused on imparting a skill set to the students for the purpose of increasing their employability. The students graduate with a unique skill set which cannot be acquired by general public. They enjoy greater employment opportunities in industrial and environment management sector. The social sciences and law centric courses lack this uniqueness. The knowledge set imparted by them can be acquired by a generic reading or understanding and does not require any specialized training or lab experience and thus the employability is not very high. Thus, there is a scope for delivery of market specific skills in law and policy courses also.



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MU

1. It has been found that modules of the courses surveyed reflects that the political or legislative framework has been included.
2. It has been found that majority of the courses has adopted CBCS pattern of Program Accreditation Process and BoS for Quality Assessment Process.
3. It is however been observed that the aforementioned courses are vastly from science and engineering streams and few of them are from those institution which are offering law courses.
4. At present the courses that are being offered, lacks innovation as they are only focusing on the basic information which is relevant to their course.
5. It has been observed that curriculum has no proximate nexus to relevant job markets.
6. Out of all the universities surveyed only in one university syllabus was vastly related to climate change policy and Law.

IIUM

- The postgraduate courses in environmental law are offered.
- Environmental law course is offered as an elective course rather than core or compulsory course in most master law programmes.
- In other disciplines of study, there are master courses dealing with climate change in specific. For example, the Universiti Putra Malaysia (UPM) offers a Master in Food Security and Climate Change specialized in Climate Sciences where extensive learning and teaching on climate change concepts, issues, adaptation and mitigation are included in the syllabus. Apart from that, Master in Climate Change is also being offered by the Centre for Tropical Climate Change System Institute of Climate Change UKM where environmental science and earth science courses are included in the course
- In the master science courses, the practical elements are being conducted but the matters related to law and policy are less emphasized.

UUM

- All public universities that offer law programs do not have such CCP_Lprogrammes offered at their faculties.
- Other faculties, should they have such a similar programme, are more related to sciences, engineering, technology and management.
- The Universities have one or two related courses because their focus is more either on sciences, technology, natural resources or engineering.

HU



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- The project curriculum is expected to substantially assist Vietnamese lecturers in increasing their teaching capacity and changing their teaching method in an innovative and efficient manner with the support of Information and Communications Technology.
- All mentioned Master's and Bachelor's courses offered by University of Sciences, Hue University mainly provide fundamental theory rather than ethics or skills related to climate change.
- In general, Hue University does not offer any courses in Climate Change Law and Policy.

HLU

Recommendations

SIU

1. There is an urgent need to do market research to find the skill set required in the climate change law and policy sector;
2. A multi sectoral study is recommended to design a course which imparts the required skill set based on the market research;
3. The Supreme Court of India, in *M.C. Mehta v. Union of India, 1992 SCC (1) 358* [Environmental Education case] directed the UGC and Government of India to take immediate steps to introduce and enforce compulsory education on environment in a graded way and to introduce a compulsory subject at every level of college education to protect environment and keeping it free from pollution.
4. Other regulating bodies such as UGC, BCI and AICTE need to ensure delivery of multi-disciplinary approach to introduce to new innovative courses which are blend of law and science orientation at undergraduate and postgraduate levels of education;
5. The exchange of learning from foreign and European Universities and institutions should be encouraged and government should encourage such partnerships and collaborations by funding such activities. There should be adoption of best practices from all over the world and the best of both worlds should be adopted;
6. The inclusion of indigenous knowledge should also be encouraged to acknowledge the traditional knowledge and practices of environment protection and mitigation of climate change. The introduction of philosophical wisdom through conventional and cultural practices in Semester-I of LL.M. was further emphasized by one of the legal experts on climate change Mr. Abhay Pimparkar, Deputy Secretary of Environment, Government of Maharashtra during the FGD.
7. All universities and institutions should establish a Centre for Climate Change Law and Policy dedicated to the delivery of multi-disciplinary courses, research and knowledge creation serving the market needs and the need for research and development in the field of climate change law and policy.



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MU

1. Development of dedicated course on climate change, policy and Law is highly recommended.
2. Specific modules on Climate change, policy and law can be designed and introduced in various courses based on their specific requirements.

IIUM

UUM

HU

- It is of necessity to have a Master's programme on Climate Change Policy and Law. The courses as well as the teaching staff therefore would benefit from knowledge about new curricula which aims to offers high-level expertise and skills on environmental policies and climate change law.

HLU

Asian Summary: FGD

1. Need for specialized course on CCL:

India

With respect to the need for a specialized course on Climate Change Law and Policy, all the participant university stakeholders responded positively and recommended unanimously the need for a specialized course on Climate Change Policy and Law. The opinions expressed by the university stakeholders on this issue are stated below:

As per the Symbiosis International University (SIU), the need for a specialized course on climate change law and policy incept from the contemporary demand to integrate science with laws and regulations. Climate change issues are predominantly discussed within the context of science but science-based strategies require law and policy as a tool for effective implementation. The climate change issues can be thus addressed through regulatory interventions. The specialized course which integrates science, law, policy and management will facilitate the understanding of intricate climate change issues. This will also trigger a penchant to find sustainable solutions for contemporary problems linked to climate change amongst the next generation of students.



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The need of specialized course is reflected in the submission of Marwadi university given the fact that climate change is a global issue and the education system must facilitate delivery of such a course. The new course will also facilitate students to go beyond the basic courses (for e.g. environmental law, environmental pollution) and integrate their knowledge to advance innovative solutions for climate change issues.

Malaysia

IIUM stressed on the specialized course considering the need of very strong and in-depth understanding of the climate change laws and policy framework as well as international negotiations. This will help in creating specialized experts with tools needed to suffice national objectives (for e.g. NDC targets) in the most equitable manner.

UUM is of the opinion that a specialized program on climate change law and policy is much needed to create awareness on relevant national and international laws. Climate change has a potential to change the landscape of the world in many ways. In order to address risks emanating through climate change a specialized course. The global concern over the negative impacts of climate change will inevitably require experts to address the issues through pragmatic solutions. A specialized course will certainly help in creating such climate change experts. The following opinion captures the need of UUM stakeholders on a specialized course:

“Addressing global problems of climate change so far have thrust and challenged the academia to translate the commitment to innovative solutions for action to design a curriculum focusing on climate change law. The need for such an LLM course on climate change is absolutely valid, especially tweaking the focus on countries in SEA in responding to climate change from the legal aspects. This will inevitably connect the current fragmented and conflicted state of the discipline of climate change law in Malaysia and countries in SEA”.

The convergence of sustainability and climate change issues requires an in-depth knowledge of domestic and international law. The application of these laws in a country (herein Malaysia) requires the know-how of local scientific and legal environment in conjunction with global developments. Also, the corporate law firms require experts in



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climate change issues to balance commercial and environmental interests. Here, the climate change law and policy experts can fulfill the requirements of law firms and corporations.

Vietnam

Considering the global concerns relating to climate change and the concurrent needs of adaptation and mitigation, HU University supports the introduction of a specialized course on climate change law and policy. In Vietnam, a separate legal framework on climate change issues has been framed and introduced by the government but lack of consultants to help competent authorities to issue policies regarding the matters is one of the crucial problems. This results in delay while issuing the climate change policies at the local and central levels. This gap can be effectively addressed by a specialised course on climate change law and policy.

HLU report unanimously concludes that there is the need for a training program specialising in climate change policy and law in Vietnam given the context, both global and domestic. Climate change and adaptation and mitigation to climate change has become a global issue attracting the interest of many countries in the world. Vietnam has faced a range of problems caused by climate change and always shows its interest in any initiatives to adapt and mitigate climate change problems. In regard to climate change policy and law, Vietnam has developed a climate change policy and law framework addressing the issue in question and it is noted that a Law on climate change is in the process of drafting to further improve the existing policy and law framework on climate change. It is of course much work needs to be done for a comprehensive climate change policy and law framework in Vietnam. So that it is of necessity to have a training program specialising in climate change to meet the demand of human resources for climate change policy and law- making.

From the practitioners' perspective, some participants pointed out that those who are in charge of climate change issues in state bodies at both central and local levels currently lack much knowledge of climate change policy and law so the enforcement of climate change policy and law has become a matter. This practice again addresses the need of a training program specialising in climate change policy and law.

From the perspective of international law, as Vietnam now is an active party to several international conventions/agreements regarding climate change, to fulfil Vietnam's



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international commitments in this regard the need to train the human resources who master climate change policy and law knowledge is obvious. Thus, a training program specialising in climate change policy and law can help Vietnam meet that demand.

While agreeing on the need of a training program specialising in climate change policy and law, the HLU report recommends that it is important to conduct a comprehensive survey on the actual need and parameters of the training program to explore the domestic context and specific requirements of a country. This will ensure that the designed training program addresses the actual need of the country where the training program is offered.

2. Nature and content of existing courses on CCL:

India

In response to the course content and familiarity, the SIU report identifies that there is a general awareness among stakeholders about the CCP_Lcourses but direct exposure to any full-fledged and exclusive course dedicated to climate change law and policy is absent.

The existing courses do not provide adequate academic and professional background in terms of integrating climate change science and law. The lack of knowledge reflects in the incapacity of legal professionals while drafting and implementing climate change regulations.

As per the Marwadi University, the existing courses primarily focus on one particular dimension of climate change (for e.g. science) rather than having an integrated focus on multiple disciplines and areas (for e.g. Climate Change Justice). The existing courses do not focus on capacity building of students and faculty. The existing courses lack the solution-oriented focus that is needed to address climate change issues.

Malaysia

IIUM pointed out the fact that existing courses do not delve on politics surrounding climate change regime in science and law. It is also important to find out the extent to which existing courses (for e.g. environmental law, environmental science, environmental governance) can be optimized to prepare a specialized course on climate change law and policy. Nation-specific narrative (considering domestic climate change issues) needs to be



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reflected in the climate change law and policy courses.

UUM report also captured specific practical issues in the existing courses that prevent adequate attention to climate change specific issues. The key reasons include lack of specific focus on climate change issues and not provisioning enough time to discuss climate change issues within the broader ambit of issues relating to environment in general. This also reflects in following opinions expressed by the UUM FGD stakeholders;

“At UG level, we have Environmental Law as elective to the Faculty of Law and Business Faculty to take it. But it is not compulsory, and discussion on CC is limited.” (Opinion expressed by a faculty)

“EL, during degree, does not have a very deep understanding of CCL. It is only for one semester, quite difficult to grasp CC matters. I am open to learning, it would be a good thing to learn, however, if taking it as a master course, I might need to reconsider.” (opinion expressed by a student)

Vietnam

As per the HU University, in Vietnam, a course on climate change law and policy doesn't exist. The existing courses on environmental law and policy do not adequately integrate climate change issues.

HU also agrees on the fact that in Vietnam there is no any training program/course/module which comprehensively address climate change policy and law, specifically:

-In climate change related BA /MA programs, most offered modules are related to engineering, technology and management while there are some offered modules which either generally or incomprehensively introduce climate change policy and law;

- In LLB/LLM programs, some environmental law or international environmental law related courses/modules are offered but the topic of climate change is introduced among many other topics and the time for the analysis of laws (both international and domestic), case studies, fieldwork and practice is insufficient. Particularly, the topic of climate change in those offered courses/modules is normally examined from the law but not policy



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perspective.

Given the lack of addressing climate change policy and law in existing training programs/courses/modules in the Vietnam, the HLU suggests several ideas regarding the design of a training program specialising in climate change policy and law:

-To equip students of the program with the comprehensive and sufficient knowledge and skills in the field of climate change policy and law, the program should be a multidisciplinary training program which covers science and technology, management, policy and law.

- In regard to the learning outcomes of the program the participants emphasise that attention to knowledge, skills and attitudes must be paid in accordance with the law and regulations on higher education training of Vietnam. Some participants stress on the practice skills and suggest that it is essential for the program to distribute sufficient time for students to practise, to do fieldwork, to research case studies and to meet experts and practitioners for practical experience.

- In regard to the portion of policy and law of the program, it is suggested that while the program should cover the policy and law on climate change at both national and international levels, specific details regarding the policy and law on climate change arising in the context of Vietnam must be the main focus. Given this suggestion, the participants agree that one of the key tasks for designing a training program specialising in climate change policy and law in Vietnam is to develop a range of case studies relevant to the context of Vietnam and based on that students can gain practical experience for dealing with real issues that they will do in their future jobs.

- As practical experiences play a very important role in a training program specialising in climate change policy and law, the participants suggest that experts and practitioners in the field who have practical experience (in Vietnam and abroad) should be encouraged to teach for the program. In addition, fieldwork at areas where the people face with the impacts of climate change is strongly recommended as a teaching method.

- To admit students for a training program specialising in climate change policy and law, the participants also suggest that those students who have background on science & technology and management and those who have law background can be admitted. Depending on their background, prior to enrolling in common courses of the program, those



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students can be separately provided with certain courses to fill the gap of knowledge and skills required by the program.

3. **Nomenclature:** SIU provided suggestions with respect to the nomenclature of the climate change law and policy subject:

- a) Environment, Sustainability and Climate Change;
- b) Climate Change, Impacts and Mitigation;
- c) Climate Change: Theory and Practice.

Other university reports do not provide any specific comment on the nomenclature.

4. **Percentage of law and policy, science and management:**

India

In view of preparing an innovative course curriculum to cope with contemporary challenges of cutting-edge technology, science and law, SIU suggested that a major portion of the course curriculum should be dedicated to law and policy. The division of three basic components with following percentage in the curriculum is recommended by SIU:

- a. Law and Policy: 60%
- b. Science: 20%
- c. Management: 20%

Marwadi university stressed on ‘experimental learning’ as the key factor to be considered in all aspects of the curricula either it is law and policy, management or science and technology to make it truly innovative. As per the submission, the course can be divided into various levels (for e.g. Basic, Intermediate and Advanced level) and accordingly percentage wise distribution between law and policy, management, science and technology should be managed. For e.g. ‘Basic level’ may include the courses like political science related to Climate Change, International Environmental Law; for ‘Intermediate level’ we can include courses like Mining Activities and Climate Change, Gender Equality and Climate Change; for ‘Advance level’, Indian government strategies relating to Climate Change developed in the past few years can be included. It is also important to decide the final target audience for the course.



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Malaysia

Vietnam

The participants from HU are of the view that the program should cover 40 % of policy and law, 30 % of management and 30 % of science and technology is worth consulting. However, HLU has different view with respect to percentage on law, policy management and science. As per the observations of the panellists of FGD from HLU Vietnam, it is hard to suggest exact percentages without a careful and comprehensive research on curriculum especially in the context of Vietnam where there is no equivalent training program.

6. Percentage of value, skills and experiential learning

India: On the percentage of value, skills and experiential learning FGD at SIU majority of the participants emphasized skills and experiential learning along with the values to be considered while developing the curriculum. In brief, experiential learning was recommended with more percentage than skill and values. The rational percentage based on the opinions of the respondents can be summarized as:

- a) Experiential learning – 50%;
- b) Skills – 40%;
- c) Values – 10%.

The experts also stressed the scope of bringing behavioural changes among students with the help of value-based education. In addition to this, special emphasis was also laid on skills to be included in the course curriculum to strengthen employability.

Marwadi University: Academia opinion pointed out that it is difficult to put a percentage on Climate Change. However, *depending* on the target *audience* for the course, we may draw a rough percentage of values, skills, *experimental* learning in the course. The expert opinion observed that the curriculum must cover the skill and experimental learning in one-two module. Then there must be at least one module that focus on values, because if students cannot understand the injustice in CC, then it will difficult for them to come up with effective outcomes. Other modules must cover the subject. Students, on the other hand, gave higher



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weightage to experiential learning is given as compared to Values and Skills. They also raised the point that curricula should address the issues with the help of case studies or practical approach.

Malaysia: Majority of Academicians at International Islamic University Malaysia (IIUM) maintained that the innovative curriculum should give equal weightage to all the three components viz., experiential learning, skills and values. Similar observations were also made by the experts. But, the Students expressed mixed views as few gave primacy to the experiential learning and others to the values.

Participants at the Universiti Utara Malaysia (UUM) seem to agree that the new curriculum should contain major aspects of values, skills and experiential learning. Whilst experts from the industry practitioners and the academia opined there should be fair distribution among all three aspects, ranging between 30-40% for each aspect, the group of students were of the opinion that focus should be more to experiential learning (as much as 50-60%) as opposed to values and skills (20-25% each). This follows their reflections that the proposed new curricula major a topic which is more to technical and scientific, hence the field study or practical learning should be given emphasis so that students may learn more experientially on the field, rather than focusing on values and skills theoretically.

In support of the opinion by the academic, one participant mentioned:

“It depends on what type of cohort we are taking in, would they be of LLB or non-LLB background. For non-LLB background students, then values, skills and substance of knowledge should be emphasized and come first.”

Similarly, one participant from the industry mentioned:

“We should focus more on interactive learning during classes, so as to equip the students with the necessary skills and values on the subject matter. Therefore, I view that the distribution should be 1/3 each for the components of values, skills and experiential learning.”

To the contrary, the students viewed that experiential learning should be the primary consideration, taking up as much as 50-60% of the proposed curricula. One student mentioned:

“By going for experiential learning, students would get more experiences from there, and benefit much from the program.”



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Based on the above, the proposed contents of the new curricular is hereby suggested to be:

- 30% values
- 30% skills
- 40% experiential learning

Vietnam: In Vietnam, the participants at the Hue University referred the Vietnam National Qualification Framework (VQF) approved by Vietnam Government at Decision 1982/QĐ-TTg dated October 18, 2016 must be followed. Accordingly, the learning outcomes for the Master’s programme in in Level 7 within the 8-level framework including: Knowledge, Skills and Capacity of Autonomy and Self- responsibility.

Hanoi Law University the participants emphasized on the knowledge, skills and attitudes must be paid in accordance with the law and regulations on higher education training of Vietnam. Some participants stress on the practice skills and suggest that it is essential for the program to distribute sufficient time for students to practice, to do fieldwork, to research case studies and to meet experts and practitioners for practical experience.

7. Pedagogy and Assessment

India

With respect to the Pedagogy and Assessment, SIU FDG participants built a consensus on the fact that there is a need for a blended method of teaching and assessments. The innovative assessment methods comprise of: compulsory internships with the national green tribunals, engagements with the grass root organizations working in the area of climate change, industry-based field reports. Sharing cross-cultural experiences, role-plays based on climate change issues, group exercise on climate litigation (e.g., environmental moot court competitions), case study methods. The assessments should be based on cumulative effect of evaluating experiential learning, skills set in addition to the theoretical understanding of the course.

At Marwadi University, the academia suggested for the ‘Basic level’ it must include the classroom learning method. Secondly, for the ‘Advance level’ it must include experimental learning method to nurture *leadership*. Experts believed in the application of the “Project Model” approach. This will allow the student to have group learning. For the assessment part, he pointed out that continuous assessment is really important either it is assessment by faculty



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or self-assessment. Lastly students observed that pedagogy and assessment should include Case studies, Content delivered by Practitioners of Law, Continuous Assessment, Expert talks by NGO's and professional dealing with Climate change and their associated law at national and international level.

Malaysia

In the International Islamic University Malaysia (IIUM) FGD, the experts and academicians preferred online quiz for the as a mode of assessment, but the students observed it to be less effective. Open book exam, written final exam and open book test received moderate preference from the participants. On the contrary, the Oral presentation and opinion writing were identified by all the participants as highly effective methods of assessment the prospective course should adopt.

Participants at the Universiti Utara Malaysia (UUM) presented an extensive opinion wherein they observed that the intended curricular is for postgraduate level, the teaching delivery for the program is expected to be more student-centred as opposed to teacher-centered. Adult learners at postgraduate level would appreciate more if the teaching and learning were interactive and revolved around problem-solving and real-world deliberations, as opposed to theoretical discussions. The informants further agreed that the teaching delivery via face-to-face should be about the same method as remote learning. Additionally, the andragogy approach to be engaged in the delivery of the program is mixed between experiential learning and problem-solving. This is rightly suitable for postgraduate students who might have industry experience in the relevant fields of climate change and environmental law dominance.

As mentioned by an industry practitioner:

“After graduating, they would be engaged in organisations and become pioneers, they would be working on policies, technical, etc. They must have the courage to speak up, hence we need to prepare them with interactive learning and problem-solving.”

Meanwhile, the assessment is proposed to be continuous assessment (60-70%) coupled with final assessment/examination (40-60%). Although the students and one industry practitioner reflected that emphasis should not be given for final examinations, given that the main focus should be to train the students with experiential learning, knowledge and substance of the subject matter is undeniably an important aspect for law and policy courses. Therefore, there



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is an option for Malaysian institutions to choose either 60:40 or 70:30 for continuous assessment: final examination. The continuous assessment component could consist of case study or article writing assignments, quiz or projects.

To sum up, the following is the proposed teaching delivery method and assessment for the course:

Teaching delivery	Student-centred and self-centered, such as problem-based learning and real-world deliberations
Andragogy	Mixed between experiential learning and problem-solving
Assessment	60% or 70% continuous assessment 30% or 40% final assessment

Vietnam

In Vietnam, the participants at the Hue University mentioned that the assessment scores will include scores for class attending, essay scores, and examination scores. Flipped classroom, problem-based learning and learner-centered; classrooms should be equipped with technology. The evaluations should be done at all stage; the skills and values development are put in the most crucial place. The pedagogy should follow collaborative learning with primary focus on practical knowledge. It should also adopt an integrative and research-based learning.

The participants at the Hanoi Law University focused on the practical teaching. Academicians suggested the pedagogy should include student group discussion, problem-solving method, case study method or moot activities.

8. Practical training for learners

India

On the practical training for learners, the participants at SIU FGD, the faculty and experts suggested faculty exchanges, knowledge partnerships, international collaborations, working with the nodal agencies and organizing regular refresher and orientation courses for the faculty. All academicians achieved the consensus that there is a growing need for international collaborations and exchange of ideas being climate change as a matter of transboundary nature.



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Marwadi University, the academia responded that this *program* can assist in creating the *awareness* regarding the climate change in the society. If, this course will apply the *interdisciplinary* approach in its curricula, then in that case it will give a holistic picture to the targeted *audience* regarding the CC. There must be faculty capacity development *programs*, so that, they are clear with *the vision* and their role in the course. This will not only help the faculties to apply multiple *approaches*, but also it will make this course highly interactive and innovative. The experts were of the view that practical training should connect faculties with current area or field experts, faculties should be chosen wisely so that program should have faculties having expertise in all fields, encourage of faculties to attend conferences, workshops, and publication in Climate change themed journals and good documentation of available resources. Student respondents observed that the faculties who will be dealing with this course should be well trained and aware about latest issues and laws coming into existence.

Malaysia

In the International Islamic University Malaysia (IIUM) FGD, expressed that the participation of faculty members in policy development as well as grassroots advocacy on matters relating to climate change.

Participants at the Universiti Utara Malaysia (UUM) stated that the the University needs to supply knowledgeable academic staff with expertise in this area. Beside theories, the staff must be equipped with updated/current issues related to climate change by collaborating with external bodies for training. Example:

“Trained Academics on CCL (continuous exposure and training on climate change issues), seeking industry experts from various related institutes such as the Bar Council, Ministries, AGC, ARIEL or ISEAS or ADB or UNEP or WWF or government agencies and from business/finance sectors and think tanks) for new information.”

“Human resources would need training: Critical, tolerance, respect, and engagement.”

Besides that, an invited lecturer from a practical expert was also suggested by participants to make the teaching interesting.

“... maybe we can invite practical experts to teach the students on those particular skills.”



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The participants also mentioned that good supportive staff is also important and labs can be prepared if required.

Also the University should provide requisite infrastructure with internet connectivity and develop a good learning environment for students. The reasons are to encourage and empower students to create their own understanding from the class (e.g., support in the form of video and YouTube), to create space and stimulate them to self-organise and work out things spontaneously.

Besides that, the university must be prepared for the sustainability of the course in any situation such as a lock down due to a pandemic.

“If this course envisioned itself to be sustainable, perhaps, may have to prepare an online module/hybrid especially when unexpected pandemic such as Covid 19 were to persist indefinitely”

Vietnam

The Hue University FGD participants mentioned that there should be short training courses to transfer teaching methodologies from the program countries to the partner countries to effectively realise the learning outcome of the course. HEIs should promote international cooperation and connections with HEIs to build PLOs and CLOs for mutual credit recognition, students and teaching staff mobility, joint scientific research and international publication and build the infrastructure and legal framework for the issuance of digital credentials.

The participants at the Hanoi Law University suggested that the climate change policy and law training program is a multi-disciplinary training program and it is a totally new training program in Vietnam, training of trainers (ToT) is vital. All the participants have agreed that in order to effectively run the program:

The faculty members need to be trained and updated with the new knowledge and skills on climate change policy and law. Particularly, those whose background is science & technology and management need to be trained on policy and law and vice versa. Also, international experience in this field is of necessity so that opportunities for academic exchange with



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international colleagues through training courses, seminars, conferences, study visits, etc. must be taken into consideration.

Research capacity in the field of faculty members needs to be strengthened. In this regard, faculty members should be encouraged to conduct research works (at both national and international levels) and collaboration with international colleagues plays an important role. For Vietnam, the support of international donors for the development and operation of a climate change policy and law centre in relevant universities is a good initiative to attract research activities of faculty members, students and experts in the field.

For teaching purposes, short training course on teaching methods for climate change policy and law are necessary as through those short courses, faculty members are trained and updated with new and relevant teaching methods so that they can use during the course of teaching.

9. Highlighted Best Practices

India

On the probable best practices that the projected course should adopt the participants at SIU FGD identified some of the best practices included in the curriculum are: Climate negotiation; Practical demonstrations and international exposure, Case studies, Fieldwork experience and experiential learning with environmental lawyers and judges; Drafting of policies. In addition to this, understanding the dimension of local and global issues pertaining to climate change is the need of the hour.

Academic participants at the Marwadi University suggested a) involvement of the students in the technology projects can be one method; b) Super Specialization can be offered to each student; and Cross Sectors issues can be highlighted in the curricula. Experts identified following practices to be included in the intended program :

- Field action projects, Integration of natural, social and applied sciences can be done.
- Field project where students coming from different background works on real world problem.
- Integration of smart technology in academics.
- Steady flow of Guest experts



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Students were not much aware about the innovative best practices which can be identified and included in the course curricula. However, as per their basic understanding, they said that curricula must be designed in such a manner that, it makes the course more interactive and must achieve the learning outcomes.

Malaysia

In the International Islamic University Malaysia (IIUM) FGD the academia and experts primarily suggested use of Competency Based Learning, Video Streaming, Digital Textbooks, Data Analytics, Storyboard Teaching, and Role Playing.

Participants at the Universiti Utara Malaysia (UUM) stated that a number of innovative best practices were shared by the participants of the study, with the aim for potential incorporation into the proposed new curricula. Among the practices are service learning, global learning, article contributions to newspapers and project-based learning.

- Service learning - credited project to be carried out by the students for the benefit of a targeted community, and forms part of the continuous assessment of the course. Students would investigate the problem faced by the community, prepare for the project implementation, carry out the project, reflect on their learning experiences and finally demonstrate their service-learning takeaways. This is seen to be an appropriate innovative way to learn climate change issues and challenges, particularly on the law and policy aspect.
- Global learning - collaborative events with member institutions from within Malaysia or outside, in which experts, academia and industry practitioners can join and participate for sharing of experiences, skills and knowledge.
- Article contributions to newspapers - Students can also be encouraged to write their piece articles to be submitted to newspaper portals, either printed or online sites. Not only this practice would sharpen the writing and outlining skills of the students, but they can also be exposed to wide readership and showcase their capabilities on the subject matter.
- Project-based learning (PBL) - Lecturers can prompt specific projects to the students, in which students are to “carry out” the projects in this innovative and inspiring learning strategy of PBL. Not only does PBL encourage self-learning on



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part of the students, they can also gauge managerial and communication skills among the project team members. PBL is seen as an appropriate strategy for teaching and learning of this program.

Vietnam

The Hue University FGD participants mentioned that the a link should be created between training and enterprises and state management agencies by inviting representatives from enterprises and state management agencies to give appropriate lectures, the course curricula can address the needs of the market so as to increase the employability of the students.

All participants at the Hanoi Law University have agreed that like any other training programs/courses/modules, the training program specialising in climate change policy and law must be reviewed/updated/adjusted and/or reformed in accordance with the law and regulations, especially the regulations of the Ministry of Education and Training. This applies to the whole training program and each individual module offered by the program (especially for reviewing/updating/adjusting module syllabi) in which:

- New knowledge and skills must be updated;
- Seeking comments of experts, practitioners and stakeholders in the field for reviewing/updating/adjusting module syllabi is compulsory;
- All standard methods for reviewing/updating/adjusting module syllabi must be applied.

For a new training program like the climate change law and policy, researching the labour market to identify the needs of labour market and develop and reform the training program meeting such the needs is quite essential. Given this practice, the participants stress on developing a strong industry-school partnership so that the program graduates can be expected to serve better the labour market needs.

5. Development of skill set in learners for employability

India

In view of SIU report employability of students is one of the most important outcomes of the course. In furtherance to strengthen the employability of students, the experts stressed upon the market survey to ascertain the availability of jobs and required skills set for the same. This will help in shaping the course curriculum according to the market needs and will increase the



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employability of the students. The experts discussed the growing scope for consultancy services in the areas of Environment Impact Assessment, Environmental clearance, Sustainability studies and reports. According to the expert participants, the course must cater to these market needs. There is need to enhance the skills of students to strengthen the utility of their services. By way of inclusion of interdisciplinary topics; will benefit the regulatory agencies like multilateral and bilateral organizations; bank and civil society organization. Course orientation has to be in direction of needs of job markets. Addressing need of green energy sector, litigation Employability of students is one of the most important outcomes of the course. In furtherance to strengthen the employability of students, the experts stressed upon the market survey to ascertain the availability of jobs and required skills set for the same. This will help in shaping the course curriculum according to the market needs and will increase the employability of the students. The experts discussed the growing scope for consultancy services in the areas of Environment Impact Assessment, Environmental clearance, Sustainability studies and reports. According to the expert participants, the course must cater to these market needs.

- Marwadi University-- suggested that course must apply the *interdisciplinary* approach, the main reason behind this, is that, the employer expectation in the market are *about* various aspects, every sector demands different employability skills and therefore by keeping the innovative learning methods, this course can make them market ready. Program should be planned executed in such a way that students get directly connected with the field experts or practitioners.

It was further suggested that by bringing market to the industry i.e., future employer as adjunct faculty and project partners would help in employment of the students. . EIA, and other environment Laws are gaining lots of scope opportunity for students to get the job in firms hence a curriculum with blended mode can definitely strengthen the employability . Involvement of industries during internship will surely make an impact with respect to job opportunities to the students.

Malaysia

IIUM – University through its focus group discussion suggested that curriculum should have the ability to provide solution. Content and devilry should have more practical and industrial blend. One more important suggestion received from this discussion with respect to strengthen the employability is to focus on Climate change issues so that it would be an additional bonus



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if a student has a good command of the whole regime of climate change, and be equipped with the ability to apply the knowledge and skills in the work that they are doing. Moreover the contemporary issues and solutions should be incorporated in the curriculum .It has been further suggested by the experts that more practical management approach backed by science, liaison skills and updated information on contemporary issues is needed Similarly an intersectional approach towards tackling climate change would also be highly beneficial, in learning the basics how climate finance and policies on sustainable cities can impact climate change would also make the grads of the course more dynamic & holistic hence attractive to the employers in the market space. It's important for students to specialise in a niche area to increase their employability. It'd be great to encourage students to work towards finding their passion in one area e.g. carbon trading scheme, green financing laws etc, children's rights in climate change, for instance, and then incorporate this in the thesis.

UUM University –focus group suggested that the curricula should inculcate the skills to think about climate change across multiple different types of narratives. It was suggested that students in this program should be trained to be able to engage in difficult conversations, especially in framing the climate change problem and confront people on this issue. For most people, this skill does not come naturally; it needs to be nurtured so as to develop employability skill. In fact, the graduates' potential is not limited to the local market; the students having master qualification of this course would be marketable to local and international markets as well .The course will be able to enhance students/graduates employability if the course includes some elements of entrepreneurial skills

Vietnam

HU –University also suggested for conducting meetings with stakeholders' with frequent interval so as seek their opinions to build the PLOs which meets the needs of the labour market. Similarly it has been suggested to create the link between training and enterprises and state management agencies by inviting representatives from enterprises and state management agencies to give appropriate lectures so develop employment opportunities.

HLU University –Vietnam suggested that All standard methods for reviewing/updating/adjusting module syllabi must be applied. The training program like climate change law and policy, researching the labour market to identify the needs of labour market and develop and reform the training program meeting such the needs is quite essential.



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The participants also stressed on developing a strong industry-school partnership so that the program graduates can be expected to serve better the labour market needs.

6. Need for training of faculty members through international collaboration

India

SIU – observed that for effective delivery of the course and to attain the course objectives, the importance of faculty training was emphasized by the participants. In response to the capacity building of faculty, the experts suggested faculty exchanges, knowledge partnerships, international collaborations, working with the nodal agencies and organizing regular refresher and orientation courses for the faculty. All academicians achieved the consensus that there is a growing need for international collaborations and exchange of ideas being climate change as a matter of transboundary nature. Collaboration with international organizations will be fruitful outcome of the course such as international treaty organization, ENGOs, BNGOs.

The focus group discussion also highlighted need of student exchanges, knowledge partnerships and faculty training and exchange at international level. The best practices operating at international level, cross border intellectual sharing practices and understanding process are also significant.

Marwadi University is also of the view that International *collaboration* will play a vital role in making the course effective, as CC is a global issue and the international *collaboration* can assist in *the flow* of the information regarding the CC, as CC know no border. Climate policy is always global as it does not respect national boundaries. The Climate Change being a complex issue, international collaboration becomes a necessity of today's world of education. Even technology transfer can take place with the international collaboration. Student and faculty exchange will add on to learning of the stakeholders. International Collaborations can really help in achieving the learning outcomes as it will offer student and faculty exchange opportunities which will lead to exchange of knowledge and experiences.

Malaysia

IIUM observed in its focus group discussion that International collaboration across all levels (government, NGO, academia, public etc) is vital to realize the outcome. The Impact of climate change is impacted to all and therefore international practices are equally important. The international collaborations are an effective means to realize the learning outcomes of the course. The International collaborations facilitate information exchange on the past, present



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(what is working and not), international development and new ideas. Hence it is significantly important. Through international collaboration we can also understand the market behaviour (especially concerning green premiums), and also perspectives from diversified economic standing countries -- from rich to developing countries. The International collaborations provide the precious opportunities to switch perspectives, which can greatly enhance understanding as well as the appreciation of the universality of many themes learned. It is also crucial for developing the communication skills of students and building global solidarity.

Since the climate change is a global issue, a variety of experts could also inform students on the climate crisis outlook from a global and regional standpoint.

UUM also observed that international collaborations are critically important to ensure the effectiveness of the learning outcomes of the course. From collaboration, it can gauge different perspectives, key aspects of CC which are complex and can benefit the student. It was further observed that “International collaboration would be significant for understanding other initiatives and learn from their experiences – different social challenges, building that confidence aspect. Ease of obtaining data, collaborations, opportunities, friends from wider networks is super important. “The collaboration can play important role to attend the positive outcomes such as gaining expert views on CC from different parts of the globe

Vietnam

HU –focus group discussion upheld the need of international cooperation and connections with HEIs to build PLOs and CLOs for mutual credit recognition, students and teaching staff mobility, joint scientific research and international publication. The international collaboration also builds the infrastructure and legal framework for the issuance of digital credentials.

HLU –in its focus group discussion observed that the faculty members need to be trained and updated with the new knowledge and skills on climate change policy and law. Particularly, those whose background is science & technology and management need to be trained on policy and law and vice versa. Also, international experience in this field is of necessity so that opportunities for academic exchange with international colleagues through training courses, seminars, conferences, study visits, etc. must be taken into consideration.

Research capacity in the field of faculty members needs to be strengthened. In this regard, faculty members should be encouraged to conduct research works (at both national and international levels) and collaboration with international colleagues plays an important role. For Vietnam, the support of international donors for the development and operation of a climate



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change policy and law centre in relevant universities is a good initiative to attract research activities of faculty members, students and experts in the field.

Similarities and Dissimilarities:

Specialized course on climate change: It has been observed that there is no specialized course on climate change policy and law. All Asian PC HEIs unanimously support the need to introduce a specialized course to cover the components of climate change, law and policy. In addition to this, Asian PC HEIs are not familiar with the syllabus that squarely covers the entire gamut of a specialized course on climate change, law and policy. However most of the partner universities have a few existing courses (for e.g. environmental law) with direct or indirect bearing with the climate change, law and policy but these existing courses do not cover the ambit and challenges of climate change.

Experiential learning in course delivery: The partner universities confirmed the need to incorporate experiential learning as a mode of delivery to make the course that imparts practical and skill-based knowledge. It reveals that the existing courses are more technical in nature and substantially lack the practical skills and clinical approaches. It has been strongly suggested by the universities to have a strong skill-based component with a blend of science, management and law as a substantial aspect of the proposed specialized course along with an emphasis on carbon reporting, environmental politics, climate justice.

The PC HEIs also stressed on practical orientation to be the core aspect of the proposed specialized course. These suggestions include for e.g. the skill of negotiating policy change, the development of ability to engage in difficult conversations for law reform, legal consultancies, clinical lawyering, training on global-practices.

Percentage distribution in law, policy, management, science and technology: The Asian HEIs have a similar opinion with respect to the basic components of the proposed specialized course. It includes: law, policy, management, science and technology. However, the partner universities have expressed a little variation with respect to percentage of these basic components. The suggested percentage allocation of the components is 40:30:30 for a) law and policy, b) management, c) science and technology respectively.



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Pedagogy and Evaluation: Delivery of the course component coupled with its evaluation is one of the crucial aspects of any teaching-learning process. Barring few variations, the partner universities agreed to have a blended approach of traditional and modern methods of course delivery. As part of the modern methods, synchronous and asynchronous discussions, flipped classroom, group learning, practical exposure through internships, laboratory experiments, experiential learning are strongly recommended.

With reference to evaluation, a mode of continuous assessment coupled with practical assignments are suggested. These include: Online quiz, project paper/thesis, opinion writing.

Innovative Practices: The Asian partner universities suggested a few best practices for effectiveness of the proposed specialized course. These include: Competency Based Learning, Video Streaming, Flipped Classroom, Digital Textbooks, 3D Printing, Data Analytics, Storyboard Teaching, Role Playing, technology-based projects on climate change.

Market needs-based approach: To cope with the market needs and cutting-edge technologies, all the partner universities have emphasized on increased collaborations with the industry to identify the market expectations. The industry collaboration can be achieved through environmental consultancies, training students in the areas of environmental impact assessment and environmental clearances to promote ease of doing businesses. This will also help in achieving the objective of employment and identification of solutions for the climate change transboundary issues/challenges.

Capacity building of faculty: The partner universities agreed and emphasized specifically on the need of programs for capacity building to keep the faculty members updated with the latest issues and challenges of climate change. Some of the programs for the capacity building suggested are: conferences, workshops, symposia, research engagement, training on comparative law practices, vocational education training, integrated teaching (combining management, science and law approaches), national and international joint research projects.

International collaborations: The international collaborations are another crucial aspect which helps in solving cross-border issues of climate change. All the partner universities unequivocally suggested to have such collaborations to make the proposed specialized course effective and global.



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4. Gap Analysis

- No course that reflects components of climate change policy and law all together. Various courses do not deal with climate change policy and law in detail.
- The existing courses lack practical exposure and innovations.
- Existing courses have no relationship and focus on climate change law and policy.
- Pedagogy assessment does not reflect dimensions of legal consultancy, advocacy, clinical lawyering, global practice training, compliance.
- The existing courses are theory-based and do not cover specifically law, policy, and management aspects of climate change and less focus on practical learning.
- Not many courses were found to be multi-disciplinary in nature. There are few such courses which are interdisciplinary but none encompasses a multi-sectoral approach;



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- In India, most of the courses are being offered under the domain of law and policy. Centers dedicated to climate change and sustainability studies were found only in O.P. Jindal University, TISS;
- It could not be ascertained either through desk research or through extensive investigation into the course modules that the courses are designed as per the requirements of the labor market. Mostly courses in India are designed to fulfill the UGC mandate.

5. Way Forward

- **Scope for the specialized new course is undisputed:** There is a dire need to introduce a new course which exclusively deals with the legal complexities of climate change law and policy. The design of the course can be multidisciplinary with the blend of management, science and technology as the core course components. The prospective course on climate change law and policy must help the learners to understand the fundamentals of international and domestic climate law and policy, in order to provide a platform for further engagement or research in this field using cross-disciplinary, comparative, and analytical approach.



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- **IPR component in the proposed course:** The curricula should consider the role of intellectual property and technology in addressing climate change by way of mitigation, adaptation and measuring climate change. The inclusion of indigenous knowledge should also be encouraged to acknowledge the traditional knowledge and best practices of environment protection and mitigation of climate change. The introduction of philosophical wisdom through conventional and cultural practices can be made a part of the course module.
- **A multidisciplinary course:** The prospective course can be designed to target learners from law as well as non-law backgrounds (such as policy makers, civil society groups, government officers and business professionals) to reflect participation from multiple sectors of the society. The course can be perceived to bridge a divide between all relevant actors in addressing climate change and it will bring positive change in climate governance.
- **Replication and exchange of best practice within Asian PC HEIs:** The introduction of innovative educational practices can make the proposed specialized course effective and experiential. The implementation of innovative methods in teaching and learning can be replicated amongst the Asian PC HEIs. The innovative best educational practices can augment the teaching learning process to provide solutions for transboundary issues of climate change.
- **Blended learning:** The need for blended learning has been highlighted considering the wider ambit of the specialized course on climate change law and policy. The blended approach helps in imparting expert knowledge of science, management, law and technology. The blended approach can also help the legal practitioners to understand the scientific and technical complexities of climate change issues. It can assist in tracing the interconnectivity between the science and technology of climate change.
- **Market-based Trainings to enhance employability:** The complications of operating a business due to the tedious procedures of clearance and the complex framework of environmental law can be made easier if there are sufficiently trained lawyers with background in climate change issues. The special training to students under the specialized course can effectively boost the job market for trained students



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Overall Conclusions and Recommendations

- In view of the observations made and gaps identified in the desk research analysis and the focus group discussion, it can be concluded that there is a pressing need for an exclusive Post Graduate level course on Climate Change Law and Policy.
- The outcomes of both desk research and focus group discussion also revealed the academic needs of an innovative course curriculum on climate change law and policy. The findings and gap analysis of the desk research further strengthened the findings of FGD in order to develop an innovative curriculum in Asia on Climate Change Law and Policy.



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- The objective of the proposed course will be to make effective and efficient delivery of the course contents on the Climate Change Law and Policy, with a blend of multidisciplinary and multisectoral approach. This includes a balanced approach to integrating multiple knowledge systems relevant to climate change, adopting novel ideas to deliver experiential learning, and forging new partnerships with stakeholders specializing in core areas of climate change.
- A supportive institutional ecosystem optimizing financial and human resources at the level of institutions to facilitate integral aspects of governance, policy-making, administration, etc. will be a part of the delivery of this specialized course.
- The crucial aim of this specialized course is to strengthen and support the capacity building and network (of skilled and competent climate change law and policy professionals) in research along with an ability to create links for the institution for climate change law and policy making.
- A long-lasting impact of this specialized course will be to generate an ability to evaluate climate change related issues on ethical, moral and legal grounds with an aim to generate future legal solutions and policy parameters addressing climate change. I

In the light of analysis of desk research and focus group discussion, the following recommendations can be considered with regards to course curricula development on climate change law and policy in Asia:

- **Need for Practical Training:**

The specialized course needs to provide experiential learning and additional skill sets to the students such as drafting, negotiation, procedural formalities and administrative clearances, environmental impact assessment, consultancy, networking, etc. to enhance the knowledge and strengthen their employability. The need of the specialised course with inter-disciplinary components was also endorsed by all other Asian partner universities to broaden the ambit and scope of the course.

- **Specialized internships:**

In order to make the specialised course truly innovative, the need of imbibing various skill sets has been strongly suggested by all the Asian partner universities and as a part of specialised internships. It is suggested that the specialised course should focus on market needs and should incorporate expert opinions, experiential and practical learning, partnership with the



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stakeholders, training on additional skillset etc. It is recommended that the students of this course can gain practical and industry exposure, hands on experiences through compulsory internships at government and non-government agencies working in the area of environment and climate change. Policy making authorities through mutual collaboration can be a part of specialised internships.

- **Adoption of Best Practices:**

The best practices in the form of the use of ICT, climate witness-based methodology, climate negotiation, cultural practices of environment conservation, cross border intellectual sharing, knowledge on the role of indigenous people to tackle vulnerabilities of climate change, case studies, fieldwork and experiential learning from environmental lawyers and judges, drafting of climate change policies, initiatives based on experiential learning (for e.g. hands on approaches, field experience, service learning) can be employed to attain the objectives of the specialised course on climate change law and policy.

- **Training for learners:**

Training is an utmost crucial component to develop the legal acumen and professional competency of students in relation to climate change policy and law. This can be attained through the co-curricular activities along with classroom learning such as moot courts, Model United Nations (MUNs), practicum, solving the hypothetical problems of Environment Impact Assessment (EIA), climate risk disclosure etc.

- **Training of Faculty Members:**

For effective delivery of the specialised course content, it is recommended that trainings on global techniques and solutions to the complex climate change problems can be conducted as part of the Faculty Development Programmes. These training programs can be organised in the form of vocational trainings on comparative law practices, Seminars, Faculty exchange programmes, conferences, symposiums at national and international levels. Such training programs should be conducted with regular intervals to keep the faculty updated with advanced knowledge, exchange of ideas and practical orientation on the issues of Climate Change Law and Policy.

- **International Collaborations facilitated by the Government:**

Keeping in view the transboundary nature of climate change issues and the global ambit of the climate change, it is a pre-requisite to have partnerships and collaborations with international



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and particularly European Universities wherein the Governments have a crucial role to enhance the collaborations.

The Government-led collaborative initiatives can facilitate better tie-ups at the international level to mitigate the challenges of climate change law and policy through financial assistance.



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Project

CCP_Law - Curricula Development on Climate Change Policy and Law

Project No. 618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP

Deliverable 1.3 Report on Similar Curricula in Asia

Document Details

Title	Comparative Report
Work Package	WP 1 Preparation
Nature	Report on Similar Curricula in Asia
Original Completion Date	
Actual Completion Date	
Dissemination Level	Public
Country	India/Malaysia/Vietnam
Prepared by	

Revision History

Version	Date	Author	Description/Comments

Index

1. Executive Summary

The objective of the CCP_Law Project is to develop new curricula in the field of climate change policy and law to be offered at a level of Postgraduate Programme or Postgraduate diploma (PGDIp) or alternatively as LL.M in Asia. The vision of the Project is to finally establish CCP_Law Centres in all the law departments of Asian PC HEIs. In India, there is a plethora of legislation having a great bearing on environmental protection and control of pollution.

The United Nations Conference on the Human Environment, 1972 held in Stockholm, Sweden can be considered to be a milestone for changing the entire facet of environmental legislation in India. As a signatory to the Stockholm Conference, India has enacted three basic environmental legislations for control and prevention of water, air and the entire wholesomeness of the environment. There are Water (Prevention and Control of Pollution) Act, 1974; Air (Prevention and Control of Pollution) Act, 1981 and Environmental Protection Act, 1986 which is called umbrella legislation for protection and care of water, air and environment respectively. In addition to this, there are many other allied legislations enacted by the Indian Parliament, however, the issue of climate change has not been directly addressed through any specific legislation. Since 1985, in India, there was a Ministry of Environment and Forests to deal with issues of environment and forest. In view of the alarming range of pollution and complexities of environmental issues such as climate change, the nomenclature of the Ministry has changed in 2014 as Ministry of Environment, Forest and Climate Change. Moreover, India has many other agencies constituted by the government to deal with the issues of environmental pollution, biological diversity, etc. Similarly, a separate quasi-judicial authority in the form of National Green Tribunals are also constituted to adjudicate the environmental issues expeditely. The Paris Agreement, 2015 is another milestone in the multilateral climate change process because, for the first time, it made it incumbent on the part of all member nations of the agreement to initiate effective and ambitious efforts to control the effects of climate change through strategic planning. India being a signatory to the Paris Agreement has pledged to reduce its emissions in line with the INDCs.

In view of the mandate of the CCP_Law project, the main objective of Work Package-1, European and Regional Study on Climate Change Law and Policy, is to identify and assess climate change issues to be considered during the preparation of Work Package-2. It aims to have an overview of similar curricula on climate change policy and law in India, Vietnam and Malaysia. Under Task 1.3 of Work Package-1, all the Asian PC HEIs were required to conduct elaborate desk research on existing courses on environment and climate change and focus group discussion on the course contents, its pedagogy and innovations. The overall objective of this innovative course curricula is to meet the needs of Asian PC HEIs with respect to climate change law and policy. Based on thorough desk research of courses offered in 69 institutions across India and detailed focus group discussion with climate change experts, academicians and students working in the field of climate change, this report has made key observations and findings.

I. Desk Research:

Based on 19 parameters, courses from 69 institutions in India were studied. Not many courses were found to be multidisciplinary in nature and the existing ones lack a multisectoral approach. Hence, there is an urgent need for an innovative and special curriculum with a multidisciplinary approach. Moreover, most of the existing courses are offered in the law and policy domain and lack an exclusive focus on climate change.

Climate change continues to be a minor component of many of the existing courses and we do not have a full-fledged, multidisciplinary course in India. The desk research points at the urgent need to do market research to ascertain the skill sets required in the climate change law and policy sector. In view of the mandate of the University Grants Commission (UGC), a regulating body in higher education, it becomes incumbent on the part of all colleges and universities to impart a course on environmental studies to create awareness on environmental protection. The creation of awareness is not adequately linked to the creation of jobs; hence, it remains as a mere formality without creating any sustainable transformation of students.

It was also revealed, through the desk research, that not enough knowledge exchange is happening through international collaborations and thus there is no replication of best practices from around the world. Further, it was observed that the skill component is missing from the existing courses to some extent. Thus, there is a great scope and need for an innovative curriculum on climate change law and policy keeping in mind complex issues of climate change and strengthening employability. These requirements can be fulfilled by way of innovative pedagogy, experiential learning, skill-building, best practices and international collaborations.

II. Focus Group Discussion:

The findings of the desk research were further validated by the focus group discussion comprising of 2 Climate Change Experts, 5 Academicians and 3 Students in the field of climate change. It was agreed amongst all participants that the new course should be multidisciplinary and should be a blend of law, science and management. The new course can be rationally bifurcated as law and policy: 60%, science: 20% and management: 20%. The values, skills and experiential learning can be incorporated in the course in the following ratio, i.e., 10%, 40% and 50% respectively. All participants highlighted the new avenues for employment in consultancy, environmental clearance, green advocacy, confirming the need for a specialized course. It was also emphasized that the new course should address the vulnerabilities aggravated by climate change for the purpose of creating a right-based approach to the problem of environmental protection.

The effective delivery of such a course is not possible without trained and world class faculty. The capacity of the faculty can be strengthened by faculty exchange programmes, knowledge sharing, international collaborations, joint publications and best practices. Some of the best practices as suggested by the experts were climate negotiations, practical demonstrations, international exposure, case studies, field experience and experiential learning with environmental lawyers and judges. There was a consensus amongst experts that the blended method of teaching is the most suited pedagogy for the course. This specialized course will not only develop an environmental dynamism but will impart multidimensional skillset for environmental clearance from the government, environment impact assessment of projects, and green advocacy.

Finally, it was concluded that the new course will train students in both technical and legal aspects. This course will create a convergence of energy between practitioners, stakeholders, nodal agencies, etc. for bringing sustainable and transformative change. The complexities of climate change cannot be understood in isolation and should be linked with diversified aspects like energy emissions, climate change refugees, carbon footprints and sustainability governance.

2. Introduction

2.1 Project Objectives

- i. To develop, test and adapt new curricula in the field of Climate Change (CC) Law. Specifically, the integration of a multidisciplinary educational programme on Global CC Policy and Law, offered at a level of Postgraduate diploma (PGDip) or alternatively as LL.M depending on each Partner HEI final decision, will aim to address the need of a new generation of post-graduates in a LL.M that will acquire a high-level expertise on environmental policies and CC law.
- ii. To create CCP_ Law Centers in all the Law Departments of the Asian HEIs to support the capacity to network effectively in research and the ability to create links with the institutional efforts for CC policy-making.
- iii. To support Malaysia, India and Vietnam to address the challenges facing their higher education systems by improving its quality and relevance for the labour market, especially through enhancing knowledge, skills and competencies in the field whereas it contributes to the better planning, delivery and management of the Master program.
- iv. To strengthen cooperation between EU and the Partner Countries throughout organized study visits for capacity building of the teaching staff of the Asian HEIs and the voluntary convergence with the EU developments in the field of CC law and environmental policies curricula as well as exchange of best practices in the field that will equally respect national requirements.

2.2 Target Groups

Four target groups:

1. Academic staff and researchers working in the HEIs of Partner Countries
2. Legal practitioners, policy-makers, project managers, government officials and auditors of environmental issues of the three PCs
3. Graduates from the following schools: environmental sciences, social-scientific environmental studies, natural sciences or environmental engineering, or an appropriate field in social science or law.
4. National and local leadership, all relevant stakeholders on environmental legislation and policies such as think-tanks, private sector organizations and civil society groups and the society as a whole

2.3 National Laws and Policies for Climate Change, EnvironmentProtection, SDG's etc.

In September 2015, the 2030 Agenda for Sustainable Development was endorsed by the leaders of the world, which includes 17 goals which aim for overall sustainable development.

2.3.1. SUSTAINABLE DEVELOPMENT GOALS

Goal 1: Eliminate poverty in all of its manifestations across the world.

Goal 2: To eliminate hunger, increase food security and nutrition, and promote sustainable agriculture.

Goal 3: Ensure that all people of all ages enjoy healthy lives and promote well-being.

Goal 4: Ensure that all children get a high-quality education and that all people have

access to lifelong learning opportunities. Goal 5: Achieve gender equality and empower all women and girls.

Goal 6: Ensure universal access to water and sanitation, as well as long-term management of these resources.

Goal 7: Ensure that everyone has access to cheap, dependable, sustainable, and modern energy.

Goal 8: Encourage long-term, inclusive, and sustainable economic growth, as well as full and productive employment and decent work for everyone.

Goal 9: Improve infrastructure, promote inclusive and sustainable industrialisation, and encourage innovation.

Goal 10: Reduce intra- and inter-country inequalities.

Goal 11: Make cities and human settlements more inclusive, secure, resilient, and long-lasting.

Goal 12: Maintain long-term consumption and production patterns

Goal 13: Take immediate action to address climate change and its consequences.

Goal 14: Protect and responsibly use the oceans, seas, and marine resources for long-term development

Goal 15: Protect, restore, and promote the sustainable use of terrestrial ecosystems; manage forests sustainably; prevent desertification; and halt and reverse land degradation and biodiversity loss.

Goal 16: For sustainable development, promote peaceful and inclusive communities, offer universal access to justice, and construct effective, responsible, and inclusive institutions at all levels.

Goal 17: Strengthen and revive the global partnership for sustainable development's implementation mechanisms.

Goals 9-17 directly or indirectly deals with environment protection and climate change. Goal 13 focuses on combating climate change, while also noting that the United Nations Framework Convention on Climate Change is the key international, intergovernmental venue for negotiating global climate change responses.

2.3.2. CONSTITUTIONAL PROVISION OF ENVIRONMENTAL LAW

Particular constitutional articles grant individuals certain powers and rights in order to safeguard the environment. As mentioned below:

Article 48A: This article falls within the directive principle of state policy. This article says that the government will make every effort to safeguard the environment. It also highlights the protection of the country's forests and animals. Article 48A requires the state to take different steps to preserve the environment from pollution.

Article 51A (g): According to Article 51 A(g), it is the responsibility of every Indian citizen to maintain and develop the natural environment, which includes lakes, rivers, forests, and animals. This article also emphasizes the need of exhibiting compassion towards living things. This article is identical to Article 48A, with the exception that it focuses on people's basic responsibilities, whereas Article 48A orders the state to carry out its responsibilities and safeguard the environment. As a result, it is our responsibility to not only protect but also improve the environment's quality.

Article 253: This article empowers Parliament to enact legislation for the country in order to carry out treaty conventions and international agreements. Parliament passed many legislation to safeguard the environment as a result of this article, including the

Water Act 1974, the Air Act 1981, and the Environmental Protection Act 1984.

Article 246: Article 246 distributes the legislative issues between the Union and the States. It also outlines the Concurrent List, in which both the Union and the State enact laws by sharing jurisdiction in areas such as mine protection, wildlife protection, and mineral development. As a result, both the state and the federal governments have the authority to create environmental legislation. Article 246 also gives Parliament the authority to create legislation in the State list in the national interest.

Article 47: This article puts a duty on the state to enhance residents' living conditions by providing health facilities, sufficient nourishment, and sanitation, as well as to safeguard the environment so that they can live securely. Article 47 also encourages citizens to be more environmentally responsible.

Article 21: It asserts that the right to life does not just apply to animals, but also to people, who have the right to exist in a secure environment with fundamental human dignity. Because. The Supreme Court held in *M.C. Mehta vs. Union of India* that the right to exist includes living in a pollution-free environment and being free of illnesses.

Article 19(1) (g): It indicates that citizens are not allowed to engage in trade or economic operations that are harmful to the public's health.

Article 32 & 226: When a citizen's basic rights are violated by a PIL, this provision gives them the right to file a complaint with the Supreme or High Court (Public Interest Litigation). This article contributes to environmental preservation and ecological balance. This article also states that environmental protection is not only the responsibility of the government, but also of Indian citizens.

2.3.3. ENVIRONMENTAL LEGISLATIONS

Following is a list of the environmental legislations that have come into effect:

General

Forest and wildlife

Water

Air

General

1986 - The Environment (Protection) Act empowers the central government to safeguard and enhance environmental quality, control and decrease pollution from all sources, and ban or restrict the establishment and/or operation of any industrial facility based on environmental considerations.

1986 - The Environment (Protection) Rules provide methods for determining emission and discharge standards for environmental contaminants.

1989 - Hazardous Waste (Management and Management) Rules are designed to regulate hazardous waste creation, collection, treatment, import, storage, and handling.

1989 - The Manufacture, Storage, and Import of Hazardous Rules establishes an authority to examine the industrial activity associated with hazardous chemicals and isolated storage facilities once a year and defines the words used in this context.

1989 - The Manufacture, Use, Import, Export, and Storage of hazardous Micro-organisms/ Genetically Engineered Organisms or Cells Rules were established in order to preserve the environment, nature, and human health when gene technology and microbes were used.

1991 - The Public Liability Insurance Act and Rules and Amendment, 1992 was created to provide public liability insurance for the goal of providing prompt redress to those who have been injured as a result of a hazardous material handling mishap.

1995 - The National Environmental Tribunal Act has been established to compensate people, property, and the environment for damages caused by hazardous substance-related activities.

1997 - The National Environment Appellate Authority Act has been established to hear appeals concerning limits on the areas in which certain industries, classifications of industries, and other activities are carried out or mandated, all of which are subject to particular EPA protections.

1998 - The Biomedical waste (Management and Handling) Rules is a legal requirement that hospitals simplify the process of properly handling hospital waste, such as segregation, disposal, collection, and treatment.

1999 - The Environment (Siting for Industrial Projects) Rules, 1999 provide precise requirements pertaining to areas to be avoided for industrial siting, precautionary measures to be taken for site selection, and environmental issues that should have been integrated throughout the execution of industrial development projects.

2000 - The Municipal Solid Wastes (Management and Handling) Rules, 2000 apply to all local authorities in charge of municipal solid waste collection, segregation, storage, transportation, processing, and disposal.

2000 - The Ozone Depleting Substances (Regulation and Control) Rules establish regulations for the manufacturing and consumption of ozone-depleting chemicals.

2001 - The Batteries (Management and Handling) Rules, 2001 formed to regulate and ensure the ecologically safe disposal of spent batteries, rules will apply to every producer, importer, reconditioner, assembler, dealer, auctioneer, consumer, and bulk consumer involved in the manufacturing, processing, sale, acquisition, and use of batteries or components.

2002 - The Noise Pollution (Regulation and Control) (Amendment) Rules lay down such terms and conditions that authorize use of loud speakers or public address systems during night hours (between 10:00 p.m. and 12:00 a.m.) on or during any cultural or religious festive occasion, subject to limit on noise pollution.

2002 - The Biological Diversity Act is a law that promotes biological diversity conservation, sustainable use of its components, and fair and equal distribution of the benefits derived from the use of biological resources and knowledge linked with it.

Forest and wildlife

1927 - The Indian Forest Act and Amendment, 1984, is one of the several colonial statutes that have survived. It was passed to 'consolidate the legislation relating to forests, forest produce transportation, and the tariff imposed on timber and other forest produce.'

1972 - The Wildlife Protection Act, Rules 1973 and Amendment 1991 allows for the preservation of birds and animals, as well as all things related to them, such as their habitat, waterholes, and the woods that support them.

1980 - The Forest (Conservation) Act and Rules, 1981, Forests are protected and conserved under this provision.

Water

1882 - The Easement Act enables individual rights to exploit a resource, in this case groundwater, by treating it as a land attachment. It further declares that all surface water is state property and belongs to the state.

1897 - The Indian Fisheries Act establishes two sets of criminal offences that allow the government to sue anybody who uses dynamite or another explosive material in any fashion (coastal or inland) with the intent to catch or kill any fish or harmful fish.

1956 - The River Boards Act empowers states to enlist the help of the federal government in forming an Advisory River Board to handle inter-state cooperation concerns.

1970 - The Merchant Shipping Act seeks to deal with garbage generated by ships within a certain radius of the coast.

1974 - The Water (Prevention and Control of Pollution) Act creates an institutional framework for preventing and mitigating water pollution. It establishes water and wastewater quality requirements. Polluting industries must get approval before dumping trash into effluent bodies.

Under this act the CPCB (Central Pollution Control Board) was formed.

1977 - The Water (Prevention and Control of Pollution) Cess Act allows for the imposition and collection of a cess or tax on water-using companies and municipal governments.

1978 - The Water (Prevention and Control of Pollution) Cess Rules includes standard standards and specifies the kind and position of meters that must be installed by every water customer.

1991 - The Coastal Regulation Zone Notification imposes controls on a variety of activities, including building. It provides backwaters and estuaries with some protection.

Air

1948 – The Factories Act and Amendment in 1987 was the first to voice worry about the laborer's working conditions. The 1987 revision emphasized environmental concerns and broadened the scope of the law's applicability to hazardous procedures.

1981 - The Air (Prevention and Control of Pollution) Act ensures that air pollution is controlled and reduced. It gives the CPCB the authority to enforce the act.

1982 - The Air (Prevention and Control of Pollution) Rules defines the processes for Board meetings and the authority delegated to them.

1982 - The Atomic Energy Act deals with the radioactive waste.

1987 - The Air (Prevention and Control of Pollution) Amendment Act enables the national and state pollution control bodies to respond to serious air pollution situations.

1988 - The Motor Vehicles Act All hazardous trash must be appropriately packed, labelled, and transported, according to the law.

3.3.4. INTERNATIONAL CONVENTIONS RATIFIED BY INDIA:

- i. Convention Relative to the Preservation of Fauna and Flora in their Natural State (1933)
- ii. International Plant Protection Convention (1951)
- iii. International Convention for the Prevention of Pollution of the Sea by Oil (1954)
- iv. The Antarctic Treaty (Washington, 1959)
- v. Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar, 1971)
- vi. Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)
- vii. Convention on International Trade in Endangered Species of wild fauna and flora (CITES), 1973
- viii. Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)
- ix. United Nations Convention on the Law of the Sea (Montego Bay, 1982)
- x. Convention on Early Notification of a Nuclear Accident (1986)
- xi. Montreal Protocol on Substances that deplete the Ozone Layer (to the Vienna Convention for the Protection of the Ozone Layer), 1987
- xii. Basel Convention on Transboundary Movement of Hazardous Wastes, 1989
- xiii. Protocol on Environmental Protection to the Antarctica Treaty (Madrid, 1991)
- xiv. UN Framework Convention on Climate Change (UNFCCC), 1992
- xv. Convention on Biological Diversity, 1992
- xvi. Agenda 21, 1992
- xvii. UN Convention on Desertification, 1994
- xviii. Cartagena Protocol on Biosafety, 2000
- xix. Prior Informed Consent, Rotterdam Convention, 2000

2.4 Nodal Bodies in your country dealing with Climate Change, Environment Protection, SDG's etc.

2.4.1. Ministries of Government of India dealing directly or indirectly with climate change and environment protection are as follows:

- i. Ministry of Environment, Forest and Climate Change (MoEFCC)
- ii. Ministry of Agriculture and Farmers Welfare
- iii. Ministry of Fisheries, Animal Husbandry and Dairying

- iv. Ministry of Jal Shakti (MoWR)-
- v. Ministry of New and Renewable Energy (MNRE)
- vi. Ministry of Housing and Urban Affairs

2.4.2. Other agencies working on climate change and environment protection in India are as follows:

- a. National Green Tribunal
- b. National Biodiversity Authority
- c. National and State Biodiversity Boards
- d. Central and State Pollution Control Boards
- e. National Tiger conservation authority
- f. Animal Welfare Board of India
- g. Forest Survey of India

2.4.3. Reputed Civil Society Organisations working in the field of climate change and environmental protection:

- a. Greenpeace India
- b. Centre for Science and Environment
- c. NAVDANYA
- d. The Wildlife Protection Society of India

2.5 Environmental Protection Index Ranking of _____(Country) and other initiatives being taken in your country to protect climate change.

2.5.1. EPI 2020 Ranking of India: 168

2.5.2. Other initiatives taken in India to protect climate change:

There are numerous initiatives, plans and policies, some important ones are listed below:

2.5.2.1. National Action Plan on Climate Change (NAPCC) was launched in 2008- The NAPCC will be implemented through eight National Missions, which are as follows:

- a) National Solar Mission
- b) National Mission for Enhanced Energy Efficiency
- c) National Mission on Sustainable Habitat
- d) National Water Mission
- e) National Mission for Sustainable Agriculture
- f) National Mission for Sustaining the Himalayan Ecosystem
- g) National Mission for a Green India
- h) National Mission on Strategic Knowledge for Climate Change

NATIONAL MISSION ON STRATEGIC KNOWLEDGE FOR CLIMATE CHANGE

The aim of this mission is to establish a network among existing institutions and specialized bodies which are involved in research and development in the field of climate science, change and

environment protection. The aim is to support each other through data sharing and exchange. It aims to address the issue of regional impact of climate change within different ecological zones. The final goal is to develop a worldwide collaboration with all agencies working in the field and devise a policy framework within which climate change mitigation and risk reduction can be addressed.

2.5.2.2. Intended Nationally Determined Contributions (INDC):

INDC refers to the climate measures and initiatives to be taken by countries after 2020 as a consequence to the UNFCCC Conference of the Parties in December 2015. India declared its INDC as follows:

- *To promote and advance the spread of a healthy and sustainable way of life based on conservation and moderation traditions and values.*
- *At the same degree of economic development, to choose a more climate-friendly and cleaner road than others have taken previously.*
- *To lower the emissions intensity of its GDP from 2005 levels by 33 to 35 percent by 2030.*
- *With the support of technology transfer and low-cost foreign funding, particularly from the Green Climate Fund, attain roughly 40% cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.*
- *By 2030, an extra carbon sink of 2.5 to 3 billion tonnes of CO₂ equivalent will have been created through increased forest and tree cover.*
- *Increasing investments in development initiatives in climate-vulnerable sectors, such as agriculture, water resources, the Himalayan area, coastal regions, health, and disaster management, to better adapt to climate change.*
- *In light of the resources necessary and the resource gap, to raise domestic and new and extra money from developed nations to perform the following mitigation and adaptation initiatives.*
- *Building capacities, establishing a local framework, and establishing international architecture for the rapid dissemination of cutting-edge climate technology in India, as well as cooperative collaborative R&D for such future technologies*

[Source: [India Environmental Portal](#)]

2.5.2.3. Climate and Clean Air Coalition (CCAC)

In 2019, India formally joined the CCAC of the UNEP. India became the 65th country to join the coalition. India will work with partner countries to adopt cleaner and sustainable modes of production consumption patterns. It will try to adopt and use environment friendly transport, agriculture practices, industry and waste management to improve the air quality. It will offer international platform and collaborations for India to implement its own National Clean Air Programme (NCAP).

2.5.2.4. National Clean Air Programme (NCAP)

In 2015, India launched NCAP. It is a long term, time bound national level strategy to tackle air pollution. The aim is to reduce 20-30% reduction in the particulate matter concentrations by 2024 keeping 2017 as the base year. It aims to implement initiatives like reduction in vehicular and industrial emissions, increase public awareness.

2.5.2.5. Clean Development Mechanism (CDM)

Ministry of Power has roped in Tata Energy Research Institute TERI to address serious concerns about environment degradation and to improve India's performance with regard to environment.

TERI is required to formulate projects and work on international collaborations with foreign countries working on CDM for monitoring and verification of CO₂ emissions, simultaneously working on the reduction of CO₂ emissions.

2.5.2.6. Nmami Gange Programme

In 2014, Government of India launched the Nmami Gange Programme and allocated 20,000 crores for the conservation and rejuvenation of the river Ganga. Under the Ministry of Jal Shakti, the department for River Development and Ganga Rejuvenation was also introduced. Key achievement of the Nmami Gange Programme include establishing sewage treatment capacity, river front development and surface cleaning. The programme is implemented by the National Mission for Clean Ganga and State Program Management Groups at central and state levels respectively.

2.5.2.7. Green Skill Development Programme (GSDP)

GSDP was launched in 2017 by Ministry of Environment, Forests and Climate Change. The programme focuses on the developing the skills of youth in the field of environment and forests. The “green skills” means the skills that aims to preserve and conserve environment and aiming for sustainable development. GSDP aims to create employment and encourage self-employment in the field of environment protection. During the pilot phase, skills courses on Biological conservationists (basic course) and Para-Taxonomists (advanced course) were introduced at 10 different locations spread over 9 different bio geographic regions of the country. In the pilot phase 94 trainees completed the course.

2.5.2.8. Compensatory Afforestation Fund Act 2016 (CAMPA)

In 2009, the Supreme Court of India directed for the establishment of the Compensatory Afforestation Fund Management and Planning Authority as National Advisory Council under the Ministry of Environment and Forests for the purpose of monitoring and evaluating compensatory afforestation activities. For getting the clearance for any developmental project the compensation for the lost forest cover is also decided by the ministry and regulators. In 2016, the CAMPA Act was formally introduced to establish the mechanism both at Centre and State levels to ensure smooth and speedy utilization of funds to compensate use of forest land for non-forest purposes to mitigate the impact of such diversion.

2.5.2.9. Compulsory Environment Education

In 1999, The Supreme Court of India directed that appropriate steps should be taken to introduce environmental studies courses in all universities and affiliated colleges. In 2003, in pursuant of this order the University Grants Commission has designed a 6-month syllabus for environment studies for undergraduate courses for all branches of higher education to be compulsorily implemented. The non-implementation of this directive amounts to contempt of court. It is a syllabus comprising of 8 modules namely:

- Unit 1: Multidisciplinary nature of environmental studies
- Unit 2: Natural Resources
- Unit 3: Ecosystems
- Unit 4: Biodiversity and its conservation
- Unit 5: Environmental Pollution
- Unit 6: Social Issues and the Environment
- Unit 7: Human Population and the Environment
- Unit 8: Field work

2.5.2.10. National Environment Plan (NEP) 2006

In 2006, the Ministry of Environment and Forests introduced the National Environment Plan for mainstreaming the environmental concerns in all developmental plans, projects and activities. It focuses on the conservation of resources. The fundamental thought is that the conservation of the environment is possible only when the people dependent on environment can obtain their livelihood by conservational practices and not by degradation activities.

Objectives of NEP 2006:

1. *Conservation of Critical Environmental Resources*
2. *Intra-generational Equity: Livelihood Security for the Poor*
3. *Inter-generational Equity*
4. *Integration of Environmental Concerns in Economic and Social Development*
5. *Efficiency in Environmental Resource Use*
6. *Environmental Governance*
7. *Enhancement of Resources for Environmental Conservation*

3. Climate Change Law and Policy: An investigation into the Curricula of Universities in _____ India (Country)

3.1 Desk Research Objectives

1. To undertake a survey to find the courses related to climate change and environment protection being offered in different disciplines in various kinds of institutions;
2. To investigate the status of different kinds of institutions in which the desired subject is being offered;
3. To do the gap analysis of the existing courses;
4. To understand the main constraints in applying and implementing environmental-friendly legislative frameworks, examine the underlying principles of climate change law and policy and analyse more specific problems, such as regional approaches and relations between climate change law and other areas of law;
5. To prepare a report on similar curricula in Asia

3.2 Summary of findings for the following points. Include tabular/graphical representation wherever necessary.

Desk Research Parameters:

The desk research was based on the following parameters:

1. Name of the University or Constituent / Department / Institution
2. Status (Central University, State University, Private University, Deemed to be University, Autonomous Institutions, Institutes of Excellence like IIM/IIT etc., Online Courses (MOOCs, SWAYAM with Affiliation
3. Justification for the syllabi - UGC requirement, mission of the institution, need basis etc.
4. Title & Level: UG/PG/PG Diploma/Diploma/Certificate Course etc
5. Broad Discipline (eg. Law, Policy, Management, Science, Technology, Engineering, Geo Spatial, Natural Resources Management etc.)

6. Percentage wise distribution between science, technology, climate change, policy and law
7. Specific Module which deals with Climate Change, Law Policy
8. Details of the Specific Module
9. Prescribed Pedagogy and Assessment
10. Does the content mentioned in Column I uses the pedagogy on inclusion of clinical or experiential learning? If yes please identify and mention those aspects here in this column.
11. Does the content mentioned in Column H indicate political or legislative framework? If yes please identify and mention those aspects here in this column. Does it include any kind of case study / field study?
12. Does the Pedagogy/ Assessment Portray the following dimensions? A) Legal Consultancy B) Advocacy C) Clinical Lawyering D) Global Practice E) Advisory F) Reporting G) Training and Compliance. What is the weightage of knowledge, values and skills (50/30/20 etc.)
13. Best Practices identified and incorporated
14. Program Accreditation Process
15. Quality Assessment Process
16. Correlation with Placement Outcomes, engagement of experts etc.
17. Learning Outcomes, credit structure, credits, academic calendar, quality standards, etc.
18. International, National or Regional Collaborations with Institutions working in the field of Climate Change Law and Policy
19. Identification of Gaps

UNIVERSITIES SURVEYED & TYPE OF UNIVERSITY (PUBLIC/PRIVATE/DEEMED ETC)

STATISTICAL ANALYSIS OF QUANTITATIVE PARAMETERS

1. Institutions Mapped and Status of Institutions

Methodology:

The parameters 1 and 2 are analyzed in this section. The convenience sampling was used to collect data from available pool of information. It was ensured that all kinds of institutions are represented adequately. Additionally, it was ensured that all regions of India are adequately represented.

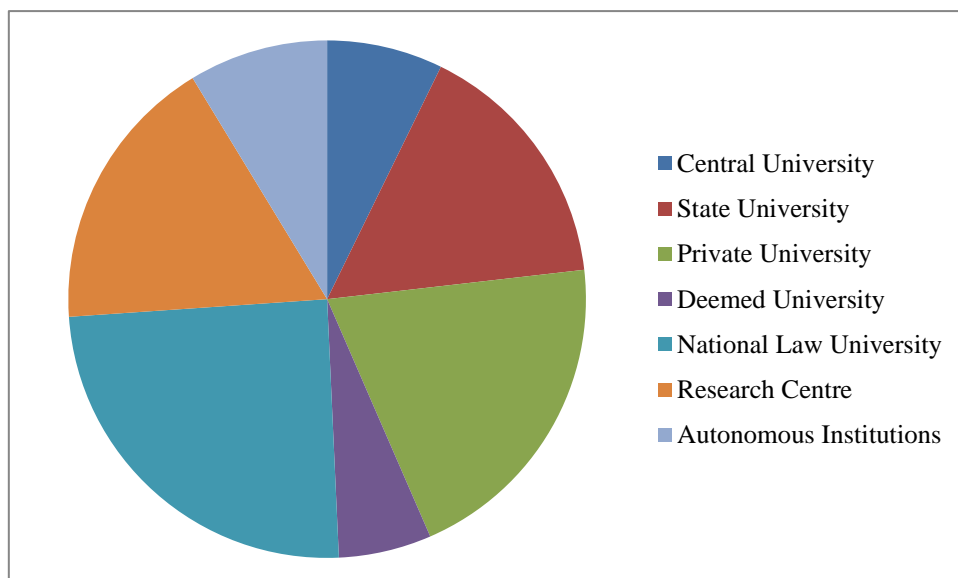


Figure 1 Institutions mapped

Table 1 Frequency and Status of Institutions Mapped

Status of Institution	Number
Central University	5
State University	11
Private University	14
Deemed University	4
National Law University	17
Research Centre	12
Autonomous Institutions	6
Total	69

Table 2 Status of mapped Institutions

S. No.	Name of the Institution	Status
1	Aligarh Muslim University	Central University
2	Faculty of Legal Studies, South Asian University	Central University
3	Jamia Milia Islamia	Central University
4	Rajasthan Central University	Central University
5	Atal Bihari Vajpayee Hindi University, Bhopal	State University
6	Barkatullah University, Bhopal	State University
7	GGSIP, University	State University
8	Gujarat University	State University
9	Maharaja Ganga Singh University, Bikaner	State University
10	Maharshi Dayanand Saraswati University, Ajmer	State University
11	Mumbai University	State University
12	Sambalpur University	State University
13	Tamilnadu Dr Ambedkar Law University	State University
14	University of North Bengal, Siliguri	State University
15	Amity Law School, Noida	Private University
16	Amrita Vishwa Vidyapeetham	Private University
17	Azim Premji University	Private University
18	Centre for Environmental Law (CEL), WWF-India in collaboration with Centre for Post Graduate Legal Studies (CGPLS), O.P. Jindal Global University (JGU)	Private University
19	FLAME University, Pune	Private University

20	Indian Institute of Legal Studies- Siliguri, West Bengal	Private University
21	Jindal School of Environment and Sustainability, Jindal Global University, Haryana	Private University
22	Manipal University, Manipal Institute of Technology	Private University
23	Nirma University	Private University
24	School of Law, Christ University	Private University
25	Shree Guru Gobind Singh Tricentenary (SGTU), Haryana	Private University
26	Tata Institute of Social Sciences, School of Studies, Mumbai	Deemed University
27	Teri School of Advanced Studies, New Delhi	Deemed University
28	CNLU, Patna	National Law University
29	HNLU, Raipur	National Law University
30	NLSIU, Bangalore	National Law University
31	NLU, Orissa	National Law University
32	Indian Agricultural Research Institute (IARI) - Centre for Environment Science and Climate Resilient Agriculture	Research Centre
33	IIT Delhi	Autonomous Institutions
34	IIT Kanpur	Autonomous Institutions
35	IIT Roorkee	Autonomous Institutions
36	IIM Ahmedabad	Autonomous Institutions
37	IIM Lucknow	Autonomous Institutions
38	Delhi University	Central University
39	Shri Govind Guru University, Godhra, Gujarat	State University
40	Ashoka University, Haryana	Private University
41	Bharathi Vidyapeeth University, Institute of Environment Education and Research, Bharati Vidyapeeth	Deemed University
42	Sree Sankaracharya University of Sanskrit	Private University
43	Shiv Nadar University	Private University

44	Symbiosis International (Deemed University)	Deemed university
45	National Law Institute University, Bhopal	National Law University
46	Gujarat National Law University, Gandhinagar	National Law University
47	National University of Advanced Legal Studies, Kochi	National Law University
48	National University of Study and Research in Law, Ranchi	National Law University
49	National Law University and Judicial Academy, Assam	National Law University
50	DS National Law University, Vishakhapatnam	National Law University
51	Tamil Nadu National Law University, Tiruchirapalli	National Law University
52	Maharashtra National Law University, Aurangabad	National Law University
53	Maharashtra National Law University, Nagpur	National Law University
55	Maharashtra National Law University, Mumbai	National Law University
55	Himachal Pradesh National Law University, Shimla	National Law University
56	National Law University, Jodhpur	National Law University
57	NUJS Kolkata	National Law University
58	IIT Kharagpur	Autonomous Institutions
59	SRM Institute of Science and Technology - Centre for Environmental Nuclear Research	Research Centre
60	Centre for Environmental Planning and Technology (CEPT), University	Research Centre
61	CSIR - National Environmental Engineering Research Institute	Research Centre
62	Ministry of Environment, Forest and Climate Change	Research Centre
63	Manonmaniam Sundaranar University - Sri Paramakalyani Centre for Environmental Sciences	Research Centre

64	Centre for Science and Environment	Research Centre
65	Indian Institute of Tropical Meteorology, Pune - Centre for Climate Change Research	Research Centre
66	(NABARD) - Banker Institute of Rural Development Lucknow – Centre for Climate Change	Research Centre
67	BHU – DST Mahamana Centre of Excellence in Climate Change Research	Research Centre
68	Indian Institute of Science, Bangalore – Divecha Centre for Climate Change	Research Centre
69	IISER, Kolkata – Centre for Climate and Environmental Studies	Research Centre

2. Justification for the syllabi - UGC requirement, mission of the institution, need basis etc.

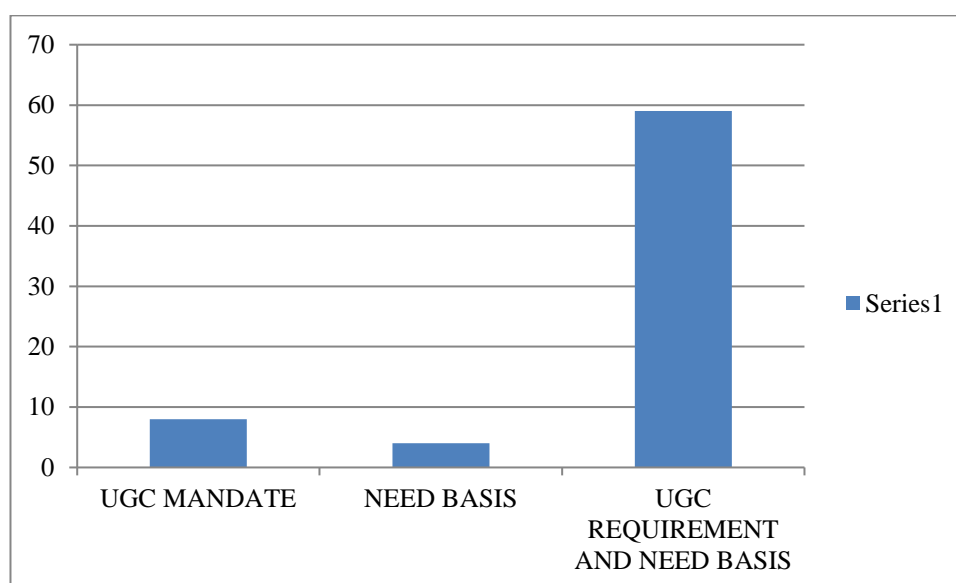


Figure 2 Justification for the syllabi

4= Need Basis
8= UGC Mandate
59= UGC Requirement and Need Basis

Finding: The parameter 3 is analyzed in this section. It can be observed that most of the institutions have offered courses relating to climate change and environmental law mainly because of UGC mandate. There is no evidence that a market oriented research was done before offering or designing these courses.

3. Title & Level: UG/PG/PG Diploma/Diploma/Certificate Course, etc.

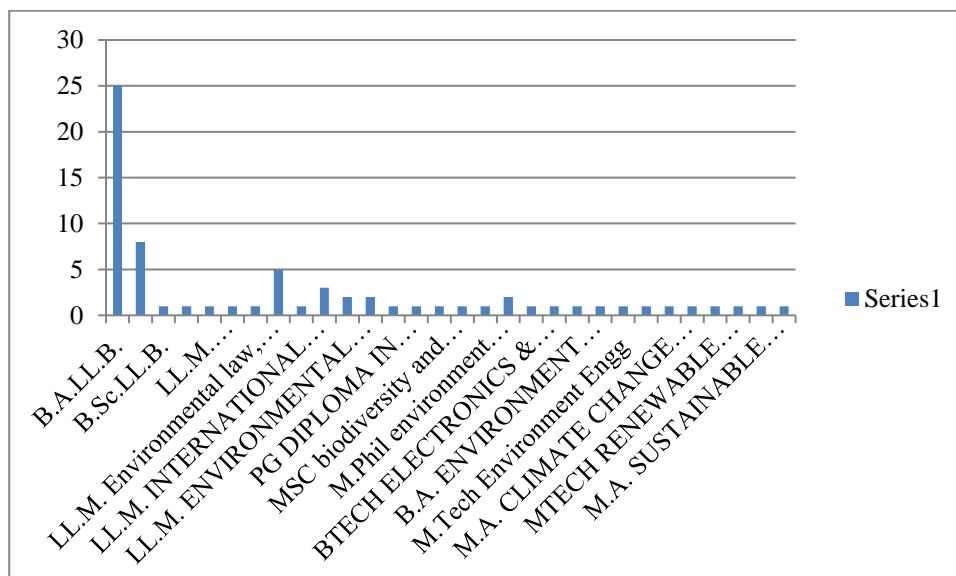


Figure 3 Title of Courses

Table 3 Title and Level of the Courses

S. No.	Title of the Courses	Level	Number
1.	B.A.LL.B.	UG	25
2.	B.B.A.LL.B.	UG	8
3.	B.Sc.LL.B.	UG	1
4.	BSW LL.B.	UG	1
5.	LL.M. Infrastructure and Business Law	PG	1
6.	LL.M. Environment & Natural Resource Law	PG	1
7.	LL.M. Environmental law, Energy and Climate Change	PG	1
8.	LL.M.	PG	5
9.	LL.M. International Environmental Law	PG	1
10.	LL.M. Environment and Legal Order	PG	3
11.	LL.M. Environmental Law	PG	2
12.	PG Diploma in Environmental law	PG	2
13.	PG Diploma in Environment Management and Sustainable Development	PG	1
14.	MSC Environment Management	PG	1
15.	MSC Biodiversity and Conservation	PG	1
16.	M.Sc. Environment	PG	1
17.	M.Phil. environment management	PG	1
18.	M.Sc. Environment Science	PG	2
19.	B. Tech. Electronics & Computer Engg	UG	1
20.	B.A. Economics	UG	1
21.	B.A. Environment Studies	UG	1
22.	B.Sc. Sustainable Development	UG	1
23.	M. Tech. Environment Engg	PG	1

24.	M.A. Public Policy	PG	1
25.	M.A. Climate Change and Sustainability Studies	PG	1
26.	M. Tech. Water Resource Engg and Management	PG	1
27.	M. Tech. Renewable Energy Engg and Management	PG	1
28.	M.Sc. Water Science and Governance	PG	1
29.	M.A. Sustainable Development Practice	PG	1
30.	P.G. Diploma in Public Policy & Sustainable Development	PG	1

Finding: The parameter 4 is analyzed in this section. Highest numbers of courses are being offered at Under Graduate level. It can be said that there is lack of specialized courses on climate change and environmental law at higher degree levels. It can be analysed through deeper field research that whether there is no demand for such courses or there is failure on part of institutions to deliver to such demand. It is found that mere lip service is being paid to the UGC mandate to run courses relating to environment protection at UG levels.

4. Broad Disciplines

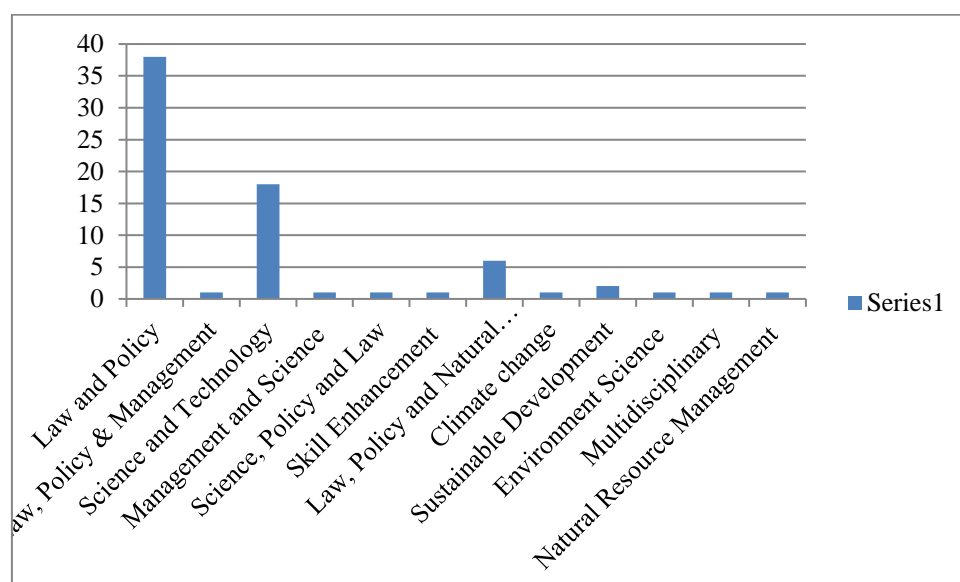


Figure 4 Broad Disciplines

Table 4 Broad Disciplines

Law and Policy	38
Law, Policy & Management	1
Science and Technology	18
Management and Science	2
Science, Policy and Law	1
Skill Enhancement	1
Law, Policy and Natural Resource Management	6
Climate change	1
Sustainable Development	2
Environment Science	1
Multidisciplinary	1

5. Percentage wise distribution between science, technology, climate change, policy and law

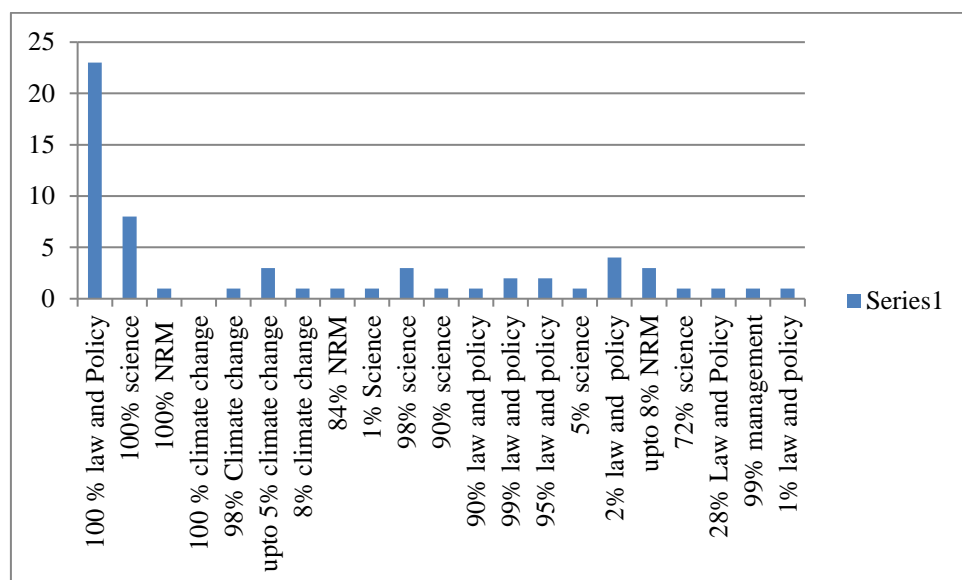


Figure 5 Percentage wise distribution between science, technology, climate change, policy and law

Table 5 Percentage wise distribution between science, technology, climate change, policy and law

Percentage Wise Distribution	Number of Courses
100 % law and Policy	24
100% science	8
100% NRM	1
100 % climate change	0
98% Climate change	1
upto 5% climate change	3
8% climate change	1
84% NRM (New Resource Management)ss	1
1% Science	1
98% science	3
90% science	1
90% law and policy	1
99% law and policy	2
95% law and policy	2
5% science	1
2% law and policy	4
upto 8% NRM	3
72% science	1

28% Law and Policy	1
99% management	1
1% law and policy	1

Finding: The parameter 6 is analyzed in this section. As earlier most of the courses fall under the law and policy category. There is no course which deals exclusively with climate change. Also, no course is found which includes law and policy, climate change, science and technology in adequate proportions. There is complete absence of inter disciplinary or multi-disciplinary courses in the field of climate change and environmental law.

6. Courses, Subjects, Modules dealing with Climate Change

The parameter 7 and 8 are analyzed in this section. The bifurcation of UG and PG courses having direct and indirect references of climate change in terms of course title, broad discipline, subject, module and details of module are given in the Tables below:

Table 6 Details of Modules for Undergraduate Courses

S. No.	Title of the Course	Broad Discipline	Subject	Module(s)	Details of Module(s)
1.	B.A. LL.B. & B.B.A. LL.B.; Semester VIII	Law & Policy	Law and Development (Optional Paper)	Unit-V Environment, Law and Development	B. Climate Change and Food Security
2.	B. Tech. in Electronics and Computer Engineering; Semester-V	Science	Environmental Science	Unit-1	Impacts, causes, effects, control measures, international, legal and regulatory frameworks of: Climate Change, Ozone depletion, Air pollution, Water pollution, Noise pollution, Soil/ land degradation/ pollution
3.	B.A. in Economics	Law & Policy	Interdisciplinary studies in Climate Studies		Introduction to Climate Change Economics: Understand climate change through an economic lens
4.	B.A. in Environment studies	Law & Policy	Climate Change	Semester-1	This course explores the issues of climate change and focuses on the various factors that determine the climate of our planet. We distinguish between natural variability of our climate and variations in climate due to anthropogenic causes. Additionally climate change related policies are studied and evaluated.
5.	B.A. (Hons.) Environmental	Law & Policy	Introduction to Climate		Introduction to Climate Change and Policy; Post-

	Studies; Semester-I, IV		Change and Policy; Post-capitalism and Climate Change		capitalism and Climate Change
6.	B.A. LL.B., Semester-IX	Law & Policy	Biodiversity law	UNIT 7: Contemporary Protection and Prohibition laws of Biodiversity in India	7.4 Climate change and protection of Biodiversity
7.	B.A. LL.B.; Semester-V, VI, VIII	Law & Policy	Environmental Law; Energy Laws; International Environmental Law	Unit-5EPA,1986; Unit-9 International Regime; Unit-7 Energy Efficiency & Conservation ;Unit-4 Global Commons	Judiciary: complex problems in administration of environmental justice, Climate change ? Legal control, permissible and impermissible noise. Stockholm conference, Green house effect and ozone depletion, Rio conference, Bio-diversity, U.N. declaration on right to development, conference on Wetlands, Climate Change. This unit will examine the incentives for energy efficiency and conservation included in the legislations to address climate change and bridging the gap between power consumption and power availability. This unit will examine the incentives for energy efficiency and conservation included in the legislations to address climate change and bridging the gap between power consumption and power availability.
8.	B.A./B.B.A.LLB.	Law & Policy	Environmental Law	International Development & their Impact on Indian Environmental Prudence	4.3 Rio Declaration (Agenda 21, Convention on Climate Change and Convention on Bio-diversity); 4.5 Kyoto Protocol; 4.10 Further Developments relating to Climate Change
9.	BA. LL.B. Hons.,	Law &	Environmental	Module-VI	Sustainability and sustainable

	Semester-IV	Policy	Studies	Environment al Policies & Practices	development. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.
10.	LLM, Environmental Law	Law & Policy		Module-IV International Concern for Environment Protection. There are total 11 Modules and out of which one specific Module dealing with Climate Change.	UNFCCC, United Nations Conference on Climate Change, Paris 2015
11.	BA/BCom/BBA/BSc/ BSW LL.B. (Hons.)	Law & Policy	Environmental Science	Ecosystem, Natural Resources, Biodiversity And Its Conservation , Environment al Pollution, Waste Management, Environment al Impact Assessment, Environment al Audit, Introduction To Climate	Ecosystem, Natural Resources, Biodiversity And Its Conservation, Environmental Pollution, Waste Management, Environmental Impact Assessment, Environmental Audit, Introduction To Climate Change, Sustainable Development, Environmental Laws, Acts, Rules And Regulations.

				Change, Sustainable Development, Environmental Laws, Acts, Rules And Regulations.	
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Table 7 Details of Modules for Postgraduate Courses

S. No.	Title of the Course	Broad Discipline	Subject	Module(s)	Details of Module(s)
1.	LL.M.; Semester-III	Law & Policy	Environment Law	UNIT – III: Climate Change, Sea & Water Law	A. Climate Change Law: The United Nations Framework Convention on Climate Change, 1992 & Kyoto Protocol, 1997
2.	LL.M.; Semester-II	Law & Policy	International Environmental Law	Week 6 and 7 Law of Climate Change	An overview of Climate change science, International responses to Climate Change consisting of The UNFCCC, The Kyoto Protocol, Paris Agreement. The discussion will also focus on the proceedings and decisions of various COPs including the future climate regime and different options. The role of SAARC in climate change negotiations will be undertaken.
3.	LL.M.; Semester-III	Law & Policy	International Human Rights Law	Week 9 Understanding Climate Change and Human Rights	Understanding Climate Change and Human Rights: General Framework of Climate Change and Human Rights, Relationship between Climate Change and Interdependent Human Rights. Human Rights Implications of Climate Change: Global Warming and Environmental Protection, Human Rights Perspectives on Climate Change, Human Rights-Based Approach [HRBA] to Climate Change, and Progressive Recognition of Human Rights Obligations Towards Environment & Climate Change. The Role of States: Obligations (Procedural & Substantive), Limits and Potentialities of the Human Rights Protection System. Implementation Assessment: The Missing Links between Harmony

					and Invention, Human Rights Mainstreaming in Climate Policy and Climate Justice [Greening Human Rights, Combatting Climate Change] and Summation.
4.	PG Diploma in Environmental Law (पर्यावरण विधि स्नातकोत्तर पत्रौपाधि); Semester-I; ; Unit-II	Law & Policy	International Environmental Law	Unit-II International efforts and environmental protection (अंतराष्ट्रीय प्रयास एवं पर्यावरण संरक्षण)	3. UNFCCC; 4. Kyoto Protocol
5.	LLM	Law & Policy	Environmental Law, Semester-III	Unit V: Environmental Governance	A. Policy Instruments: The National Action Plan on Climate Change, 2008
6.	M.A. in Environmental Studies	Law & Policy	Paper-19 Global environmental issues	International Conventions and Protocols	The treaties and conventions guiding the use of resources, disposal of waste and international cooperation in the fields of conservation and sustainability will be studied. Students will be introduced to a range of international protocols such as The Kyoto Protocol to the UN Convention on Climate Change, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, The Convention on Biological Diversity, Convention on LongRange Transboundary Air Pollution, The Montreal Protocol on Substances That Deplete the Ozone Layer and the United Nations Convention to Combat Desertification.
7.	M.Sc. (Environment Management); Semester-I & II	Science	Fundamentals of Ecology, Biodiversity and Sustainable Development (Unit-III); Fundamentals of Geoinformat	Geoinformatics in Environment Management; Aquatic and Aeromicrobiology; Aquatic biodiversity, ecosystem services and	Projected impact of climate change on India; temperature, rainfall, forests, agriculture, water resources; India's response to climate change; National Action Plan on climate change; India's actions vis-a-vis international programmes (UNFCCC, CDM and Kyoto Protocol, REDD+, Copenhagen Accord, etc.).

			ics (Unit-IV); Basic and Applied Environmental Microbiology (Unit-II); Geospatial Watershed Management (Unit-IV); Essentials of Urban Forestry and Biodiversity (Unit-II); Technology for Environment Management (Unit-IV); Ecosystem Management and Restoration (Unit-IV); Climate change mitigation & adaptation	restoration; Watershed Planning and Management; Urban biodiversity; Application of ecological restoration techniques; Climate Change Policy-Mitigation; Climate Change Policy – Adaptation.	
8.	M. Sc. (Biodiversity & Conservation)	Science	Biodiversity Conservation and Climate change; Climate change mitigation & adaptation	Climate and Climate Change; Climate Change Policy-Mitigation; Climate Change Policy – Adaptation	Intergovernmental Panel on Climate Change (IPCC):Definition of Impacts, Adaptation and Mitigation;Climate Change Policy of India; 1992,Kyoto Protocol and Emission Trading, Post Kyoto World: Problems and Prospects. Constitutional Provisions relating to Environment and Conservation Policies, Evolution of Environmental Rights through judicial process, Human Rights and Bio-diversity Protection interface.
9.	LL.M. in Environment and Legal order;	Law & Policy	Climate Change and Law	Unit-1 to V	Issues and concerns of India and Climate Change; National Action Plan on Climate Change; State

	Semester-III				Action Plan on Climate Change; Gujarat State Action Plan on Climate Change
10.	M.Phil. (Env. Management); Semester-I	Management	Environmental Management Systems and Environmental Legislation	Unit-V Legislation	Environmental Management Systems and Environmental Legislation Overview of Environmental laws in India. The Water (Prevention and Control of Pollution) Act, 1974; The Water (Prevention and Control of Pollution) CESS Act, 1977; The Air (Prevention and Control of Pollution) Act, 1981; The Environment (Protection) Act; 1986, Hazardous Wastes (Management and Handling) Rules, 1989; Bio-Medical Waste (Management and Handling) Rules, 1998. Role of Judiciary in Environmental Management.
11.	M.Sc. (Env.Sc.)	Science	Social Forestry and Public Participation	Unit-II Environmental laws	Environmental Legislation in India. The Water (Prevention and Control Pollution Act, 1974), The Air(Prevention and Control Pollution Act, 1981), The Environment (Protection Act), 1986, The Biological Diversity Act, 2002.
12.	M.Sc. (Environmental Science); Semester-VI	Science	Environmental Management	Unit-VI Climate Change	6.1 Introduction to climate change, global warming and its effects. 6.2 Greenhouse substances: Sources & effects. 6.3 Geospatial technology-Remote Sensing & GIS. 6.4 Role of IPCC in climate change monitoring; Kyoto Protocol, Montreal Protocol, Earth Summit & UN Convention on Climate Change
13.	LL.M. (Group-VI) Environment and Legal Order	Law & Policy	Environment and Development: Law and Policy; Resource Management; Environment and International	Paper-I to VI	General Laws on Environmental Concern; Environmental Federalism and International Order 2. Sustainable Development. 3. International Concern for Environment Protection

			Legal Order		
14.	LL.M. (Environmental Law) Group D	Law & Policy	Principles of Environmen tal Law-I & II	Paper-I & II	Constitutional Provisions for protection of environment ; Directive Principles relevant to environment, Article 48A & Article 51g, Remedies against environment protection under Article 32 and Expansion of Article 21. Environmental Protection : The Judicial approach, PIL & Environment Protection, Precautionary Principles and Polluter pays principle, Traditional Rule of Locus standi, Class Action or Citizen's Rule. Environmental Protection Law and it's Implementation, Legal Regime for pollution Control : Central Pollution Control Board and State Pollution Control Board. environment Impact Assessment, Public participation and Access to Information.
15.	LL.M.	Law & Policy	Climate change laws: Policy and Managemen t	Modules 1 to 6	
16.	LL.M. (Public Law)	Law & Policy	Environmen tal Law (Compulsor y)	Module2: Environemnt al Debates in India	Technology and Environment: Climate Change, Urban Ecology and Biotechnology.
17.	LLM in Environmental Law, Energy and Climate Change	Law & Policy	Adaptation to Climate Change Environmen tal Law in National Context	Overall course	Interface between Environmental Law, Energy Laws and Climate Change: National Laws and Policies, institutional frameworks resulting in effective implementation. Financing in the climate sector, technological innovations, alternate energy regimes, urban green living. Introduction and current global and national perspectives explained through case studies and on ground scenarios. Field Study - mandatory study tour to a conservation site which demonstrates implementation of

					laws and policies, best practices & sustainable living.
18.	M. Tech. in Environmental Engineering, Semester-III	Science	Earth and Environment	The complete elective	Climate change, reasons for climate change
19.	M.A. Public Policy; Semester-II	Law & Policy	Skill Enhancement-II	Unit-5 Ecosystem-services valuation	General issues on Environmental ecology, Bio-diversity & climate change. General Science.
20.	M.Tech (Water Resources Engineering and Management); Semester- I, III	Science	Water planning and management ; Water Laws	Reforms in the Water Planning and Management Processes – (Late 1990s onwards); Water Pollution	Impact of climate change on available water potential; Customary and general principles of International Law National Laws: India: Water (Prevention and Control of Pollution) Act, 1974; Environment (Protection) Act, 1986 Bangladesh: Water Act, 2013.
21.	M.Tech (Renewable Energy Engineering and Management); Semester-I,II	Science	Conventional energy and environmental implications ; Renewable energy policy and regulations	Unit-11 Energy and Climate Change Linkages; Unit- 2 Indian energy Policy	Energy and the climate change dimension, energy access, climate change and equity, international response to climate change, India's responses to climate change. ; An Introduction to Indian Energy Policy, Electricity Act, National Tariff Policy, National Action Plan on Climate Change , National RE Policy, National Solar Missions, Wind Power, Regulatory Commissions, Grid Code, Green Corridor, Solar Parks, Hybrid Parks, Repowering, Offshore, Scheduling and Forecasting, Electricity Trading, Open Access, RPO
22.	M.Sc. (Water Science and Governance); Semester-III	Science	Water Law	Water Pollution	Customary and general principles of International Law National Laws: India: Water (Prevention and Control of Pollution) Act, 1974; Environment (Protection) Act, 1986 Bangladesh: Water Act, 2013.
23.	PG Diploma (Public Policy and Sustainable Development)	Law & Policy	Governance and Law	Module 5	Evolution of environmental laws in India – Role of Judiciary Constitutional provisions – Overview of laws and institutions Role of judiciary in policy making; general principles Public participation in environmental

					decision making
24.	Post Graduate Diploma in Environmental Law	Law & Policy		Course 3: International Environmental Law	Module V: Common Concerns: Ozone and Climate Change
25.	M.Sc. (Environmental Science)	Science	Biodiversity Types, Concept and Conservation	Unit II: Biodiversity	values, Biodiversity status: National status and Global status, hotspot; threatened species, IUCN Red list, endangered species, vulnerable species, rare species, extinct species and endemic species. Climate change, induced losses. Common flora and fauna in India- Aquatic: phytoplankton, Zooplankton and macrophytes. Terrestrial: Forests; Endangered and threatened species.
26.	M.Tech.(Energy Studies)	Science	Hydrogen Energy	Modules1 to 5	It covers climate change in terms of hydrogen energy systems.
27.	M.Tech.(Energy & Env Technologies and Management)	Science	Energy and Environment; Carbon Audit and Management; Carbon Capture and Storage; Environmental Economics	Module 9: Global effects and climate change	Greenhouse gases, Ozone depletion concepts, Effects on oceans
28.	PG Course in Climate Change And Water Bodies	Science	AH-580: Climate Change And Water Bodies	Whole subject	Natural eco-systems, autotrophs, heterotrophs, energy flows, pre-industrial humanity; efficiency of photosynthesis and ecosystems like forests, crops, respiration, combustion and other oxidation processes, biomethanation; History of climate change, greenhouse gas effect, anthropogenic climate change, role of different gases, global climatic problems, integrated assessment model, impacts and adaptation, uncertainties, precautionary principle; Biological and physico-chemical methods for carbon sequestration, CO2 capture from large point sources, pre-, post- and oxy-

					combustion technology, transport, storage and monitoring, feasibility, economics and public perceptions; Water resources and green house gas emissions, mitigation measures and adaptation to climate change; Kyoto protocol, UNFCCC, IPCC, geopolitics of GHG control, CDM and other emission trading mechanisms, non-CO2 GHGs, relevance for India, procedure for registration for CDM projects and its benefit; Case studies.
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7. Prescribed Pedagogy and Assessment

The parameters 9 and 11 are analyzed in this section.

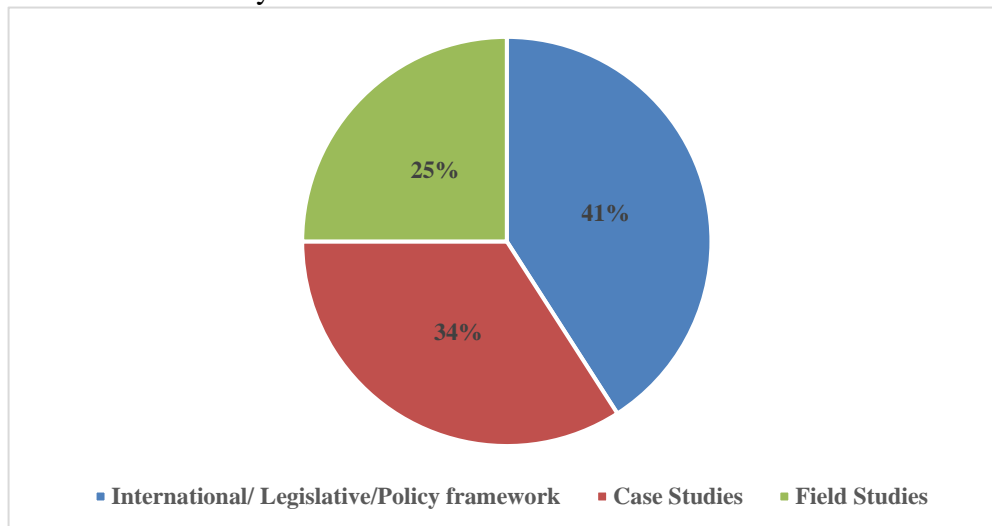


Figure 6 International and regional conventions, national legislations and policy frameworks in Courses

Majority of the institutions include international and regional conventions, national legislations and policy frameworks in their course curricula. The marks distribution remains 25% and 75% in internal and external examinations respectively. The maximum marks vary in different courses such as 100, 60, 50 and 40 marks.

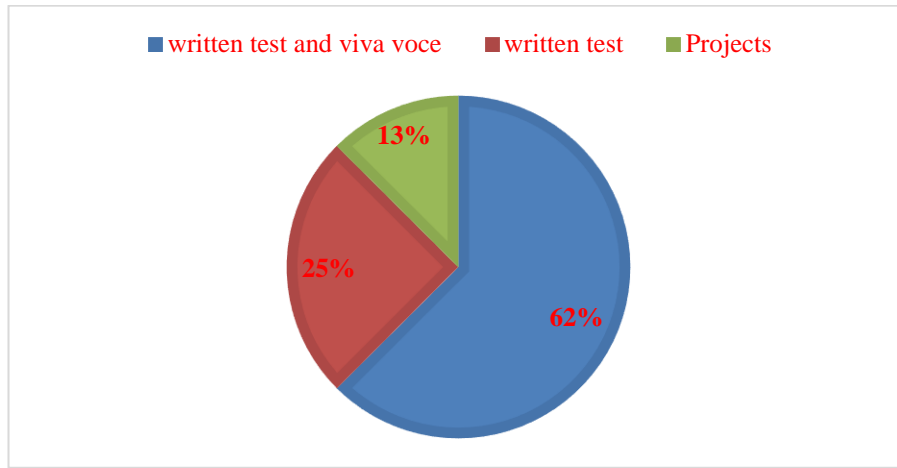


Figure 7 Assessment

Table 8 Assessment

written test and viva voce	5
written test	2
Projects	1

Finding: The mostly followed mechanism of evaluation is a written test coupled with viva voce. It highlights the gap of lack of skill-oriented courses and also that even now traditional methods of evaluation are being followed. There is great scope to implement innovative evaluation methods which can test the theoretical as well as practical knowledge of the students.

8. Pedagogy on inclusion of clinical or experiential learning

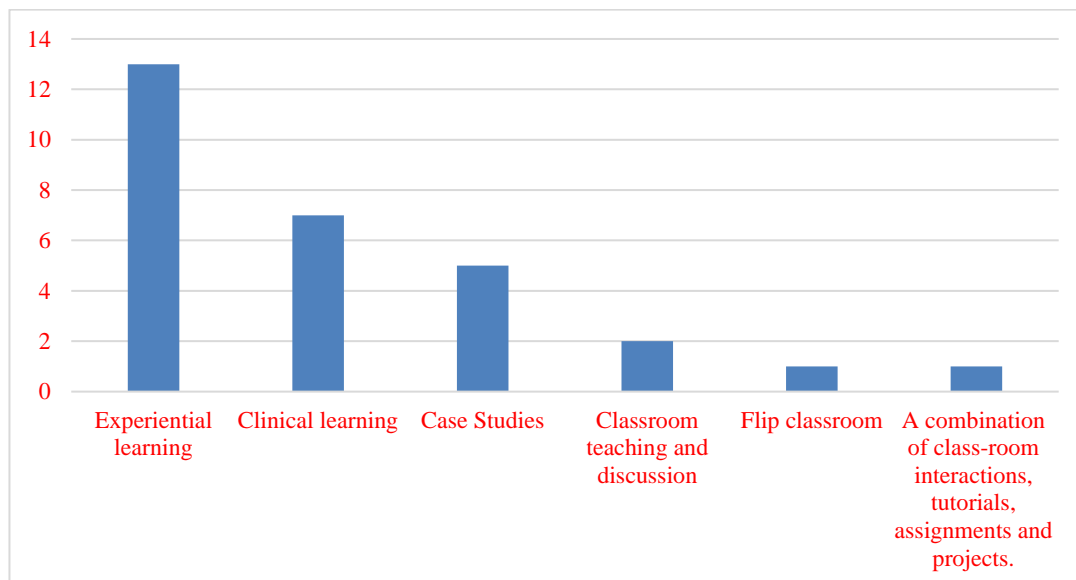


Figure 8 Pedagogy

Table 9 Pedagogy

Experiential learning	13
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Clinical learning	7
Case Studies	5
Classroom teaching and discussion	2
Flip classroom	1
A combination of class-room interactions, tutorials, assignments and projects.	1
Classroom lectures, case studies, field visits, quizzes, term papers, assignments and tutorials, a large number of guest lectures by practitioners and experts, seminars and discussion forums, and role play.	1

Finding: The parameter 10 is analyzed in this section. Most of the descriptions of the courses omit to state the pedagogy to be used. However, it is a positive finding that many courses explicitly mention experiential learning, clinical lawyering, use of case studies, field visits. This clearly shows greater acceptability recognition and scope of the use of innovative pedagogy in courses directly or indirectly relating to climate change policy and law.

9. Weightage of knowledge, values and skills and dimensions covered

The parameter 12 is analyzed in this section.

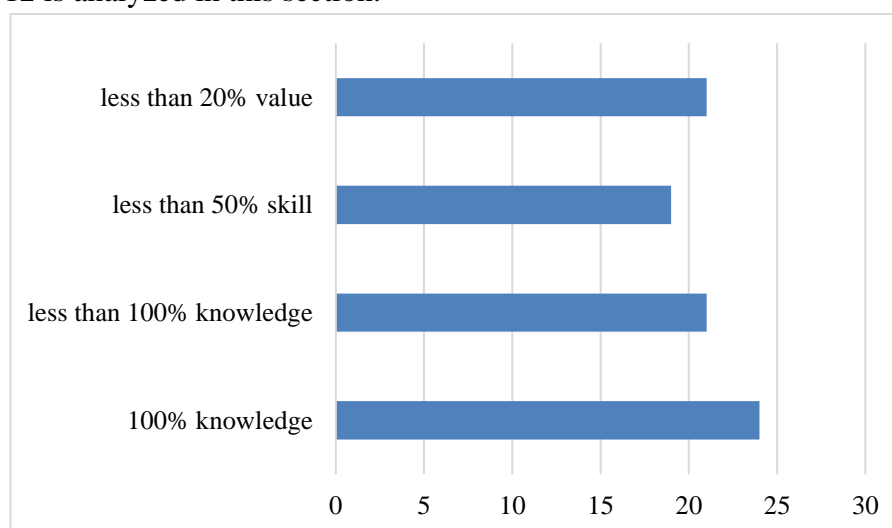


Figure 9 Weightage of knowledge, values and skills

100% knowledge	24
less than 100% knowledge	21
less than 50% skill	19
less than 20% value	21

The seven dimensions were taken into consideration which are graphically represented as follows:

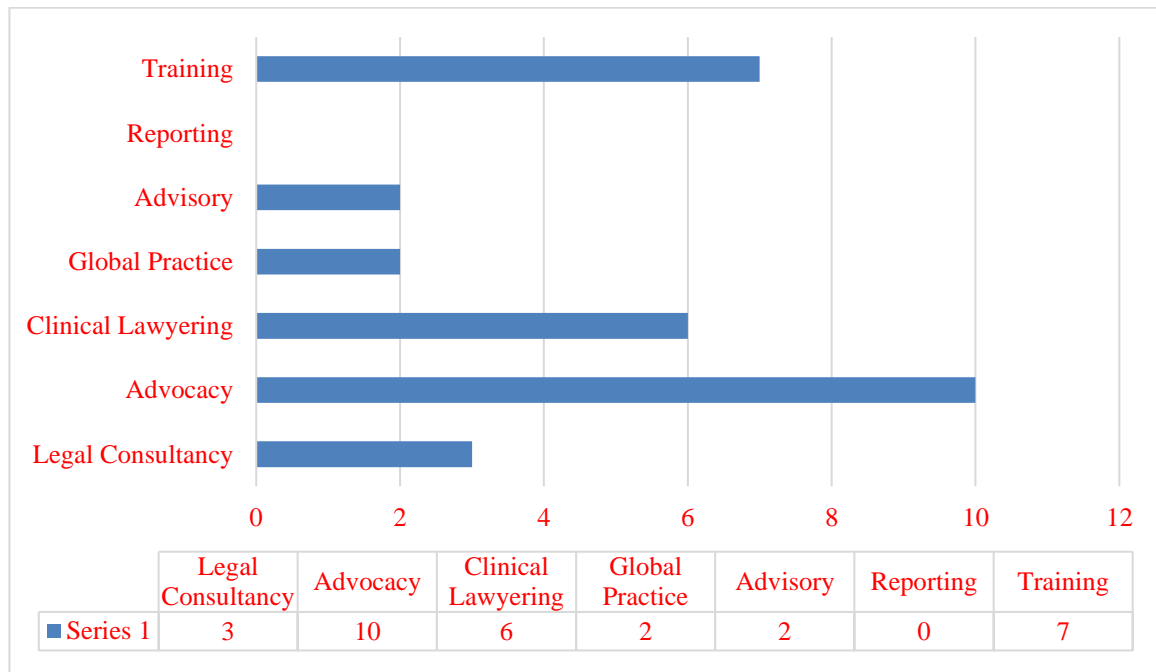
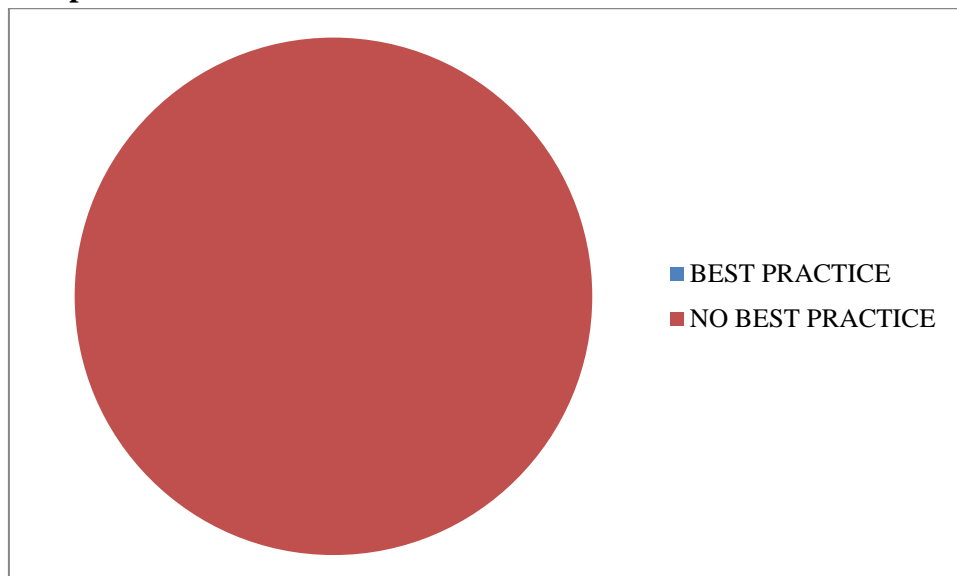


Figure 10 Dimensions covered

Finding: There is inadequate emphasis on the delivery of skills in the existing curricula. The traditional ratio of imparting mere knowledge and no experiential learning is being continued without any review of job market wherein there can be more demand for skills and not just theoretical knowledge of the subject. The implementation of knowledge can only be ensured by laying more emphasis on the delivery of skills which are based on the sound job market research.

10. Best practices:



The parameter 13 is analyzed in this section. We were not able to find existence of any best practice in any of the institutions.

11. Program Accreditation and Quality Assessment Process

The parameters 14 and 15 are analyzed in this section. In India, the quality of education is monitored through various statutory, other regulatory bodies and policy parameters. As a part of regulating quality education there is a settled procedure of affiliation, monitoring, inspection at regular intervals

through these regulating bodies and policy parameters. On the basis of these inspection report (infrastructural, academic and research), regulating authorities determine continuation of affiliation and overall ranking of the institutions. These regulating bodies are as follows:

a) University Grants Commission (UGC)

The UGC has the unique distinction of being the only grant-giving agency in the country which has been vested with two responsibilities: a) providing funds and coordination, b) determination and maintenance of standards in institutions of higher education. The most important mandate of UGC includes:

- determination and maintenance of standards of teaching, examination and research in universities;
- framing regulations on minimum standards of education and qualification for the teachers; and
- advising the Central and State governments on the measures necessary for improvement of university education.

b) National Assessment and Accreditation Council (NAAC)

National Assessment and Accreditation Council (NAAC) was established by the UGC in September 1994 for conducting assessment and accreditation of Higher Educational Institutions (HEI) such as colleges, universities or other recognized institutions to derive an understanding of the 'Quality Status' of the institution. NAAC evaluates the institutions for its conformance to the standards of quality in terms of its performance related to the educational processes and outcomes, curriculum coverage, teaching-learning processes, faculty, research, infrastructure, learning resources, organization, governance, financial wellbeing and student services.

c) Bar Council of India (BCI)

The Bar Council of India is specific regulating authority of legal education in India. By way of the Advocates Act, 1961, BCI is also authorized to regulate and monitor the standard of legal profession in the country. As a part of regulating legal education, BCI visits and inspects Universities/Law colleges in India as part of its statutory function of promoting legal education. BCI lays down standards in consultation with the Universities in India and the State Bar Councils. BCI follows the Bar Council of India's Inspection Manual, 2010 and the Bar Council of India Education Rules, 2008 for conducting inspections and setting standards of legal education in India.

d) All India Council for Technical Education (AICTE)

The objective of AICTE is to promote quality in Technical Education Planning and Coordinated Development of Technical Education System Regulations and Maintenance of Norms and Standards. It envisions to be a world-class organization leading technological and socio-economic development of the country by enhancing the global competitiveness of technical manpower and by ensuring high quality technical education to all sections of the society.

e) National Institutional Ranking Framework (NIRF)

The National Institutional Ranking Framework (NIRF) was approved by the MHRD and launched by Honorable Minister of Human Resource Development on 29th September 2015. This framework outlines a methodology to rank institutions across the country. The methodology draws from the overall recommendations broad understanding arrived at by a Core Committee set up by MHRD, to identify the broad parameters for ranking various universities and institutions. The parameters broadly cover:

- Teaching, Learning and Resources;
- Research and Professional Practices;
- Graduation Outcomes;

- Outreach and Inclusivity; and
- Perception.

In addition to these bodies, from 2005 to 2014 a number of steps were introduced by the National Knowledge Commission to revamp the system towards achieving academic and professional excellence in legal education. In pursuance of this, a National Education Policy, 2020 [NEP] was approved by the Union Cabinet with intend to introduce modification in school and higher education in India. The prime objective of higher education policy was to internationalize it to fulfill challenges of the global education.

12. Correlation with Placement outcomes and engagement of experts

The parameter 16 is analyzed in this section. As described by the surveyed institutions, the placement outcomes of climate change graduates and postgraduates in areas of sustainable development, conservation, climate change at organizations including, but not limited to:

- Government ministries and departments
- Governance and administrative bodies/agencies
- Policy thinktanks

The collaboration through industry experts in course can develop higher-level thinking skills in the students. The students can learn through expertise and practical experiences of such experts. For industry interaction, many surveyed institutions engage international climate change experts, renowned field experts and industry practitioners for the purposes of:

- teaching: regular as well as guest lectures
- review of syllabus;
- workshops; and
- external examiner for dissertation.

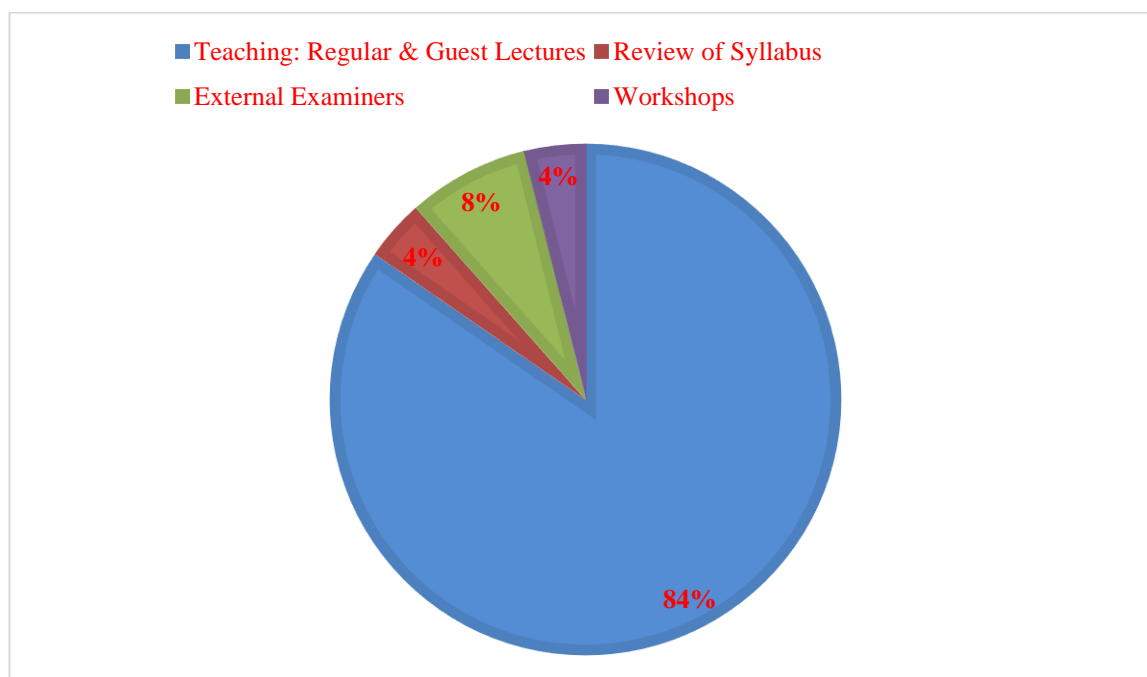


Figure 11 Engagement of Experts

Table 10 Nature of Engagement of Experts

Nature of Expert Engagement	Frequency	Percentage
Teaching: regular as well as	22	84%

guest lectures		
Review of syllabus	1	4%
Workshops	2	8%
External examiner	1	4%
Total	26	100%

Out of 26 courses, where the surveyed institutions have engaged experts, majority of the experts, i.e., 84%, are involved for the purpose of teaching students regularly or as guest lecturers. Institutions like TERI include experts in their Board of Studies for review of syllabi and conducting workshops. The GGSIP University engages experts as one of the external examiners for evaluation of dissertations.

13. Learning Outcomes, credit structure, credits, academic calendar, quality standards, etc.

The parameter 17 is analyzed in this section. Each course has its tailored outcomes as per the course structure. However, the common learning outcomes of the courses having relation with climate change law and policy include:

- Outlining how international environmental law is incorporated into environmental policies of national and state governments;
- Examining and analysing legal approaches to pollution control, environmental planning and natural resource management;
- Exploring politico-economic issues underlying environmental policy formulation at an international and domestic level;
- Critically examining implementation issues associated with environmental regulation and environmental regimes;
- Analysing and reflecting on the interplay between politics, policy, science and values in environmental law;
- Researching, critically examining and communicating in writing about a problem or specific aspect of environmental law;
- Understanding the contribution of international environmental laws and the national measures for Protecting environment and achieving sustainable development;
- Analysing the functioning of institutional structures for environmental governance, liability regimes and environmental justice delivery;
- Imbibing disciplinary and interdisciplinary knowledge;
- Understanding the economic, cultural and political factors behind environmental and sustainability issues;
- Learning the skills required to do critical analysis, qualitative analysis, quantitative analysis and problem-solving exercises for environment;
- Explaining the role of law, policy and institutions in the conservation and management of natural resources, sharing and protection of such resources as well as pollution control;
- Learning about the climate crisis, the global response, and how individuals can mitigate the challenge;
- Strengthening participants' theoretical understanding of the global climate emergency and its linkages with SDGs and COVID-19 and how sectors can become climate-resilient;
- Enabling participants to tackle climate vulnerabilities, address risks and build resilience in different sectors of their respective fields of work;
- Taking lead in initiating individual youth-led handprint actions for a climate-resilient world; and
- Promoting local community action through encouraging friends, family, school/college, etc.

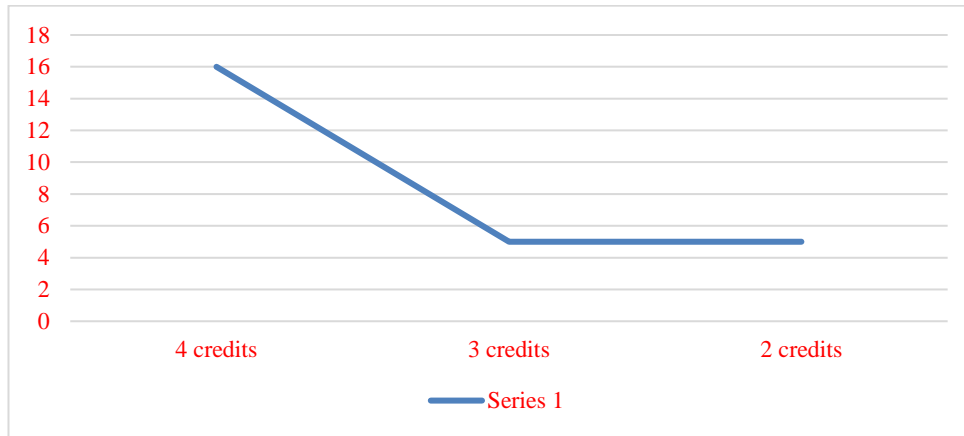


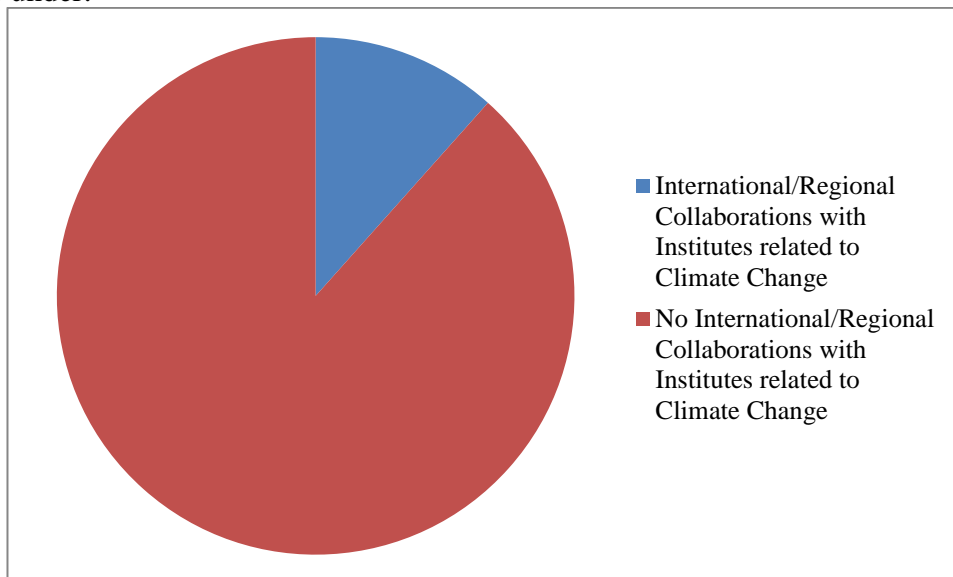
Figure 12 Credits

4 credits	16
2 credits	5
3 credits	5

The parameter 17 is analyzed in this section. The courses offering climate change as a subject or module are majorly 4 credit courses/ However, these courses are also 3 and 2 credits in some institutions.

14. International/Regional Collaborations with Institutes related to Climate Change

The parameter 18 is analyzed in this section. Out of 69 institutions studied only 8 institutions were found to have International/Regional Collaborations with Institutes related to Climate Change. The details are as under:



S. No.	Name of institution	Nature of International Collaboration
1	Ashoka University, Haryana	Few of the visiting professors for this course are alumni of foreign universities like University of Chicago; Duke University; one specific Professor (Prof. Iain Stewart) is currently a Professor of Geoscience Communication, University of Plymouth, Director, Sustainable Earth Institute.
2	Centre for Environmental Law (CEL),	Course offered jointly with WWF-India

	WWF-India in collaboration with Centre for Post Graduate Legal Studies (CGPLS), O.P. Jindal Global University (JGU)	
3	FLAME University, Pune	Dr. Swapna Pathak, Assistant Professor, Oberlin College (Ohio) invited to Panel 3: International Studies (The International Politics of Climate Change: Implications for India) under Climate change and India: Implications for environment, policy and international politics" on December 9th and 10th, 2021 https://www.flame.edu.in/research/resources/conferences/climate-change-and-india
4	Jindal School of Environment and Sustainability, Jindal Global University, Haryana	Claimed Global Partnerships with University of Cambridge; Yale University; Georgetown University; Brown College; University of Oxford
5	Nirma University	Local collaboration with Ministry of Environment, Forest and Climate Change
6	Shiv Nadar University	Shiv Nadar University: Mr. Arpit Chaturvedi, CEO, Global Insights, Lecturer, San Francisco State University was invited as a speaker to the Workshop On 'Climate Governance And Global Commons' https://snu.edu.in/events/workshop-climate-governance-and-global-commons
7	Symbiosis Law School, Pune	Jean Monett Chair, Erasmus+ Project on Curricula Development on CCPL
8	IIT Kanpur	International Collaboration: University of Cambridge (UK)C.A. Petrie, Department of Archaeology, University of Cambridge, Cambridge Late Quaternary environmental changes in western Haryana plains interpreted through lake deposits, http://www.iitk.ac.in/nfca/collaborations.htm

- **National Judicial Academy and Climate Change Law and Policy**

The active involvement of judicial officers in climate change law and policy is seen less in India. The academic calendars from past five years (2017-22) of the National Judicial Academy, India, were analyzed. The National Judicial Academy, India is the primary institution mandated for administration of justice through judicial education, research and policy development. The analysis reveals that National Judicial Academy, India does not include environmental law in its curriculum. During the academic year 2017-18, a special event titled "Conference on Environmental Law and Climate Change" was mentioned. However, through desk research, the details of any such

event under the detailed thematic framework report were not found.

It reflects that judicial officers are not trained enough to deal with the environmental litigation and climate change law and Policy. Climate change law and policy remains one of the least discussed topics. The insufficiency of judicial training on climate change may lead to lack of experience in adjudicating cases relating to climate change law and policy.

Do the Current Courses Deal with The Issues of Climate Change/Sustainability in An Innovative Manner Benefiting the Student's by Way of Knowledge, Ethics and Skills.

1. Majority of the courses are very specific to their disciplines. It can be observed from the above table that the courses are either law or science centric. There are fewer management and humanities centric courses. A cross cutting course which imbibes inter disciplinarily approach of the issue of climate change/ sustainability cannot be found. Only two courses were found to specifically mention "Climate Change". This reflects the fact that "climate change" as a whole is not the subject matter of the majority of the courses. It is a specific module in other courses which have either law or science approach;
2. Innovative practices like lab work, field work, report writing, industrial training, and clinical advocacy are being followed in Universities and Institutions. However, this cannot be ascertained whether these practices are being implemented after doing a thorough survey of the need of the employment market;
3. None of the courses were found to be grounded in ethics in any manner. The meaning of the ethics also need to be ascertained i.e. whether this refers to research ethics or market ethics once the students enter the employment sector. The focus on building the environment conscious workforce cannot be ascertained by the desk research;
4. The science courses like M.Sc., M.Tech., B.Tech. are more focused on imparting a skill set to the students for the purpose of increasing their employability. The students graduate with a unique skill set which cannot be acquired by general public. They enjoy greater employment opportunities in industrial and environment management sector. The social sciences and law centric courses lack this uniqueness. The knowledge set imparted by them can be acquired by a generic reading or understanding and does not require any specialized training or lab experience and thus the employability is not very high. Thus, there is a scope for delivery of market specific skills in law and policy courses also.

Gaps Found in the Courses in terms of Project Objectives

- Not many courses were found to be multi-disciplinary in approach. There are few which are inter disciplinary but none engulfs a multi sectoral approach;
- Most of the courses are being offered under the domain of law and policy. Centers dedicated to climate change and sustainability studies were found only in O.P. Jindal University, TISS;
- It could not be ascertained either through desk research or through extensive investigation into the course modules that the courses are designed as per the requirements of the labour market. Mostly courses are designed to fulfill the UGC mandate;
- Out of 69 only 8 institutions were found to have international, national or regional collaborations, hinting that there is scope and need of more such collaborations. Moreover the existing collaborations are not for drafting of syllabus or for delivery of courses. This possibility can easily be explored.

Conclusions and Recommendations from Desk Research

1. There is an urgent need to do market research to find the skill set required in the climate change law and policy sector;
2. A multi sectoral study is recommended to design a course which imparts the required skill set based on the market research;
3. The Supreme Court of India, in *M.C. Mehta v. Union of India, 1992 SCC (1) 358* [Environmental Education case] directed the UGC and Government of India to take immediate steps to introduce and enforce compulsory education on environment in a graded way and to introduce a compulsory subject at every level of college education to protect environment and keeping it free from pollution.
4. Other regulating bodies such as UGC, BCI and AICTE need to ensure delivery of multi-disciplinary approach to introduce to new innovative courses which are blend of law and science orientation at undergraduate and postgraduate levels of education;
5. The exchange of learning from foreign and European Universities and institutions should be encouraged and government should encourage such partnerships and collaborations by funding such activities. There should be adoption of best practices from all over the world and the best of both worlds should be adopted;
6. The inclusion of indigenous knowledge should also be encouraged to acknowledge the traditional knowledge and practices of environment protection and mitigation of climate change. The introduction of philosophical wisdom through conventional and cultural practices in Semester-I of LL.M. was further emphasized by one of the legal experts on climate change Mr. Abhay Pimparkar, Deputy Secretary of Environment, Government of Maharashtra during the FGD.
7. All universities and institutions should establish a Centre for Climate Change Law and Policy dedicated to the delivery of multi-disciplinary courses, research and knowledge creation serving the market needs and the need for research and development in the field of climate change law and policy.

4. Focus Group Discussion (It should consist of 5 Academics, 2 ClimateChange Experts and 3 Students)

The desk research revealed an underlying academic need of an innovative course curricula on climate change law and policy. The findings and gaps from the desk research further strengthened the findings of FGD with respect to development of innovative curricula in Asia on Climate Change Law and Policy. The proposed outline of such course is envisioned with multidisciplinary approach cumulatively supported by disciplines of law, management and science through experiential learning and exchange of best practices to face the challenges posed by climate change.

4.1. Focus Group Discussion Objectives

The WP-1 of the CCP_L project is the first milestone which will help in contribution to the development and implementation of outputs and activities of all the following WPs. Under WP-1, Task 1.3: Report on Similar Curricula on CCP_L in Asia, a focus group discussion of academicians, experts and students working and researching in the field of climate change policy and law was conducted by SIU to achieve the aforementioned objectives:

- To discover similar programmes in the subject area from the countries of Asian HEIs and the wider region;
- To identify the gaps and assess the exact academic needs that have to be catered for by the CCP_L educational programme;

- To ascertain that the programme will be in tune with cutting edge technology, truly innovative and will have wider dimensions with present and future issues of climate change and law;
- To discuss the needs and gaps that have to be addressed by the project through collecting the inputs from all relevant target groups in developing a balanced educational programme on climate change policy and law.

4.2. Methodological framework

The focus group discussion conducted by SIU witnessed participation from 3 subject experts, 5 academicians and 3 students. The process included an open discussion on the questions in relation to the expected academic needs of the CCP_L project.

4.3. Date of Meeting- 7th December 2021

4.4. Members (their background in the field, designation) invited and their demography

In the focus group discussion conducted under Task 1.3 of WP-1, 11 respondents had participated. The details of the respondents are given as follows:

Table 11 List of Focus Group Discussion Participants held on 7th December, 2021

S. No.	Name of the Participant	Designation	Classification
1.	Justice Vikas R. Kingaonkar	Former Member, NGT, Retd. Judge, Bombay High Court	Legal Expert on Climate Change
2.	Advocate Mr. M.C. Mehta	Environmental Lawyer	Legal Expert on Climate Change
3.	Mr. Abhay Pimparkar	Deputy Secretary of Environment, Government of Maharashtra	Legal Expert on Climate Change
4.	Dr. Ajay Deshpande	Former Expert Member, NGT	Academician
5.	Dr. T.R. Subramanya	Dean, School of Law, CMR University	Academician
6.	Dr. Prakash Rao	Deputy Director, SIIB, SIU	Academician
7.	Dr. Sairam Bhat	Professor of Law, NLSIU, Bangalore	Academician
8.	Dr. Anil Kumar Gupta	Program Director & Team Leader, Head of Division, International Cooperation; DRR & Sustainability Strategist; Professor at NIDM	Academician
9.	Prof. Abhinav Shrivastava	Ph.D. Scholar	Student
10.	Mr. Akarsh Banyal	UG student, School of Law, SIU	Student
11.	Ms. Tanya Arora	PG student, School of Law, SIU	Student

Out of 11 respondents, 3 were Legal Experts on Climate Change. Justice Vikas R. Kingaonkar is a former Member of National Green Tribunal for New Delhi as well as NGT West Zone Pune Bench.

In addition to his judicial experience in environmental law, he is also a retired Judge of Bombay High Court. Advocate Mr. M.C. Mehta, a recipient of Padma Shri, is a celebrated Indian environmental law champion who is known for his contribution to landmark judgments concerning various issues on environment and climate since 1984. Mr. Abhay Pimparkar is presently Deputy Secretary of Environment under the State Government of Maharashtra who represents the governmental point of view to issue of climate change and need of curricula development in climate change law and policy.

4.5. Points Discussed (based on an unstructured discussion, Project Objectives, Need analysis, and WP1.3 discussion in the Project Description)

- i. Do you think there is a need for a specialized course on CCL? If yes, why?
- ii. Are you familiar with any, if yes, what are the contents?
- iii. Where do existing courses like environmental law, environmental sciences, and environmental governance etc. lack in addressing CCL?
- iv. The percentage of Climate Change Policy and Law the existing curriculum is still limited. In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?
- v. What should be the percentage of values, skills, experiential learning to be followed
- vi. What should be the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative?
- vii. What are your suggestions for the type of pedagogy and assessment so that the objectives of the course are duly delivered?
- viii. How can this course lead to a sustainable transformation and change?
- ix. Can you share some innovative best practices which can be identified and included in the course curricula?
- x. How can the course curricula address the needs of the market so as to increase the employability of the students?
- xi. What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?
- xii. What is the role of international collaborations for effectively realizing the learning outcomes of the course?

4.6. Summary of Observations by 5 Academics in Environmental Law/Climate Change Law/Climate Change Policy

Table 12 Summary of Observations by 5 Academics

Questions	Dr. T.R. Subramanya	Dr. Prakash Rao	Dr. Sairam Bhat	Dr. Ajay Deshpande	Dr. Anil Kumar Gupta
Need for a specialized course on CCL	Yes, there is a need for specialized course on Climate Change law paying urgent	Yes, climate change is a matter of global concern requiring regulatory interventions	Yes, climate change is a global issue which requires active discussions	Yes, the scientific courses specially emphasizing climate change are available in reputed	Yes, it is required.

	attention from scientific point of view.	across boundaries.	and deliberations in law school as a part of course curriculum.	institutions, however, it can be included in legal studies as well.	
Are you familiar with any, if yes, what are the contents?	No.	Yes, contents are being taught in SIIB. Needs combination of law, policies, energy conservation, waste management supported with interdisciplinary aspect.	Yes. NLSIU, Jindal: CC Law and Policy, Climate Justice Bill, CC Litigation, Disaster management, climate compensation, CC Convention, Paris, Renewable, etc.	Yes, there are courses for science students like environmental engineering.	Yes, there are courses specialized in climate change available in different universities, one such is TERI university, where Dr. Gupta is a member of Board of Studies.
Where do existing courses like environmental law, environmental sciences, and environmental governance etc. lack in addressing CCL?	Lack of regulatory mechanism; weak implementation	Lack of integration, adaption and science-based strategy.	Lack of integrated strategy in departments of environment, finance, road transport and energy.	Law is not a facilitator as opposed to policy which facilitates the related processes. The existing courses on climate change are more focused on science rather than law.	Climate change law in itself as a subject has not matured. Also, climate change can not be bound by law.
In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?	Case Study method; real-time experience; effective law and policy measures.	New curriculum will deal with local and global issues.	Inclusion of CC in Public Policy programmes such as Torts, Corporate sustainability reporting, Human rights, Law, Poverty Development courses.	The students need to have sound knowledge on environmental science. While recalling his experience as NGT expert member, he mentioned that he insisted advocates to bring environmental	By converging environmental law with climate change.

				science as a background of any matter to be heard.	
What should be the percentage of values, skills, experiential learning to be followed contents in the course to prepare an innovative curriculum?	Division of innovative curriculum between experiential learning and problem solving	Values: 30%; Skills:30%; Experiential Learning: 40%	Negotiation, Climate Budgeting, CSR strategy	It is unfair to give distribution. All are equally relevant.	First need to ascertain the course content.
What should be the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative?	Law and Policy: 50%; Management: 30%; Science and Technology: 20%	Science and its impacts in terms of physical, atmospheric and biological with 25% to 30%; Management: 20%; Law and regulation: 50%	30% Science and 70% policy	Science and Technology: 20%; Law and Policy: 50%;	First of all we need to decide that nomenclature and objectives of the course and only then we can decide the contents of the course and the percentage wise distribution of the same.
What are your suggestions for the type of pedagogy and assessment so that the objectives of the course are duly delivered?	Best practices; use of ICT	Classroom sessions, cross cultural experiences, <u>climate witness-based methodology</u> ; case studies; adoption of best practices from industry, experience sharing from climate	Group exercises, model UN, Moot Court, filing a climate litigation plaint, BITs, Corporate CSR manual.	Pedagogy and assessments focused on analytical capability, modelling, vulnerability assessment, mitigation activities	The details of course need to be finalized before discussing assessments and pedagogy

		champions; discussion on energy climate policy. Assessment of field projects, case assignment, role play on climate change issues.			
How can this course lead to a sustainable transformation and change?	By motivating the students to bring out the changes.	Integrated approach; development and planning; interlinkage between climate science, development, technology and law.	By encouraging law students to participate in policy formulation	Integrating students of law to study scientific aspects of climate change will help them to find root cause of legal issues of such concern.	First need to ascertain the course content.
Share innovative best practices	Issues of hazardous and toxic substances to be included in medical waste as a best practice.	Use of climate witness as a methodology to demonstrate CC science, social equity, technology and regulatory process.	Climate Negotiation. India's white paper for Carbon zero target	Not aware of any	Not aware of any
How can the course curricula address the needs of the market so as to increase the employability of the students?	Real world scenario; FDP.	By way of inclusion of interdisciplinary topics; will benefit the regulatory agencies like multilateral and bilateral organizations; bank and civil society organization.	Corporate sustainability reporting compliance and EHS management.	Jobs can be created in mitigation sector. In legal studies, following components be included: Assessment (introductory since it is complicated):10 %; Mitigation (Circular economy, sustainability, GRI, sustainable procurement, sustainable consumption,	Course orientation has to be in direction of needs of job markets.

				greening the supply chain):60%; Adaption (resilience, vulnerability assessment): 30%	
What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?	Learning from experiences of NGOs; supported with library and other resources.	Science based understanding; focused FDPs supported with the sessions on energy development and growth.	Need to highlight Mitigation, Adaptation, Disaster management, response and compensation in real sense.	FDPs focused on Climate change science, law and management.	Dedicated FDPs to understand climate change science and its relation to law.
What is the role of international collaborations for effectively realise the learning outcomes of the course?	Collaboration with international organizations.	Collaboration with international organizations will be fruitful outcome of the course such as international treaty organization, ENGOs, BNGOs.	Detailed teaching of Comparative and International law	There can be student exchanges, knowledge partnerships and faculty training and exchange at international level.	Contribution can be made in terms of 'green growth' which will boost 'green economy'. With local issues covered by environmental law, we can address and resolve international concern of climate change.

4.7. Summary of Observations by 2 Climate Change Experts

Table 13 Summary of Observations by 2 Climate Change Experts

Questions	Justice Kingaonkar	Mr. Abhay Pimpalkar
Need for a specialized course on CCL	Yes, it is a global as well as local concern	Yes, it is a crucial.
Are you familiar with any, if yes, what are the contents?	Not in particular.	No.
Where do existing courses like environmental law,	Law, science and governance are three different threads of	Lack of interpretation of law, competency and experienced

environmental sciences, and environmental governance etc. lack in addressing CCL?	same rope.	staff.
In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?	New syllabus should include issues of climate change, tsunami with effective remedies in terms of law.	Multi-mode experience; experience of policymaking; understanding problem and sensitization.
What should be the percentage of values, skills, experiential learning to be followed contents in the course to prepare an innovative curriculum?	Need experiential learning instead of exam centric learning. New ideas with upcoming challenges.	-Environmental Values/ our old wisdom – 20% - Competency and Skill – 30 % - Experience of handling climate change related issue practically (Legal point of view) – 30 % - Practical Project if Climate Change issues – 20%
What should be the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative?	70% law and policy. 30% between science and technology.	-Basic understanding of Environment – 10% - Sustainability/Sustainable Development – 10% - Environmental Ethics – 10% - Climate Change technical learning – 20% - Learning of international treaties/protocols/conventions – 30% - Learning of national and local environmental Laws – 10% - Hands of experience/Project – 10%
What are your suggestions for the type of pedagogy and assessment so that the objectives of the course are duly delivered?	Focus on regular laws such as Water Act, Air Act, Natural drainage system, law on security and climate change to prevent imbalanced growth. Each answer carries 10 marks.	Multi-sectoral teaching staff; field experiences to be shared; must be an ideal; blend of conventional and non-conventional method of teaching; continuous assessment and involvement in teaching and learning.
How can this course lead to a sustainable transformation and change?	This will balance sustainable development.	Awareness and knowledge
Share innovative best practices	Students' observations and findings to be considered in curriculum to meet the objective of experiential learning.	Environmental ethics; old tactics of conservation; hands on experience; practical demos/ international exposures.
How can the course curricula address the needs of the market so as to increase the	Needs to enhance the skills of students to strengthen the utility of their services.	Policy making

employability of the students?		
What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?	Faculty to be trained with real time issues of climate change by experts. National/ International Seminars can be organized.	Blend Learning
What is the role of international collaborations for effectively realise the learning outcomes of the course?	Student exchange programme and review of outcome of their visit.	Adopting best practices at international level. Cross border intellectual sharing practices and understanding process

4.8. Summary of Observations by 3 Students in the field

Table 14 Summary of Observations by 3 Students

Questions	Mr. Abhinav Shrivastava	Ms. Tanya Arora	Mr. Aakarsh Banyal
Need for a specialized course on CCL	Yes, for highlighting climate justice.	Yes, in order to strengthen the international climate change regime.	Yes, as it impacts everyone, including businesses and has created a need for climate lawyers.
Are you familiar with any, if yes, what are the contents?	--	No, environmental law and policy courses do not cover climate change at all.	Jammu University: Masters in Environmental Science (Climate Change: Issues and Policies); University College London: Law and Policy of CC; Columbia Law School: CCLP
Where do existing courses like environmental law, environmental sciences, and environmental governance etc. lack in addressing CCL?	Ignorance towards current challenges and experiences on climate justice.	Lack of legislations on current environmental issues.	Lack of focus on CCLP and more focus on broad discipline of environmental law.
In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?	Multi-dimensional; case studies	Social awareness; focus on issue of climate refugees.	Practical learning; Organising debates, projects and essay competitions on topics related to CC; experiential learning over theoretical learning.

What should be the percentage of values, skills, experiential learning to be followed contents in the course to prepare an innovative curriculum?	Unfair to quantify; need a fine balance.	--	Larger focus on values and skills and remaining for experiential learning.
What should be the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative?	Law and policy: 60%; Management and Technology: 40%	Law and policy, science and technology and management are all equally important and should be granted equal distribution.	Law & Policy: 50%; Management: 25%; Science & Technology: 25%
What are your suggestions for the type of pedagogy and assessment so that the objectives of the course are duly delivered?	Case studies; Doctrinal or Field assessment	Discussion based; less use of lecture method.	Strong theoretical knowledge building; student-led research; Group discussions;
How can this course lead to a sustainable transformation and change?	Consideration to the views of stakeholders	Sensitization towards climate change.	Creation of value based system to accelerate sustainable transformation.
Share innovative best practices	Case studies and climate science	To draft plans/models that focus on low-carbon and climate-resilient development path by integrating climate change mitigation and adaptation in project designs and sector development plans.	Adopting energy efficiency in industrial production; Role of indigenous people to tackle CC and their vulnerabilities; focussed global jurisdictional approach in course curricula.
How can the course curricula address the needs of the market so as to increase the employability of the students?	Addressing need of green energy sector, litigation	--	Creation of green infrastructure; environment conducive for corporate funding of sustainable science and technology innovation.
What kind of capacity building can be organised for the faculty so that they can effectively deliver	Workshops, FDPs, Research based contribution	Multidimensional view on climate change and related issues.	Interaction and collaboration of faculty with faculties teaching similar topics in other universities: NSLIU,

the course?			ILI, UC Berkley School of Law.
What is the role of international collaborations for effectively realise the learning outcomes of the course?	Knowledge transfer, spirit of course should be based on stakeholder's commitment.	Boundless issue needs international collaboration.	Climate legislation has far-reaching social & economic impact; Collaboration with students from other international universities on common research initiatives.

• **Additional Inputs from Representative of Civil Society and leading Environmental Lawyer: Advocate Mr. M.C. Mehta**

Apart from all the required invitees to the FGD as per the project requirements, we also invited Mr. M.C. Mehta who is the leading environmental lawyer of India. We invited him as a representative of the civil society in FGD. While appreciating SLSP for taking this initiative of deliberating upon a specialized course on climate change, he recounted his 1991 writ petition against UGC that was filed to include environmental law actively into academic program. The inputs suggested by Mr. Mehta are as follows:

- Mr. Mehta suggested the formulation of specialized training programs in environmental law to provide a practical approach to students.
- Since environmental law broadly includes climate change, both the subjects have to be taught in a clubbed manner with other subjects such as disaster management.
- Mr. Mehta recommended a real-world experience should be introduced in a pedagogy. His own initiatives like 'Eco Ashram' are real world classes conducted in natural environments where students from all over the world enjoy participatory learning and exchange of knowledge.
- While expressing a concern on the issue of climate change, Mr. Mehta made a pertinent observation with regards to environmental courts. According to Mr. Mehta, in specialized environmental courts like NGT with multiple benches, the number of adjudicating members is far less than required.

The valuable inputs received from Advocate Mr. M.C. Mehta reflect the urgent need of introducing special course on environmental law and climate change as a multidisciplinary model of blended learning with special focus on environmental law and climate change. Mr. M. C. Mehta pointed out the need of trained judges and expert members to handle and adjudicate cases involving complex issues of law and environment as well as need of specialized lawyers trained in environmental and climate change litigation.

4.9. Brief Summary of Focus Group Discussion

In view of the detailed project description, SLS Pune, the constituent of SIU, conducted a focus group discussion with 11 participants. All the respondents actively participated and contributed their expertise in the focus group discussion. In addition to this, there were other allied issues that cropped up during the course of discussion which invited valuable inputs of the experts leading to more informative and relevant deliberations.

1. **Need for specialized course:** With respect to the need for a specialized course on Climate Change Law and Policy, all the participants responded positively and recommended unanimously the need for a specialized course on CCP_Law.
2. **Nature of existing courses:** In response to the course content and familiarity, almost all the participants were aware of the CCP_Law courses but some of them were not directly exposed with any full-fledged and exclusive course dedicated to climate change law and policy.
3. **Nomenclature:** The opinions of participants differed with respect to the nomenclature of the subject since their suggestions were based on their individual expertise and training. A few of the suggestions include:
 - a) Environment, Sustainability and Climate Change;
 - b) Climate Change, Impacts and Mitigation;
 - c) Climate Change: Theory and Practice.
4. **Percentage of law and policy, science and management:** In view of preparing an innovative course curriculum to cope with contemporary challenges of cutting-edge technology, science and law, respondents had different opinions and they substantiated their opinions based on their individual expertise and training. However, there was unanimity of opinion with three basic components with following percentage in the curriculum:
 - a. Law and Policy: 60%
 - b. Science: 20%
 - c. Management: 20%

In nutshell, all the participants agreed on the point that a major portion of the course curriculum should be dedicated to law and policy.

5. **Percentage of value, skills and experiential learning:** With reference to the crucial aspect of the percentage of value, skills and experiential learning to be incorporated in the course curriculum, one of the participants emphasized skill and experiential learning along with the values to be considered while developing the curriculum. In brief, experiential learning was recommended with more percentage than skill and values. The rational percentage based on the opinions of the respondents can be summarized as:
 - a) Experiential learning – 50%;

- b) Skills – 40%;
- c) Values – 10%.

The experts also stressed the scope of bringing behavioural changes among students with the help of value-based education. In addition to this, special emphasis was also laid on skills to be included in the course curriculum to strengthen employability.

6. **Pedagogy and Assessment:** The pedagogy and assessment of any course have great relevance to meet the objectives and deliverable of course curriculum, hence, it was discussed in detail, along with innovative pedagogies and assessments, in focus group discussion. Most of the participants built a consensus on the fact that there is a need for a blended method of teaching and assessments. The innovative assessment methods comprise of: compulsory internships with the national green tribunals, engagements with the grass root organizations working in the area of climate change, industry-based field reports. Sharing cross-cultural experiences, role-plays based on climate change issues, group exercise on climate litigation (e.g., environmental moot court competitions), case study methods. The assessments should be based on cumulative effect of evaluating experiential learning, skills set in addition to the theoretical understanding of the course.
7. **Practical training for learners:** The aim and objective of CCP_Law are not just limited to imparting specialized knowledge and degrees. The higher aim of CCP_Law course is to bring sustainable transformation and long-term behavioural change to imbibe values and mass consciousness. One of the means to fulfil this objective is to develop leadership qualities amongst students who can bring environmental dynamism and activism into action; thus, attaining the goal of sustainable change. Active involvement of students in understanding enviro-legal complexities, policy formulation and integrated approach, and adoption of best practices and values may bring expected behavioural change.
8. **Highlighted Best Practices:** Some of the best practices suggested by experts to be included in the curriculum are: Climate negotiation; Practical demonstrations and international exposure, Case studies, Fieldwork experience and experiential learning with environmental lawyers and judges; Drafting of policies. In addition to this, understanding the dimension of local and global issues pertaining to climate change is the need of the hour.
9. **Development of Skillset in learners for employability:** Employability of students is one of the most important outcomes of the course. In furtherance to strengthen the employability of students, the experts stressed upon the market survey to ascertain the availability of jobs and required skills set for the same. This will help in shaping the course curriculum according to the market needs and will increase the employability of the students. The experts discussed the growing scope for consultancy services in the areas of Environment Impact Assessment,

Environmental clearance, Sustainability studies and reports. According to the expert participants, the course must cater to these market needs.

10. **Need for training of faculty members through international collaborations:** For effective delivery of the course and to attain the course objectives, the importance of faculty training was emphasized by the participants. In response to the capacity building of faculty, the experts suggested faculty exchanges, knowledge partnerships, international collaborations, working with the nodal agencies and organizing regular refresher and orientation courses for the faculty. All academicians achieved the consensus that there is a growing need for international collaborations and exchange of ideas being climate change as a matter of transboundary nature.

4.10. Additional highlights of the Discussion:

11. Renowned Indian environmentalist and lawyer **Mr. MC Mehta** who substantially contributed to Environmental litigation and evolving jurisprudence of the environment in India has pointed out that his active engagement in environmental lawyering led to the regulating authority like UGC to take cognizance of complexities of environmental issues seriously and make environmental studies a compulsory subject at the graduate and post-graduate studies across India. He also demonstrated the ground-level experiment of experiential learning through engaging students from all over the world in his training programmes at eco-ashram. He added NGT should be accessible to citizens and the cases should be put on the fast track.
12. **Dr. T. R. Subramanya** highlighted that in the subject of environmental law, the component of training is missing. He also suggested that a dedicated journal of climate change law should be initiated for dissemination of knowledge and improving the research output in the field of CCP_law.
13. **Dr. Ajay Deshpande** emphasized that climate change is basically a science-driven subject and can be divided into three verticals i.e., assessment, mitigation and adaptation. He highlighted the lack of strong partnership between legal and technical fraternities. He shared his experiences of the inability to provide students trained in sustainability studies, EIA, environmental clearances, etc. and applauded the effort of SLS, Pune in designing a specialized course for the same.
14. **Justice Kingaonkar** summarized his opinion that green lawyering is a comparatively developing field of the legal profession wherein we need more focused and specialized green lawyers to meet the ends of environmental justice. He also suggested that the students should have first-hand exposure to live cases and should learn from court visits and clerkships with judges of the national green tribunal.
15. **Dr. Abhay Pimparkar** highlighted the difficulty of operating a business in India due to the tedious procedure of clearance and the complex framework of environmental law. The special training to students under this course can effectively boost the job market for trained students.

16. **Dr. Prakash Rao** shared his experiences of starting the course on energy and environment in SIIB, a constituent of SIU. He elaborated on the urgent need to streamline the content of climate change which will help in determining the boundaries of this course. Although, we do not have a law on climate change yet there are several other laws that indirectly deal with climate change like energy conservation law, transport laws, building laws, solid waste management laws, etc. He also emphasized the importance of including the aspect of development in the course wherein the vulnerabilities which are aggravated by climate change are also addressed.
17. **Prof. Dr. Shashikala Gurpur** stressed about the inadequacy of legislation and structured policy to cope with the challenges of climate change. She highlighted that the complexities of climate change cannot be understood in isolation as it needs to be linked with diversified aspects like energy emission, climate refugees, exports to European countries, sustainability governance. Thus, the lawyers need to be trained in both technical and legal aspects. There is a need for convergence of energy between practitioners, stakeholders, nodal agencies, etc. for bringing sustainable and transformative change.
18. **Dr. Jadhav** pointed out the disproportionately exorbitant fines imposed by the environmental courts can lead to discouragement and become frustrating exercise for the industries which may further discourage them. Hence, there is a need for a balanced approach to judging environmental law litigations and can be a part of the skill set for adjudicating complex issues of environmental and climate change. The course can impart special skill sets like getting environmental clearances, fulfilling compliances and providing consultancies.

4.11. Conclusion:

On the basis of the deliberations in the FGD it can be concluded:

1. In view of alarming rate of pollution and complexities of issues related to climate change, there is a need of a specialized and exclusive course on climate change policy and law at a level of Postgraduate Programme or Postgraduate diploma (PGDIp) or alternatively as LL.M.;
2. Before introducing such a specialized course, there is a need of extensive survey from the perspective of academic innovation and pedagogy to provide better experiential learning, skills such as drafting, negotiation, procedural formalities and administrative clearances from government departments, environment impact assessment, consultancy, networking, knowledge sharing etc. to strengthen the employment opportunities;
3. It was suggested that this specialized course as a postgraduate programme in law needs to have a nomenclature which reflects the true inter-disciplinary approaches;
4. This specialized course needs to be equally divided between knowledge, skills and ethics components. However, skills such as drafting, negotiation, procedural formalities and administrative clearances, environment impact assessment, consultancy and networking should be focused much so as to ensure employability of the students;
5. To make this course truly inter disciplinary in nature, it can be rationally divided between law and policy components with 60% and science and management with 20% each;

6. During the course of discussion, many best practices were suggested by the experts such as use of ICT, climate witness-based methodology, climate negotiation, cultural practices of environment conservation, cross border intellectual sharing, knowledge on role of indigenous people to tackle vulnerabilities of climate change, case studies, field work and experiential learning from environmental lawyer and judges, drafting of climate change policies, etc. Few of such suitable best practices can be incorporated and adopted in the proposed course curriculum;
7. The course will have adequate scope for innovation in terms of teaching pedagogy and assessments to make it in tune with the corporate needs and climate change requirements. The internships at NGT, Central and State Pollution Control Boards, Ministry of Environment, Forest and Climate Change (MoEFCC), offices of environmental lawyers, civil society organizations, policy think-tanks, etc. are suggested as a partial fulfillment for the completion of this specialized course with skill development as a primary component;
8. In furtherance to make effective delivery of the course components such as values, skills, ethics, legal and technical knowledge the teaching faculties needs to be adequately trained with advanced pedagogies and teaching skills sets with practical orientation. The international collaborations can play a vital role to update the faculties to latest trends and knowledge domains;

The development of such a specialized course will cater the needs of climate change experts, skilled lawyers specialized in climate change issues, judges, technological experts to cope up complex challenges of climate change both at the national and international levels.

5. Overall Conclusions and Recommendation

In view of the observations made and gaps identified in the desk research analysis and the focus group discussion, it can be concluded that there is a pressing need for an exclusive Post Graduate level course on Climate Change Law and Policy. The desk research revealed the underlying academic needs of an innovative course curriculum on climate change law and policy. The findings and gap analysis of the desk research further strengthened the findings of FGD with respect to evolve an innovative curriculum in Asia on Climate Change Law and Policy.

The objective of the proposed course is to make effective and efficient delivery of the course contents on the Climate Change Law and Policy, with a blend of multidisciplinary and multisectoral approach. This includes a balanced approach to integrating multiple knowledge systems relevant to climate change, adopting novel ideas to deliver experiential learning, and forging new partnerships with stakeholders specializing in core areas of climate change. Furthermore, a supportive ecosystem optimizing financial and human resources at the level of institutions to facilitate integral aspects of governance, policy-making, administration, etc. will be a part of the sustainable delivery of this specialized course. The crucial aim of this specialized course is to strengthen and support the economy by providing skilled and competent climate change law and policy professionals. Nonetheless, a long-lasting impact of this specialized

course will be to generate an ability to evaluate climate change related issues on ethical, moral and legal grounds with an aim to generate future legal solutions and policy parameters addressing climate change. After analysis of desk research and focus group discussion, the following recommendations can be made with regards to course curricula development on climate change law and policy in Asia:

- **Need for Practical Training:**

The specialized course needs to provide experiential learning and additional skill sets to the students such as drafting, negotiation, procedural formalities and administrative clearances, and environmental impact assessment, consultancy, networking, etc. to enhance the knowledge and strengthen their employability.

- **Specialized internships:**

It is recommended that the students of this course can gain practical and industry exposure, hands on experiences through compulsory internships at NGT, Central and respective Pollution Control Boards of the States, Ministry of Environment, Forest and Climate Change (MoEFCC), offices of environmental lawyers, civil society organizations, policy think tanks, etc.

- **Adoption of Best Practices:**

The adoption of best practices such as the use of ICT, climate witness-based methodology, climate negotiation, cultural practices of environment conservation, cross border intellectual sharing, knowledge on the role of indigenous people to tackle vulnerabilities of climate change, case studies, fieldwork and experiential learning from environmental lawyer and judges, drafting of climate change policies, initiatives of experiential learning such as Eco Ashram by Adv. M.C. Mehta, etc. can facilitate the students to have best learning experiences.

- **Training of learners of the course:**

The course needs to develop the legal acumen of students in relation to climate change policy and law which can be introduced through the co-curricular activities along with classroom learning such as moot courts, MUNs, practicum, solving the hypothetical problems of EIA, etc.

- **Training of Faculty Members:**

Faculty Development Programmes, Seminars, Faculty exchange programmes, conferences, symposiums at national and international levels needs to be conducted with regular intervals to facilitate and keep the faculty updated with advanced knowledge on Climate Change Law and Policy.

- **Collaborations with Government:**

The government can encourage partnerships and collaborations with foreign and

European Universities to learn global techniques and solutions to the complex issues of transboundary practices such as climate change and policy by providing financial assistance. There should be adoption of best practices from all over the world and finally it can be tailored as specific for the region where the course is delivered.

6. List of Legislations, Rules/Notifications, Policies/ Action Plans/ Missions, International Conventions

I. Constitution:

- The Constitution of India, 1950

II. Legislations:

- The Easement Act, 1882
- The Indian Fisheries Act, 1897
- The Factories Act, 1948
- The River Boards Act, 1956
- The Merchant Shipping Act, 1970
- The Wildlife Protection Act, 1972
- The Water (Prevention and Control of Pollution) Act, 1974
- The Water (Prevention and Control of Pollution) Cess Act, 1977
- The Forest (Conservation) Act, 1980
- The Air (Prevention and Control of Pollution) Act, 1981
- The Atomic Energy Act, 1982
- The National Environmental Tribunal Act, 1985
- The Environment (Protection) Act, 1986
- The Motor Vehicles Act, 1988
- The Public Liability Insurance Act, 1991
- The National Environment Appellate Authority Act, 1997
- The Biological Diversity Act, 2002

III. Rules/notifications:

- The Water (Prevention and Control of Pollution) Cess Rules, 1978
- The Forest (Conservation) Rules, 1981
- The Air (Prevention and Control of Pollution) Rules, 1982
- Environment (Protection) Rules, 1986
- Hazardous Waste (Management and Handling) Rules, 1989
- Manufacture, Storage, and Import of Hazardous Chemicals Rules, 1989
- Manufacture, Use, Import, Export, and Storage of Hazardous Micro-organisms/ Genetically Engineered Organisms or Cells Rules, 1989
- The Coastal Regulation Zone Notification, 1991
- The Biomedical Waste (Management and Handling) Rules, 1998
- The Environment (Siting for Industrial Projects) Rules, 1999
- The Ozone Depleting Substances (Regulation and Control) Rules, 2000
- The Municipal Solid Wastes (Management and Handling) Rules, 2000
- The Batteries (Management and Handling) Rules, 2001
- The Noise Pollution (Regulation and Control) (Amendment) Rules, 2002

IV. Policies/ Action Plans/ Missions:

- National Environment Plan (NEP) 2006
- National Action Plan on Climate Change (NAPCC), 2008
- National Solar Mission
- National Mission for Enhanced Energy Efficiency
- National Mission on Sustainable Habitat
- National Water Mission

- National Mission for Sustainable Agriculture
- National Mission for Sustaining the Himalayan Ecosystem
- National Mission for a Green India
- National Mission on Strategic Knowledge for Climate Change
- Namami Gange Programme, 2014
- National Clean Air Programme (NCAP), 2015
- Clean Development Mechanism (CDM)
- Compensatory Afforestation Fund Act 2016 (CAMPA)
- Green Skill Development Programme (GSDP), 2017

V. International Conventions:

- Convention Relative to the Preservation of Fauna and Flora in their Natural State (1933)
- International Plant Protection Convention (1951)
- International Convention for the Prevention of Pollution of the Sea by Oil (1954)
- The Antarctic Treaty (Washington, 1959)
- Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (Ramsar, 1971)
- Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)
- Convention on International Trade in Endangered Species of wild fauna and flora (CITES), 1973
- Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)
- United Nations Convention on the Law of the Sea (Montego Bay, 1982)
- Convention on Early Notification of a Nuclear Accident (1986)
- Montreal Protocol on Substances that deplete the Ozone Layer (to the Vienna Convention for the Protection of the Ozone Layer), 1987
- Basel Convention on Transboundary Movement of Hazardous Wastes, 1989
- Protocol on Environmental Protection to the Antarctica Treaty (Madrid, 1991)
- UN Framework Convention on Climate Change (UNFCCC), 1992
- Convention on Biological Diversity, 1992
- Agenda 21, 1992
- UN Convention on Desertification, 1994
- Cartagena Protocol on Biosafety, 2000
- Prior Informed Consent, Rotterdam Convention, 2000
- Intended Nationally Determined Contributions (INDC), 2020
- Climate and Clean Air Coalition (CCAC), 2019



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- P3: MARWADI UNIVERSITY, INDIA
- P4: HANOI LAW UNIVERSITY, VIETNAM
- P5: UNIVERSITY UTARA MALAYSIA, MALAYSIA
- P6: INTERNATIONAL ISLAMIC UNIVERSITY, MALAYSIA,
- P7: COVENTRY UNIVERSITY, UNITED KINGDOM
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Climate Change, Policy and Law

Objectives of Desk Research

1. To identify similar programmes on Climate Change, Law and Policy
2. To identify the gaps in the current courses being offered on Climate Change, Law and Policy in India
3. To better assess the academic needs that have to be catered for by the CCP-Law Programme.

Summary of findings

1. Total 40 Universities were surveyed.
2. The list of the Universities surveyed is as under:

S.No.	Name of the University or Constituent / Department / Institution	STATUS (CENTRAL UNIVERSITY, STATE UNIVERSITY, PRIVATE UNIVERSITY, DEEMED TO BE UNIVERSITY, AUTONOMOUS INSTITUTIONS, Institutes of Excellence like IIM/IIT etc , Online Courses (MOOCs, SWAYAM with Affiliation
1.	University of Mysore	State
2.	Bangalore University	State
3.	Gulbarga University	State
4.	Mangalore University	State
5.	Kashmir University	State
6.	Jiwaji University	State
7.	Anna University Tamilnadu	State
8.	Bharathiar University, Tamilnadu	State
9.	Gujarat Technological University	State
10.	Nirma University	Private
11.	Parul University	Private
12.	Marwadi University	Private
13.	Marwadi University	Private
14.	Marwadi University	Private
15.	AKS University, Satna, M.P.	Private

16.	Manipur Central University, Forestry Environmental Science Department	Central
17.	Madurai Kamaraj University, Tamilnadu	State
18.	Manonmaniam Sundaranar University, Tamilnadu	State
19.	Periyar University, Tamilnadu	State
20.	Tamil Nadu Agricultural University	State
21.	SRM University, AP	Private
22.	Manipal University, Rajasthan	Private
23.	University of Rajasthan	State
24.	Singhania University	Private
25.	Jaipur National University, Seedling School Of Law & Governance	Private
26.	Kakatiya University, Telangana	State
27.	Osmania University	State
28.	Central University of Kerala	Central
29.	College of Climate Change and Environmental Science, Vellanikkara	Private
30.	University of Kerala	State
31.	TERISAS	Deemed to be University
32.	Satavahana University, Telangana	State
33.	TISS	Deemed to be University
34.	NLU, Delhi	State
35.	Jindal Global University	Institute of Eminence Deemed to be University
36.	ILS law College Pune	Private
37.	Sandip University, Nashik	Private
38.	Amity University, Mumbai	Private
39.	CHRIST University	Deemed to Be University
40.	Gujarat University	State University

3. Simple Random Sampling method has been followed in selecting universities.

4. The table of existing courses in surveyed Universities which have component on Climate Change, Policy and Law.

S. No.	UG	PG	PG Diploma	Ph.D.
1.	Environmental Studies	<u>M.Sc.</u> Environmental Science	PG Diploma in Safety, Health & Environment (PGDSHE)	BIODIVERSITY AND TAXONOMY
2.	B.E. - ENV ENGINEERING	PG Studies and research in Environmental Science	PG Diploma in Environment Pollution	
3.	B.E. (Environmental Science & Technology)	<u>M.Sc.</u> Geography		
4.	LL.B.	M.E. Environmental Engineering		
5.	B.A.LL.B. (Hons)	M.E. - Environmental Management		
6.	B.B.A.LL.B. (Hons)	LL.M.		
7.	B.Sc.(Environment)	M.Sc. Environmental Science Forestry & Environmental Science		
8.		M.Sc. Environmental Science Global Environmental and Climate change		
9.		M.Sc. Environmental Science		

10.		M.Sc. Environmental Biology programme		
11.		MTech. - Environmental Engineering		
12.		M. Sc. CLIMATE CHANGE IMPACTS MANAGEMENT		

5. Gaps:

1. It is pertinent to mention that there is no specific course that reflects all components mentioned in the desk research template of climate change, policy and law.
2. At present the courses which are offered, lacks practical exposure/ innovation as their primary focus is on dissemination of the basic information which is relevant to their course.
3. It has been found that in more than 30 courses the pedagogy and assessment criteria does not reflect the aspect of clinical or experiential learning.
4. It has been found in the courses surveyed in all Universities that there is no Correlation of the course or module which focuses on the aspect of Climate Change, Policy and Law with Placement Outcomes, engagement of experts etc.
5. The pedagogy/assessment of the courses surveyed does not fully reflect dimensions of Legal Consultancy, Advocacy, Clinical Lawyering, Global Practice, Advisory, Reporting, Training and Compliance
6. More focus is on the theory which is designed and aligned as per programme and does not cover other aspect i.e. law and policy/ management or vice versa and less focus on practical learning was found.

6. Findings and Observations:

1. It has been found that modules of the courses surveyed reflects that the political or legislative framework has been included.
2. It has been found that majority of the courses has adopted CBCS pattern of Program Accreditation Process and BoS for Quality Assessment Process.

3. It is however been observed that the aforementioned courses are vastly from science and engineering streams and few of them are from those institution which are offering law courses.
4. At present the courses that are being offered, lacks innovation as they are only focusing on the basic information which is relevant to their course.
5. It has been observed that curriculum has no proximate nexus to relevant job markets.
6. Out of all the universities surveyed only in one university syllabus was vastly related to climate change policy and Law.

Recommendations

1. Development of dedicated course on climate change, policy and Law is highly recommended.
2. Specific modules on Climate change, policy and law can be designed and introduced in various courses based on their specific requirements.

**Climate Change, Policy and Law****Objective of Focused Group Discussion**

1. To discuss the needs and gaps that have to be addressed by the project.
2. To target all relevant groups that can provide the input in developing a balance educational programme.

Methodological framework

The team for ERASMUS+ Consortium of Faculty of Law, Marwadi University, completed the task of focus group discussion. In order to complete this task of focus group discussion, we conducted internal meetings with team of ERASMUS+ Consortium of Faculty of Law, Marwadi University, the objective of these meetings was to shortlist the discussants for the focus group discussion. Due to ongoing pandemic, in this focus group discussion, we invited 5 academics in the environmental law/climate change law/ climate change policy, 1 climate change experts and 3 students from the field (environmental and law background) in India on various online platforms such as Google Meet and Zoom. The aim of the focus group will be to discuss the needs and gaps that have to be addressed by the project. This process will guarantee that all relevant target groups will provide their input in developing a balanced educational program.

List of the discussant are as follows-

SNo	Name	Designation	Expert Type	Date of discussion
1)	Dr. Vishnu Konoorayar	Professor, HNLU	Academician	11.12.2021
2)	Dr. Kantha Deivi Arunachalam	Professor and Dean, SRM	Academician	17.12.2021
3)	Dr. A D Vyas	Professor, Manipal University	Academician	19.12.2021
4)	Dr. Deepa Badrinarayana	Professor of Law, Dale E. Fowler School of Law, Chapman University	Academician	14.12.2021
5)	Dr. S. P. Rathore	Professor, Faculty of Law, Gujarat University	Academician	13.12.2021
6)	Dr. Abhayraj Naik	Co-founder of the Initiative for Climate Action	Professional	15.12.2021
7)	Johnson Christian	M.Tech Environmental	Student	10.12.2021

		Engineering, Marwadi University		
8)	Gopi Ghetiya	M.Sc Environmental Science, Marwadi University	Student	10.12.2021
9)	Heena Gupta	PhD Research Scholar, School of Law, Gujarat University	Student	15.12.2021

Participant demographics

In this focus discussion, we invited 5 academics in the environmental law/climate change law/ climate change policy, 1 climate change experts and 3 students from the field of the field of environmental law/climate change law/ climate change policy:

1. Prof. Vishnu Konoorayar, who has over 18 years of teaching and research experience and he is presently associated with Hidayatullah National Law University Raipur.
2. Dr. Kantha Devi Arunachalam, who has over 30+ years of teaching and research experience. Her area of Research/Interest are Environmental radiation Biology and Toxicology, Clinical Nutrition Immunology and Green Nanotechnology.
3. Dr. A D Vyas, who has over 30+ years of teaching and research experience. He conducted research & consultancy projects in Asia, Africa & Europe for major donors including USAID, OFDA, UNICEF, ADB, DFID, BMGF. With major focus on Water & Sanitation, Faecal Sludge Management, Urban water.
4. Dr. Deepa Badrinarayana, is Professor in Chapman from Pace Law School. She is also a member of the World Conservation Union, Committee on Environmental Law and serves as Chair of the AALS Section on Law and South Asian Studies and as an Executive Committee member of the AALS Section on Environmental Law. In addition to research and advocacy, she also trained government officials and legal professionals in environmental law. Professor Badrinarayana was part of a team that advised the Government of India on its new legislation to manage biomedical waste.
5. Dr. S P Rathor Professor, who has over 23 years of teaching and research experience. His area of Research/Interest are Intellectual Property Rights, Environmental Law and International Law.
6. Mr. Abhayraj Naik an activist-academician, community builder, and design hacker for transformative change. His work focuses on education, environment, ethics, cities, and technology. Mr. Abhayraj is also a Co-founder of the Initiative for Climate Action.

General Discussion

In the beginning of each focus group discussion, Dr. Rhishikesh Dave (Dean) Faculty of Law, Marwadi University use to introduce the Marwadi University faculties associated with the ERASMUS+ Consortium project. Dr. Rhishikesh Dave also uses to highlight the objective of the ERASMUS+ Consortium project, where he uses to feature out the requirement to develop an innovative LL.M

Curricula or a two-year diploma in Climate change Policy and Law. Sir also use to pointed out the following agenda of the focus group discussion:

1. To identify the present gaps and for the better access of exact academic needs.
2. To discuss the needs and gaps that have to be addressed by the project.

Summary of findings by Academia

1. Do you think there is a need for a specialized course on CCL? If yes, why?

As per the response of the participants in focused group discussion, there is a strong need for the specialized course on the CCL. According to them, courses like these is a need of an hour as climate change is a global issue and it must be included in the education system, in order to fill the present gap.

2. Are you familiar with any, if yes, what are the content?

For this particular question, they pointed out few educational institutions such as TISS, TERISAS and O.P Jindal etc. where few courses related to Climate Change is running from past few years. While answering the second part of the question they pointed out that course that are running in these institutions related to Climate Change are focusing on any one particular dimension of Climate Change such as Climate Change and Law an M.Sc. elective course in TERISAS.

3. Where do existing course like environment law, environment science, and environment governance etc. Lack in addressing CCL?

It was pointed out by the discussants that present courses running in multiple institution are focusing on a specified aspect of the climate change. However, there is a need of an integrated approach.

4. In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?

For this particular question Prof. Vishnu Konoorayar suggested that, we can divide the course on multiple level, he suggested that for the 'Basic level course' curricula must be drafted in such a manner that it creates awareness in the student regarding the Climate Change and its multiple challenges and issues. Then in the 'Intermediate level course' curricula must address the theoretical aspect of the Climate Change and in the 'Advance level course' curricula must focus on the application aspect of the theoretical aspect and promote the skill building. As per the response of other two discussant the curricula that address the Law and Innovation parallel will able to address the needs of the climate change crisis converting the world to some major extent.

5. What should be the percentage of values, skills, experiential learning to be followed contents in the course to prepare an innovative curriculum?

It was pointed out by the discussant that, it is difficult to put a percentage on Climate Change, however, depending on the target audience for the course, we may draw a rough percentage of values, skills, experimental learning in the course.

6. What should be the percentage wise distribution between law and policy, management, science and technology to make the curricula truly innovative?

As per the responses of the discussant 'experimental learning' is the factor that must be considered in all aspects of the curricula either it is law and policy, management or science and technology to make it truly innovative. It was also Prof. Vishnu Konoorayar also suggested that we may divide the course in various levels and according to that we may do the percentage wise distribution between law and policy, management, science and technology such as for 'Basic level' we may include the courses like political science related to CC, International Environmental Law and so on. For "Intermediate level" we can include courses like Mining Activities and CC, Gender Equality and CC so on and so forth and for 'Advance level' we may incorporate Indian government strategies developed in the past few years on CC.

7. What are your suggestions for the type of pedagogy and assessment so that the objective of the course is duly delivered?

The suggestions given by the discussants are as follows:

1. For the 'Basic level' it must include the classroom learning method.
2. For the 'Advance level' it must include experimental learning method. So that the students get the understanding of laboratory experimental aspects of CC. Because this course is not just about creating awareness but to ensure a high level of leadership.

8. How can this course lead to a sustainable transformation and change?

To this question the discussants responded that this program can assist in creating the awareness regarding the CC in the society. If, this course will apply the interdisciplinary approach in its curricula, then in that case it will give a holistic picture to the targeted audience regarding the CC.

9. Can you share some innovative best practices which can be identified and included in the course curricula?

It was suggested by the discussants that- a) involvement of the students in the technology projects can be one method.

b) Super Specialization can be offered to each student.

c) Cross Sectors issues can be highlighted in the curricula.

10. How can the course curricula address the needs of the market so as to increase the employability of the students?

To ensure the same, it was suggested by the discussants that course must apply the interdisciplinary approach, the main reason behind this, is that, the employer expectation in the market are about various aspects, every sector demands different employability skills and therefore by keeping the innovative learning methods, this course can make them market ready.

11. What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?

There must be faculty capacity development programs, so that, they are clear with the vision and their role in the course. This will not only help the faculties to apply multiple approaches, but also it will make this course highly interactive and innovative.

12. What is the role of international collaborations for effectively realise the learning outcomes of the course?

International collaboration will play a vital role in making the course effective, as CC is a global issue and the international collaboration can assist in the flow of the information regarding the CC, as CC know no border.

Summary of findings by Expert

1. Do you think there is a need for a specialized course on CCL? If yes, why?

For this particular question the discussant pointed out that there is a strong need of such course that cover the various aspect of Climate Change such as policy, economic and environmental. Because this issue cannot be address by applying any one particular approach.

2. Are you familiar with any, if yes, what are the content?

The discussant pointed out that it is very early stage for climate change education in India. However, there are few educational institutes that are running multiple courses on Climate Change such as Asim Premchand University, NLSIU, Bengaluru, Ashoka University, TISS University, Bhartiya Vidya Peeth and TERISAS, New Delhi. He pointed out that content of these courses is dedicated to one area of Climate Change such as Ozone Layer, Sustainable Business and so on.

3. Where do existing course like environment law, environment science, and environment governance etc. Lack in addressing CCL?

According to the discussant existing course on environment law, environment science, and environment governance *etc.* is not focusing on capacity building of students as well as of faculties. Second drawback that he pointed out is present courses does not focus on the specialization related to CC. Third major concern is that the present courses are quite technical in its nature, however none of them focusing on the other aspect that need to be covered such as Climate Change Justice, which is also need of any hour.

4. In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?

As per the discussant input, there is a need to change the top-down approach of command and traditional methods of dealing the issue of CC. He pointed out in his discussion that, Climate Change problem alone cannot be address by the Climate Change education but, it also requires that this issue addressed via Climate smart Business, Carbon Reporting. New curricula must prepare the students for market and also

must motivate them to become climate leader, then only it can address the needs of the climate change crisis confronting the world.

5. What should be the percentage of values, skills, experimental learning to be followed contents in the course to prepare an innovative curriculum?

As per the discussant, it is difficult to give specific percentage however, the curriculum must cover the skill and experimental learning in one-two module. Then there must be at least one module that focus on values, because if students cannot understand the injustice in CC, then it will difficult for them to come up with effective outcomes. Other modules must cover the subject.

6. What should be the percentage wise distribution between law and policy, management, science and technology to make the curricula truly innovative?

He pointed out that for the answer of this question, we must finalize the target audience for this course. However, in this CC programme, we must include various courses, that points out multiple sectors related to CC, because each of the area deserve a special attention.

7. What are your suggestions for the type of pedagogy and assessment so that the objective of the course are duly delivered?

As per the discussant, we may apply the “Project Model” approach. This will allow the student to have group learning. For the assessment part, he pointed out that continuous assessment is really important either it is assessment by faculty or self-assessment.

8. How can this course lead to a sustainable transformation and change?

There is huge need for climate leader, if this course focus on climate ready practitioner, then this course can lead to transformation. By creating Centre for Climate Change, we can automatically bring CC as into the agenda and can prepare the educational leaders.

9. Can you share some innovative best practices which can be identified and included in the course curricula?

- Field action projects, Integration of natural, social and applied sciences can be done.
- Field project where students coming from different background works on real world problem.
- Integration of smart technology in academics.
- Steady flow of Guest experts

10. How can the course curricula address the needs of the market so as to increase the employability of the students?

- To have a career development office which can work on the employability aspects of students
- Program should be planned executed in such a way that students get directly connected with the field experts or practitioners.
- By bringing market to the industry i.e., future employer as adjunct faculty and project partners

11. What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?

- Connecting faculties with current area or field experts
- Faculties should be chosen wisely so that program should have faculties having expertise in all fields.
- Encouragement of faculties to attend conferences, workshops, and publication in Climate change themed journals.
- Good documentation of available resources.

12. What is the role of international collaborations for effectively realise the learning outcomes of the course?

Climate policy is always global as it does not respect national boundaries. So being a complex issue, international collaboration becomes a necessity of today's world of education. Even technology transfer can take place with the international collaboration. Student and faculty exchange will add on to learning of the stakeholders.

Summary of findings by Student

1. Do you think there is a need for a specialized course on CCL? If yes, why?

All students have mentioned that there is a need on specialized course on climate change, as they have studied various courses related to Environmental Pollution, Environmental laws which are very basic courses and do not deal the issue in depth.

2. Are you familiar with any, if yes, what are the content?

Students from Engineering and science background were not familiar with similar courses offered at national and international universities.

3. Where do existing course like environment law, environment science, and environment governance etc. Lack in addressing CCL?

Students have agreed on the fact the courses dealing with Environmental pollution, Environmental laws and Environmental study are giving an overview of the issue, they do not talk about the solutions and remediation steps, or do not cover international laws. So, there is a need of course which can blend all the thing and should be more focused on Climate change and Law.

4. In what ways the new curricula can be made truly which also addresses the needs of the climate change crisis confronting the world?

Student suggested that there must be practical approach in the new curricula. Then only it can address the needs of the climate change crisis confronting the world.

5. What should be the percentage of values, skills, experimental learning to be followed contents in the course to prepare an innovative curriculum?

Higher weightage to experiential learning is given as compared to Values and Skills. They also raised the point that curricula should address the issues with the help of case studies or practical approach.

6. What should be the percentage wise distribution between law and policy, management, science and technology to make the curricula truly innovative?

In terms of Science & Technology, Management and Law, students suggest that 70- 80 % weightage should be given to science & Technology, and Law, followed with rest of weightage by management part.

7. What are your suggestions for the type of pedagogy and assessment so that the objective of the course is duly delivered?

Pedagogy and assessment should include Case studies, Content delivered by Practitioners of Law, Continuous Assessment, Expert talks by NGO's and professional dealing with Climate change and their associated law at national and international level.

8. How can this course lead to a sustainable transformation and change?

For this question the student pointed out the "Principle 19 of Stockholm Declaration" which talks about environment education and awareness. They responded that, the curriculum must be multidimensional and multidisciplinary. It was also stated during the discussion that 'blend of theory and practical field work' would be really helpful in sustainable transformation and change.

9. Can you share some innovative best practices which can be identified and included in the course curricula?

Students were not much aware about the innovative best practices which can be identified and included in the course curricula. However, as per their basic understanding, they said that curricula must be designed in such a manner that, it makes the course more interactive and must achieve the learning outcomes.

10. How can the course curricula address the needs of the market so as to increase the employability of the students?

EIA, and other environment Laws are gaining lots of scope opportunity for students to get job in firms and a curriculum with blended mode can definitely add more research work would add to it. Involvement of industries during internship will surely make an impact with respect to job opportunities.

11. What kind of capacity building can be organised for the faculty so that they can effectively deliver the course?

Faculties who will be dealing with this course should be well trained and aware about latest issues and laws coming into existence.

12. What is the role of international collaborations for effectively realise the learning outcomes of the course?

International Collaborations can really help in achieving the learning outcomes as it will offer student and faculty exchange opportunities which will lead to exchange of knowledge and experiences.

Conclusion

The focused discussion was intended to gather information from various academicians, expert and students in regard to the following aims: number one to understand the needs and gaps that have to be addressed by the project and number two to target all relevant groups that can provide the input in developing a balanced educational program. In conclusion, the discussion showed that there is no such educational institute that cover multiple dimension of Climate Change. Nonetheless, there are few institutes that offer the course related to climate change, that cover the economic, social or environmental aspect of it. According to discussant, dealing the issue like Climate Change, through one perspective is the greatest downside of present courses and that is the significant area where courses are lacking behind related to Climate Change, approaching the issue of Climate Change through multiple dimension is the way to guarantee the effectiveness of the course. The course must give an equivalent kind of importance to various learning methods. Likewise the assessment can be done effectively. As these kinds of courses are not just to spread the climate change education, but also to transform the present situation and to create future leaders of Climate Change. These are few major recommendations given by the discussants that can make curricula of the course effective and innovative-

1. To design the curricula in such a manner that it is interdisciplinary in its nature.
2. Divide the course into various levels, so that the course can cover the multiple dimensions of the CC.
3. To apply the experimental learning methods, to make the course more innovative.



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Project

CCP_Law - Curricula Development on Climate Change Policy and Law

Project No. 618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP

Deliverable 1.3 Report on Similar Curricula in Asia

Document Details

Title	Comparative Report
Work Package	WP 1 Preparation
Nature	Report on Similar Curricula in Asia
Original Completion Date	5 th October 2021
Actual Completion Date	21 st October 2021
Dissemination Level	Public
Country	Malaysia
Prepared by	International Islamic University Malaysia (IIUM)

Revision History

Version	Date	Author	Description/Comments
1	21 st October 2021	Assoc. Prof. Dr. Maizatun Mustafa	Report finalised for submission.

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1.0 EXECUTIVE SUMMARY

The CCP_LAW intends to revolutionise a new curriculum, addressing the special priority of Climate Change. The project seeks to collect data in order to supplement the urgency of upgrading postgraduate courses in the area of Law and Policy relating to Climate Change. With this in mind, the International Islamic University Malaysia (IIUM) understands the necessity to implement a roadmap to harmonise national experts with the Paris Agreement. The ever-increasing dangers of environmental changes that accelerates climate change emphasis the need to link international process and national policymaking processes and developing strategies to integrate climate and development actions in national policies. This initiative is essential to create meaningful policies to cater climate change challenge at the national level.

2.0 INTRODUCTION

2.1 Project Objectives

The aim of this project is to develop, test and adapt new curricula in the field of Climate Change (CC) Law. Specifically, the integration of a multidisciplinary educational programme on Global CC Policy and Law, offered at a level of Postgraduate diploma (PGDip) or alternatively as LL.M depending on each Partner HEI final decision, will aim to address the need of a new generation of post-graduates in a LL.M that will acquire a high-level expertise on environmental policies and CC law. The project aims to improve the level of competences and skills in the HEIs by developing a new and innovative ICT-based education program and by applying best practices pedagogical methodologies among academics and learners.

The project will also contribute to strengthen cooperation between EU and the Partner Countries throughout organized study visits for capacity building of the teaching staff of the Asian HEIs and the voluntary convergence with the EU developments in the field of CC law and environmental policies curricula as well as exchange of best practices in the field that will equally respect national requirements.

The project will promote people-to-people contacts, intercultural awareness and understanding through the continuous exchange of knowledge and expertise as the partners will discuss their vision of what will the new programme include and through a creative process, they will decide which elements of the programme framework presented to them by



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their European partners will be easily transferable and will add value to their regional and national academic environments.

2.2 Target Groups

The CCP_LAW project aims to build and strengthen the capacity of academic staff and researchers. This is vital in building upskilled and professional academicians in the area relating to Climate Change. The development of the new curricula of the Educational Programme on Global Climate Change Policy and Law will lead to a more sustainable professional growth in the academic field. Another main target groups are legal practitioners, policy-makers, project managers, government officials and auditors of environmental issues. The objectives is to promote better policy-building capacity through the existence of the new curricula. Not only would they have an in-depth understanding of the area of study, but will strive for a better governance with respect of controlling climate change. This will effectively increase the efficacy of the bottom-up approach in which ultimately, bigger corporations with specialists from the new curricula would strive to create better policies, especially at a national level. Another target group is University graduates. They would benefit from the new curricula with respect to expertise in the area of climate change. Not only will they be equipped with knowledge on national and international policies governing the issue of climate change, the potential and likelihood of marketability will also exist. This may open doors to more possibilities in expanding the impact of the new curricula by shaping future legal advisers, consultants or handling think-tank institutions.

2.3 National Laws and Policies for Climate Change, Environment Protection, SDG's etc.

Tables below contain list of climate change, environment protection and SDGs related policies and laws in Malaysia:

Scope		Policy Document
Climate change	1	National Policy on Climate Change (2009)
	2	National Energy Policy (1979)
	3	National Energy Efficiency Action Plan (2015)
	4	National Renewable Energy Policy and Action Plan (2008)
	5	National Biofuel Policy (2006)
	6	National Green Technology Policy (2009)
	7	Green Technology Master Plan Malaysia (2017-2030)



	8	National Transport Policy (2019-2030)
	9	Low Carbon City Framework (2011)
	10	National Policy on Industry 4.0 (2018)
	11	Policy and Mechanism on National Disaster and Relief Management (2007)
	12	National Agro-Food Policy (2011-2020)
	13	Intended Nationally Determined Contribution of The Government of Malaysia (2015)
	14	Malaysia Third National Communication & Second Biennial Update Report to the UNFCCC (2018)
	15	Biennial Update Report (2020)
Environment	1	National Policy on the Environment (2002)
	2	National Water Resources Policy (2012)
	3	National Policy on Biological Diversity (2016 – 2025)
	4	National Forestry Policy (1978, revised 1992)
	5	National Solid Waste Management Policy (2016)
	6	National Cleanliness Policy (2019)
National Development Plan	1	12th Malaysia Plan (2021-2025)
	2	National Physical Plan 3 (2016-2020)

Scope		Legislations
Climate Change	1	The Renewable Energy Act 2011
Environment	1	Environmental Quality Act 1974
	2	National Forestry Act 1984
	3	Wildlife Conservation Act 2010

2.4 Nodal Bodies in Malaysia dealing with Climate Change, Environment Protection, SDG's etc.

Tables below contain list of climate change, environment protection and SDGs related regulatory agencies in Malaysia:

Scope		Regulatory Agency
Climate Change	1	Ministry of Energy and Natural Resources
	2	Ministry of Environment and Water
	3	Ministry of Agriculture and Food Industries
	4	Ministry of Transport
		Ministry of International Trade and Industry
		Ministry of Science, Technology & Innovation



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Environment	1	Department of Environment, Ministry of Environment and Water
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2.5 Environmental Protection Index Ranking of Malaysia and other initiatives being taken in Malaysia to protect climate change.

Malaysia has a decentralized administrative jurisdiction of federal, state and local governments. The Constitution is the supreme law and the setting of legal frameworks on the environment and climate change stems from the Constitution's distribution of powers as provided in the legislative lists under the 9th schedule through List I (Federal List), List II (State List) and List III (Concurrent List).

The most relevant sectoral laws in Malaysia pertinent to climate change is the renewable energy sector. The Renewable Energy Act 2011 was passed to achieve the objectives of National Renewable Energy Policy and National Green Technology Policy, which were introduced to boost the development of green technology and expected to assist in mitigating climate issues.

The most important law on pollution control is the Environmental Quality Act 1974 which is enforced by the Department of Environment under the Ministry of Environment and Water. Whereas the main policy document on environmental protection is the National Policy on the Environment 2002.

At the international level, Malaysia's direct involvement in the climate change process began when it ratified the United Nations Framework Convention on Climate Change (UNFCCC), followed by the Kyoto Protocol and the Paris Agreement. Under the Kyoto Protocol, Malaysia is categorized as a developing country that does not have a mandatory greenhouse gas emissions target. While the Kyoto Protocol is not legally binding for Malaysia, as one of the Non-Annex 1 parties. In 2016 during the Paris Agreement, Malaysia pledged to reduce its GHG emissions intensity (per unit of GDP) by 45% by 2030 relative to the emissions intensity in 2005. According to Environmental Performance Index (EPI) 2020 Report, Malaysia was rank 68/180 with 47.9 EPI score. Details can be viewed from <https://epi.yale.edu/epi-results/2020/country/mys>



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3.0 CLIMATE CHANGE LAW AND POLICY: AN INVESTIGATION INTO THE CURRICULA OF UNIVERSITIES IN MALAYSIA

3.1 Desk Research Objectives:

The objective of the Desk Research is to examine and evaluate the existing courses offered by universities inside Malaysia that have relation with climate change / sustainability / environmental law and policy in law courses and other disciplines of study.

3.2 Summary of findings:

There are few universities and institute of excellence that can be identified offering law courses and other disciplines of study that have relation with climate change, sustainability, environmental law and policy. Selection of the universities is based on information of the courses provided online in the official website and brochures of the universities. Criteria on the university's accreditation with Malaysian Qualification Agency (MQA) is also taking into consideration during the selection to ensure the courses selected is in conformity with standard education programme of Malaysia.

Table below provides **law courses** related to climate change, sustainability, environmental law and policy offered in Malaysia.

No.	University Surveyed	Type of University	Existing Courses	Gaps Found in Courses
1.	AIKOL IIUM and Sejahtera Centre for Sustainability & Humanity IIUM	Public University & Centre of Study	Comparative Environmental Law	LLM programme is less emphasize on the method of learning by way of experiential and clinical
2.	Harun M. Hashim Law Centre IIUM	Centre of Study	International Environmental Law	LLM programme does not offer specific course on CCPL but the good thing is the environmental course is made as a core course (compulsory) for the LLM International Law students.
3.	Universiti Kebangsaan Malaysia (UKM)	Public University	International Environmental Law	1) No specific course on CCPL offered except environmental law where the issue of



4.	Universiti Sains Islam Malaysia (USIM)	Public University	Environmental Law, Maritime Law	CCPL is being discussed. 2) Environmental law course is only offered as elective course rather than core course of the LLM Programme.
5.	Universiti Teknologi Malaya (UTM)	Public University	Environmental Law & Policy	
6.	Universiti Malaya (UM)	Public University	International Environmental Law: Natural World Issues	LLM Programme does not offer specific course on CCPL. The only courses offered related to CCPL is international environmental law and international natural resources law.
			International Environmental Law: Human World Issues	
			International Resources Law	

Table below provides **interdisciplinary study (non- law courses)** related to climate change, sustainability, environmental law and policy offered in Malaysia.

No.	University Surveyed	Type of University	Existing Courses	Gaps Found in Courses
1.	Centre For Tropical Climate Change System, Institute Of Climate Change, Universiti Kebangsaan Malaysia (UKM)	Institute of Excellence	Master in Climate Change (Coursework) 1) Environmental Science 2) Earth Science	Programme offers climate change course but in purely science perspective with less emphasize on law & policy. Thus, it does not fulfil the requirements on CCPL in LLM.
2.	Borneo Marine Research Institute, Universiti Malaysia Sabah	Institute of Excellence	Master (By Research) 1) Marine Science 2) Coastal and Marine Management 3) Fisheries	Students are expected to develop policy and strategies in the marine, fisheries and coastal management after completed the course, however no specific course on policy and law offered in the programme.
3.	Institute of Environment & Development (Lestari), Universiti Kebangsaan Malaysia (UKM)	Institute of Excellence	Master of Science (By Research) 1) Sustainability Science (compulsory) 2) Climatic Disaster (Specialization)	Less emphasize on climate change course. Climatic disaster is only offered as specialization where students have an option to choose or not to choose the course. So,



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				it is not compulsory for the students.
4.	Universiti Putra Malaysia (UPM)	Public University	<p>Master of Environment</p> <p>[Core course]: Environmental Law/ Env. Pollution and Treatment Technology/ Man & Sustainable Development/ Env. Planning & Management/ Economy & Env. Sustainability./ Env. Impact Assessment Technique</p> <p>[Elective course]: Urban Climate & Air Pollution/ Land Development & Environment</p> <p>International Graduate Degree (Master in Food Security and Climate Change- Specialized in Climate Sciences)</p> <p>Among Core course: Changing Climate and Its Impacts On Natural Resources, Agriculture and Food Security & Impact Assessment and Evaluation of Projects and Policies</p> <p>Core Course Specialization: Climate Risk Management & Food Security/ Climate Change, Vulnerability and Adaptation/ Dynamics of Climate Change and Environment/</p>	Even though the programme is offered at Master level, it is not under LLM.



			Environmental Communication	
5.	International Islamic University Malaysia (IIUM Kuantan Campus)	Public University	Master of Science (Biotechnology Engineering MSBTE) specialized in Bioenvironmental Engineering Courses: Environmental Engineering Management/ Advanced Air Pollution Control Technology/ Biofuel & Bioenergy/	Programme only offer one course on environment and does not offer specific course on CCPL. It is pure science with less interaction on law and policy.
6.	Universiti Malaysia Sabah (UMS)	Public University	Master of Science - Environmental Science	Programme emphasize on environmental course in science perspective only with less consideration on law and policy
7.	Universiti Malaya (UM)	Public University	Master of Science (Environmental Management Technology) [Courses]: Environmental Management and Planning (consist 4 components: 1)Environmental Management System 2)Environmental Economics 3)Environmental Law 4)Geographic Information System-GIS) Environment Impact Assessment	Even though programme offers intensive courses related to environment, there is only one course on environmental law and none for CCLP.
8.	Universiti Malaysia Terengganu (UMT)	Public University	Master of Science (Environmental Forensic)	Pure science master programme with no specific course on CCLP
9.	Malaysia- Japan International Institute Of	Private Institute	Master of Sustainability and	



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	Technology, Universiti Teknologi Mara (UITM)		Environmental Science [Core Course]: 1)Sustainability Management & Policy 2)Intro & Exercises to Env. Sciences [Elective Course]: 1)Simulation of Env. Policy 2)Tropical Climate and Global Mansoon 3)Low Carbon Cities, 4)Environmental Impact Assessment	
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Overall, there is no Master of Law in Malaysia that offers course specifically on climate change policy and law but there is environmental law course offered. However, this environmental law course is offered as an elective course rather than core or compulsory course in most master law programmes of the public universities and institute of excellence. Therefore, it can be seen that the importance of this course is less emphasized. In addition, even though there is no specific law course on CCPL, discussion on it is included as part of the syllabus inside the environmental law course. With regards to private universities, none of Malaysian private universities offer master law courses on environment as they incline more on medical law and business trade law.

Meanwhile in other disciplines of study, there are master courses dealing with climate change in specific. For example, the Universiti Putra Malaysia (UPM) offers a Master in Food Security and Climate Change specialized in Climate Sciences where extensive learning and teaching on climate change concepts, issues, adaptation and mitigation are included in the syllabus. Apart from that, Master in Climate Change is also being offered by the Centre for Tropical Climate Change System Institute of Climate Change UKM where environmental science and earth science courses are included in the course. However, these science courses are less emphasis on the law and policy matters and more emphasis on pure science.

To conclude, in Malaysia there is still a lack of practical skills in the existing course in its assessment. Most of the master law courses that deal with climate change/ sustainability/ environmental law are focussing on the written assignments and examinations without



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emphasizing more on the practical side such as advocacy skills, negotiation skills, training, role playing, site visit and others. However, in the master science courses, the practical elements are being conducted but the problem is matters related to law and policy are less emphasized. Thus, the current law courses offered are not really benefiting the students in terms of skills. Apart from that, there is still a lack of experiential and clinical learning in most existing master law courses, thus less skills developed at the end of the course programme.

4.0 FOCUS GROUP DISCUSSION

4.1 Focus Group Discussion Objectives

As a requirement for the development of the CCPL law curriculum, the IIUM team has engage with climate change experts to gauge views and feedbacks towards the development of an up-to-date master's degree curriculum which can attract students from legal and non-legal backgrounds (such as legal practitioners, policy-makers, project managers, government officials and auditors of environment). One of the critical areas of this program is the idea of sharing academic and professional experience on: ERASMUS CCPL FOCUS GROUP FORUM ON CLIMATE CHANGE POLICY AND LAW CURRICULUM.

4.2 Methodological Framework

This Forum was conducted by the IIUM team with the relevant stakeholders in Malaysia to identify similar programmes in the subject area in order to identify the gaps and better assess the exact academic needs that have to be catered for by the CCPL educational programme. This process was meant to ascertain that the programme will not cover existing curricula and to be truly innovative. This process was to guarantee that all relevant target groups will provide their input in developing a balanced educational programme for the benefit of AIKOL and IIUM.

4.3 Date and time of the Forum

3rd October 2021; 10:00 a.m. – 12:30 pm.

4.4 Stakeholders Background

5 (Five) Academicians

- **Respondent A1:** Dr. Farahdilah Ghazali (Universiti Malaysia Terengganu), Expert areas: Renewable Energy Law, Climate Change Law.



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- **Respondent A2:** Prof. Dr. Mariana Binti Mohamed Osman (International Islamic University Malaysia), Expert area: Urban Planning and Environmental Design.
- **Respondent A3:** Assoc. prof. Dr. Rasyidah Md Khalid (Universiti Kebangsaan Malaysia). Expert areas: Water law, Climate Change & Policy and Law.
- **Respondent A4:** Dr. Lee Jing (Environmental Protection Society Malaysia). Expert areas: International Law & International Water Law.
- **Respondent A5:** Prof. Dr. Abdullah Al Mamun (International Islamic University Malaysia). Expert area, Water and Environmental science.

3 (Three) Experts

- **Respondent E1:** Dr. Kwan Soo Chen, an environmental health and climate change scientist (Universiti Kebangsaan Malaysia). Expert areas: Environmental Health Science, Climate Change
- **Respondent E2:** Mr. Mohammed Afiq Abu Zarim, Head, Gas Governance & Advocacy PETRONAS Malaysia. (Graduated from Universiti Teknologi Petronas, Master's Degree, Energy Sector (Clean Energy Advocacy)).
- **Respondent E3:** Mr. Kiu Jia Yaw, Bar Council Environment & Climate Change Committee, Malaysian Bar Council, (Master's Degree from SOAS University of London in Climate Change & Policy and Law)

3 (Three) Students

- **Respondent S1:** Mr. Eqram Mustaqeem Bin Muhamad, Undergraduate student in law from International Islamic University Malaysia
- **Respondent S2:** Ms. Celine Lim, Innovation and Sustainability Team, UNICEF Malaysia
- **Respondent S3:** Mr. Muhammad Ilham Hafiz bin Azmi, Undergraduate student in law from International Islamic University Malaysia

4.5 Points Discussed

4.5.1 Needs and Gaps Analysis



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1. Why is there a need for a specialized course on Climate Change policy and Law (CCPL) in Malaysia? (You may tick more than one answer below and provide some of your own reasons.)

	Academicians	Experts	Students
The existing courses on environmental governance do not adequately address CCPL.	4	1	2
To enhance Malaysia's commitments to the Paris Agreement.	4	1	2
To equip the future generation of policy makers on CCPL.	5	3	3
To ensure sustainability of the agenda on Climate Change in Malaysia.	4	3	3

- a. Other responses (**Respondent S2**): We need a very strong and in-depth understanding of the policy framework and laws surrounding climate change and international negotiations, to ensure that Malaysia can best equip ourself with the tools needed to meet our NDC targets in the most equitable ways.

2. Are you familiar with any existing course on CCPL?

	Academicians	Experts	Students
Yes	1	1	0
No	4	2	3

3. If you are familiar with any existing course on CCPL, what are the contents?

- a. Academicians (**Respondent A3**): How law need to be responsive to climate change.
- b. Experts (**Respondent E2**): Only on short courses/events offered by international entities such as IHS CERAWEEK; (**Respondent E3**): I did CCPL as a subject in my LLM at SOAS, Uni. of London in 2013

4. What is lacking in existing courses like environmental law, environmental sciences, and environmental governance etc. in addressing CCPL? (You may tick more than one answer below and provide some of your own reasons.)



	Academicians	Experts	Students
The existing courses have only a small percentage of content on climate change.	3	1	2
The existing courses only deal with climate change science and not the legal and policy aspects.	1	1	1
There is no specific topic in any of the existing courses addressing climate change law.	0	0	2
The only aspect of climate change law touched upon in the existing courses are about the international instruments.	0	0	1
There is no discussion of climate change law at all in the existing courses.	0	1	0

a. Other responses (Academicians):

- i. **Respondent A4:** Depending on the disciplines through which climate change is addressed, what is observed is the lack of focus on the politics shrouding the climate change regime, in the sciences, as well as the law and policy on the subject matter.
- ii. **Respondent A5:** I got no detail experience in all the existing courses environmental law, environmental sciences, and environmental governance, etc.

b. Other responses (Experts):

- i. **Respondent E2:** I am not familiar with the current courses and offering in this very subject to be honest.
- ii. **Respondent E3:** We need a Malaysian narrative for climate change law and policy.

5. If you are given an option to choose between LLM (Master's) in International Law with a sub-specialization in Climate Change Policy and Law (CCPL), or a specialised LLM (Master's) in CCPL, which one would you choose?



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	Academicians	Experts	Students
LLM International Law (CCPL)	3	1	1
LLM CCPL	2	2	2

6. State your reason(s) for the choice of LLM (Master's) you made in the abovementioned question.

a. Academicians:

- i. **Respondent A1:** Climate change is an international agenda.
- ii. **Respondent A2:** None.
- iii. **Respondent A3:** New subject is interesting.
- iv. **Respondent A4:** I would like to qualify my answer. A specialised climate change LLM would be very useful if a candidate has a strong background in public international law. However, if the command of the candidate in law, and public international law is strong, then an LLM in Climate Change Policy and Law would be a better option (if I am asked to choose).
- v. **Respondent A5:** Climate change is an international issue/concern.

b. Experts:

- i. **Respondent E1:** As I am not from a legal background, if I were to pursue a Master's degree in Climate Change Policy & Law, I would choose a more focused course in CCPL. However, I believe CCPL will definitely also relate to International Law as CCPL cuts across various sector especially in the means of implementations/enforcement of the CCPL.
- ii. **Respondent E2:** CCPL should be a core rather than a sub-specialisation -- taking into account traction of global policy and law on carbon emission, GHG, and ESG.
- iii. **Respondent E3:** It could be one way or the other, depending on the needs of the student. CCPL is a multi-discipline issue, spanning science, law, philosophy, psychology, business and finance.

c. Students:

- i. **Respondent S1:** The scope LLM International Law (CCPL) would appear as more wide. Since the discussion & interest on climate change



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policy and laws among members of the legal fraternity is not yet well developed and established, having an LLM where sub-specialization is in CCPL would assist applicants who are interested in international law which in my opinion would be more than those who are interested in climate change law per se, to obtain and develop interest & knowledge in climate change law and policy. It would also open the course to a wider range of audience.

- ii. **Respondent S2:** Given the diversities of legal instruments and areas in climate change, an in-depth specialisation will be more beneficial in the long-term as our country begins to explore ways to mitigate and adapt to climate change. As it stands, we have a large number of graduates from both local and overseas institutions in international law, but a significantly lower number specialised in climate change policy and law, which we crucially need. Furthermore, given the complexities of climate change policy and law, and their intersections with international trade policies and commitments to World Bank rules, a specialisation in this area will be more desirable. We need innovative solutions, and this only can come with specialised knowledge of current frameworks and more importantly, gaps in our framework that need to be addressed.
- iii. **Respondent S3:** There will be a greater emphasis on the issue of climate change if it is made into a specialised course as opposed to a general course with a sub-specialization.

7. If you are interested to pursue a Master's degree in Climate Change Policy & Law, what would be your criteria in choosing the course. (You may choose more than one answer.)

	Academicians	Experts	Students
Competitive fee	3	1	3
Quality of lecturers	5	3	3
Variety of sub-specialization subjects offered	4	2	3
Location of the Higher Education Institute	1	0	1
Facilities	2	1	2
Course content	4	2	3



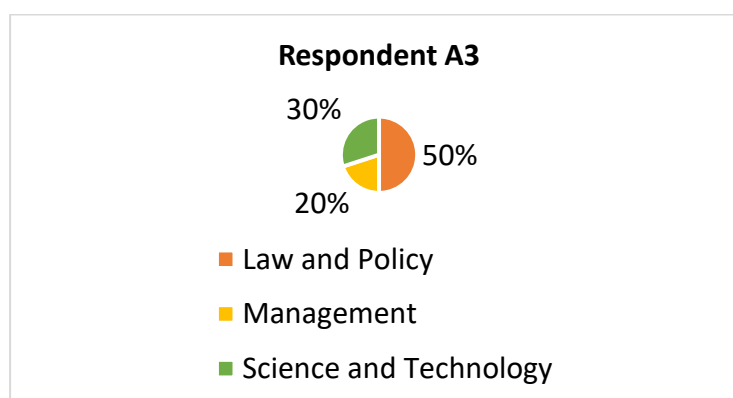
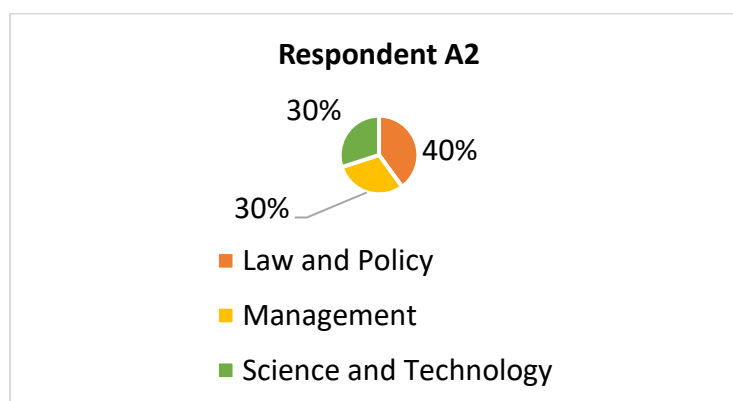
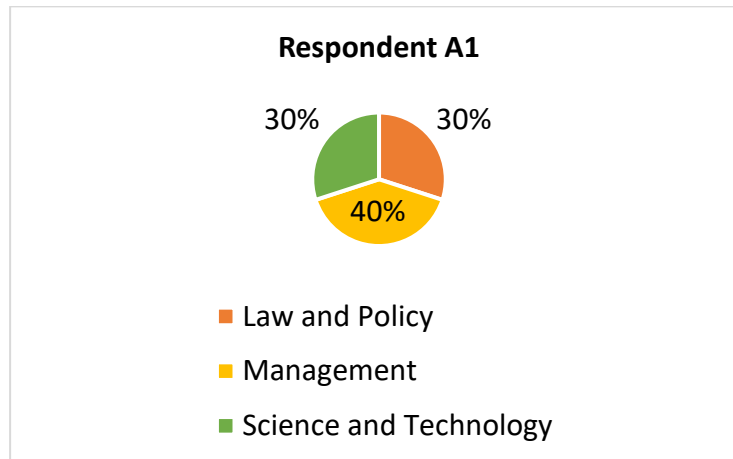
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4.5.2 Course Design

8. Suggest the most appropriate percentage distribution for the following proposed components of the course to make the curricula truly innovative. (The percentage should add up to total 100%.)

a. Academicians:

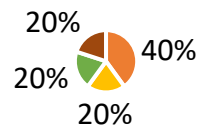




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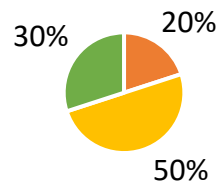


Respondent A4



- Law and Policy
- Management
- Science and Technology
- Unspecified

Respondent A5



- Law and Policy
- Management
- Science and Technology

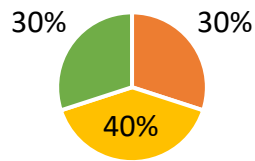
b. Experts:



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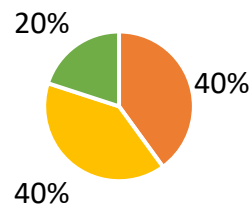


Respondent E1



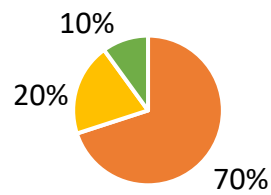
- Law and Policy
- Management
- Science and Technology

Respondent E2



- Law and Policy
- Management
- Science and Technology

Respondent E3



- Law and Policy
- Management
- Science and Technology

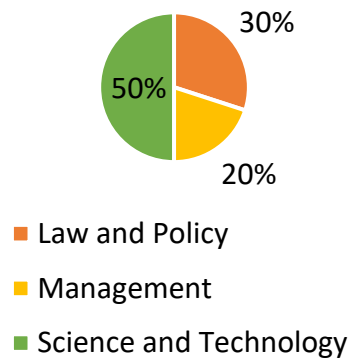
c. Students:



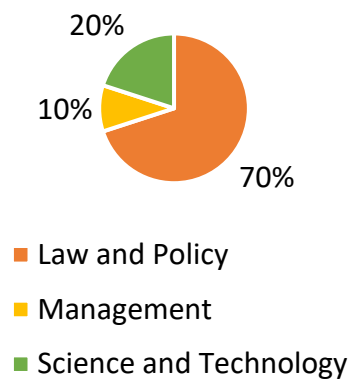
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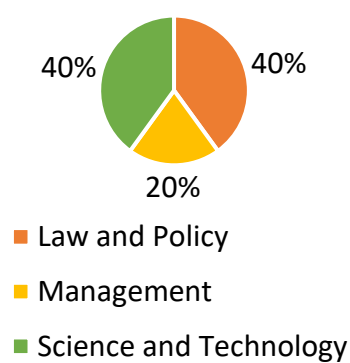
Respondent S1



Respondent S2



Respondent S3



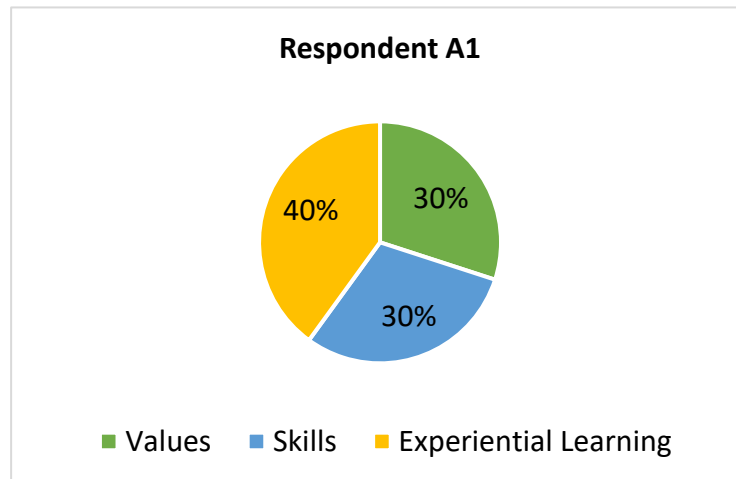
9. What should be the percentage of values, skills and experiential learning to be incorporated in the course to prepare an innovative curriculum? (The percentage should add up to 100%.)



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a. Academicians:

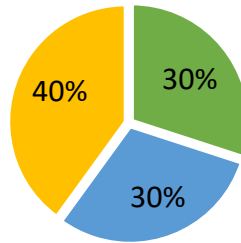




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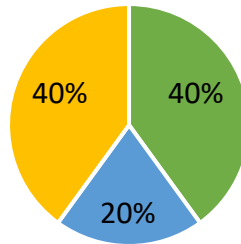


Respondent A2



■ Values ■ Skills ■ Experiential Learning

Respondent A3



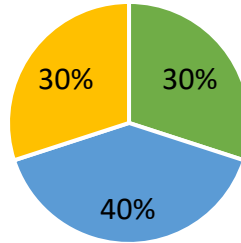
■ Values ■ Skills ■ Experiential Learning



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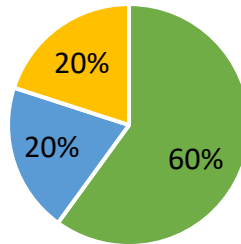


Respondent A4



■ Values ■ Skills ■ Experiential Learning

Respondent A5



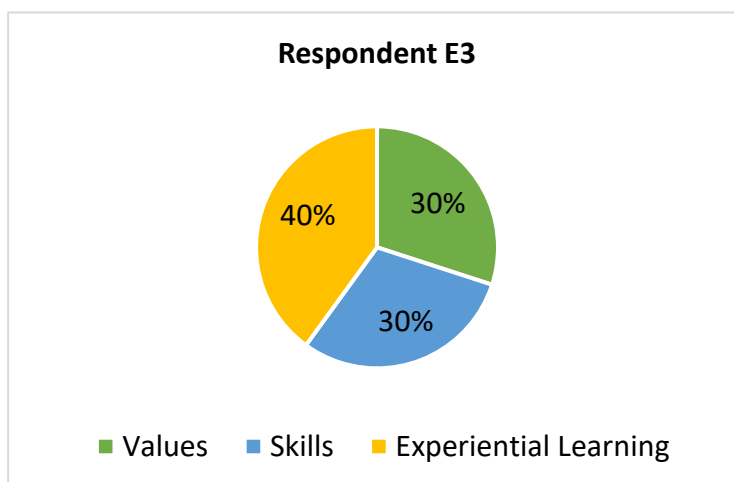
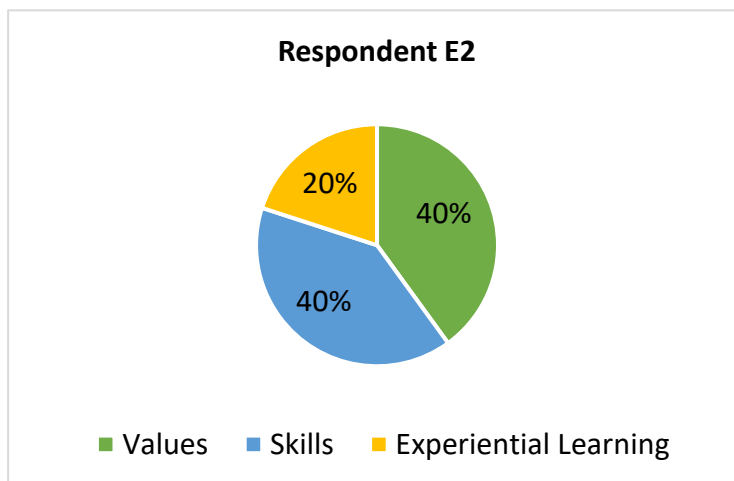
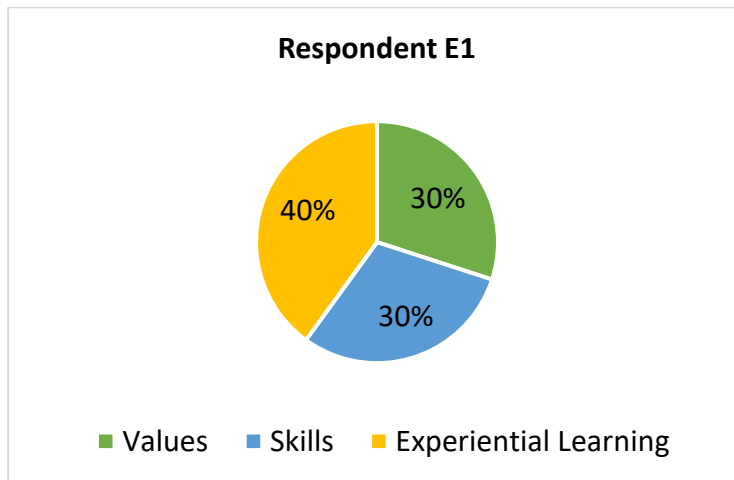
■ Values ■ Skills ■ Experiential Learning



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b. Experts:

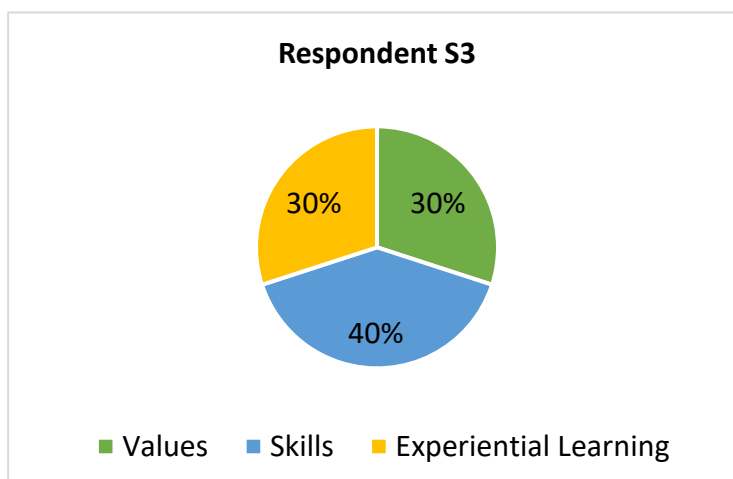
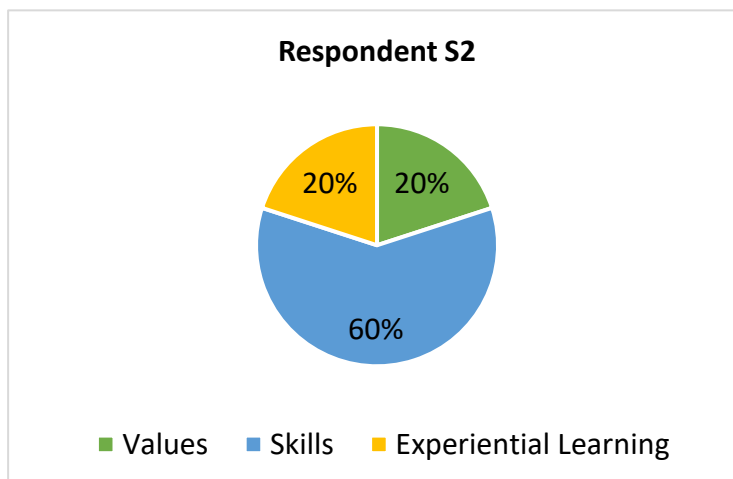
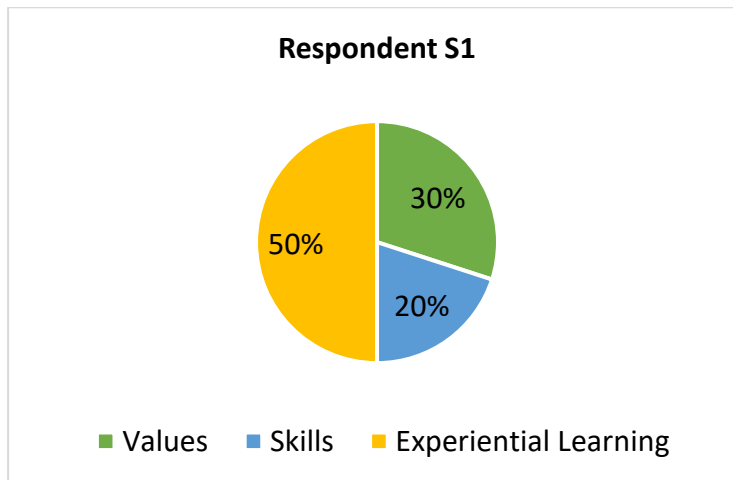




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c. Students:



4.5.3 Teaching Methodology and Assessment

10. What are your suggestions for the type of Teaching Methodology so that the objectives of the course are duly delivered? (Grade the following Teaching Methodology

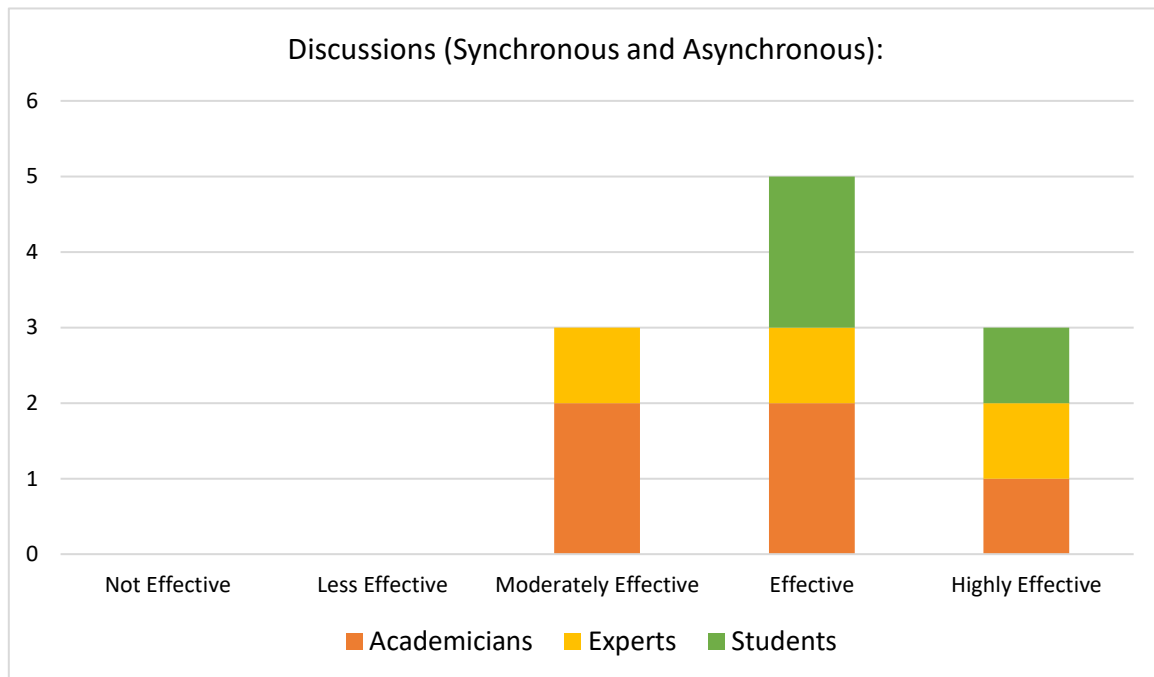


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accordingly from 1-5 as follows 1 = Not effective, 2 = Less Effective, 3 = Moderately Effective, 4 = Effective, 5 = Highly Effective)

a. Discussions (Synchronous and Asynchronous):

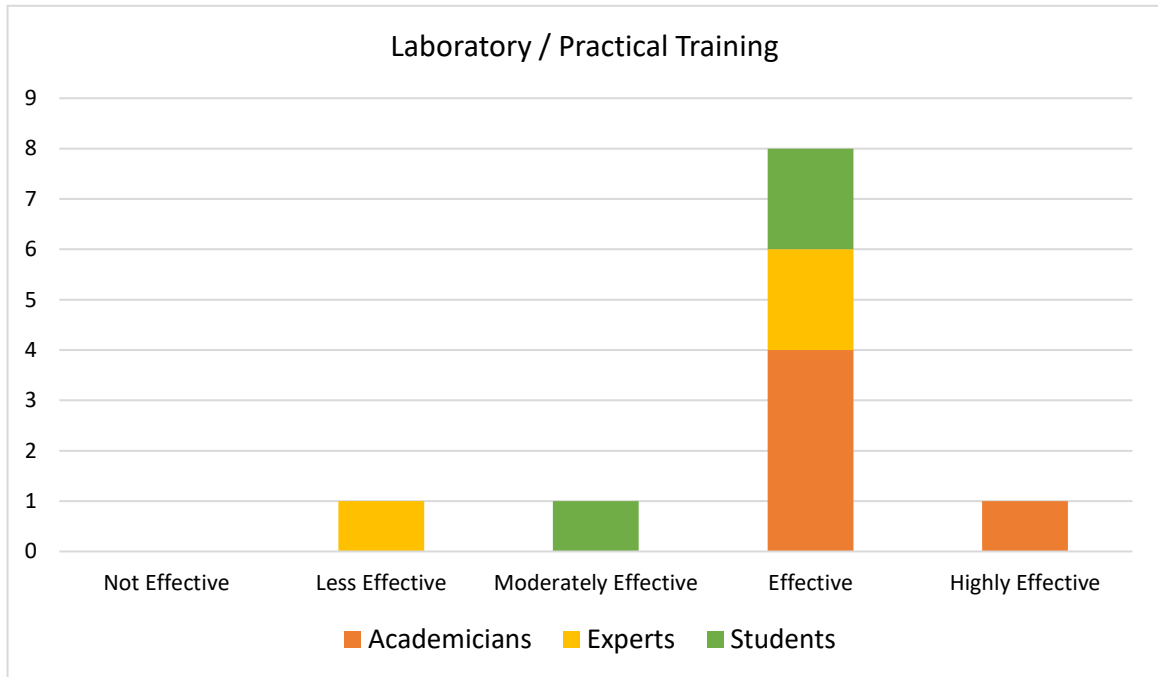




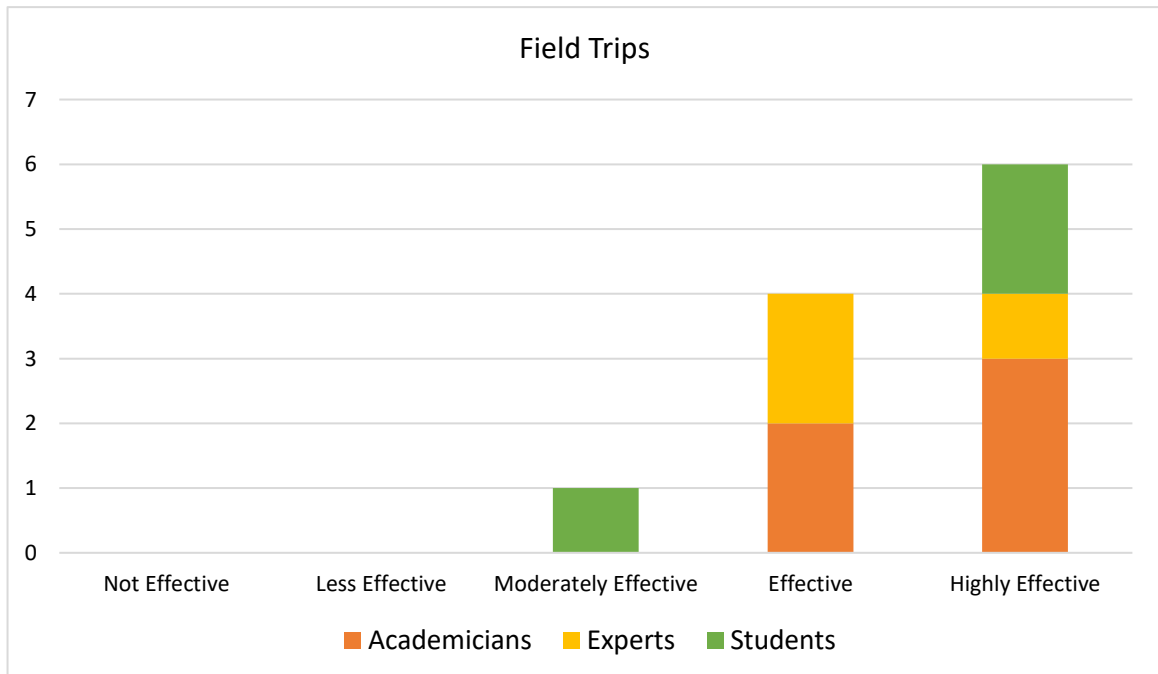
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b. Laboratory / Practical Training:



c. Field Trips:

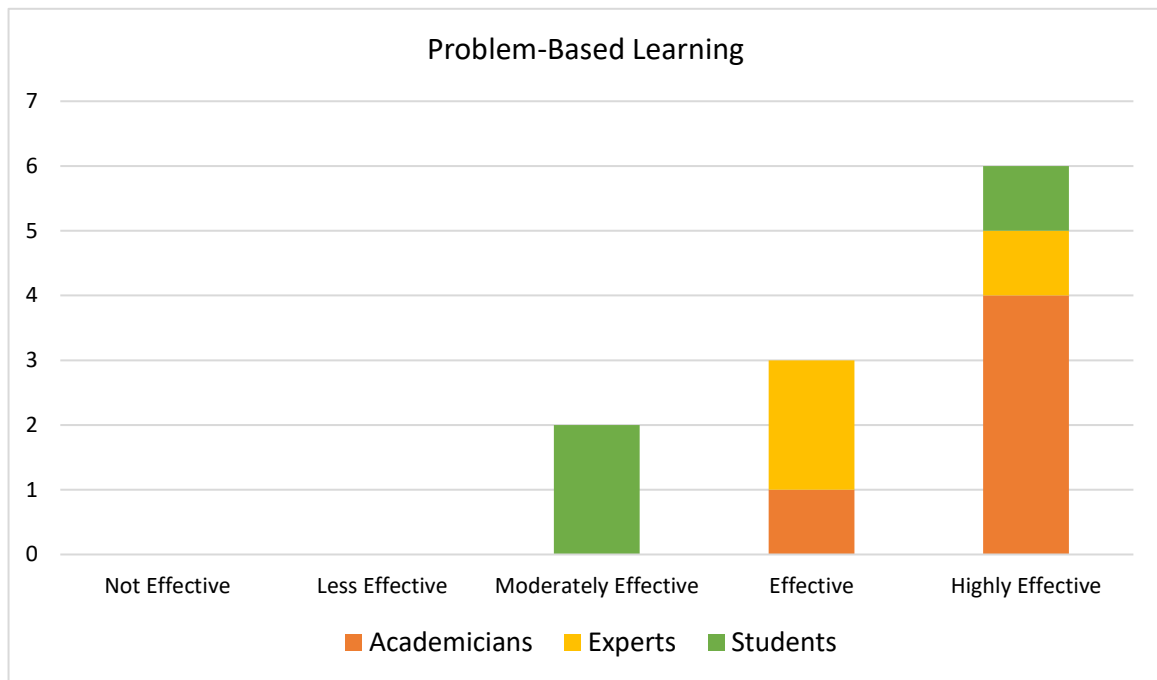




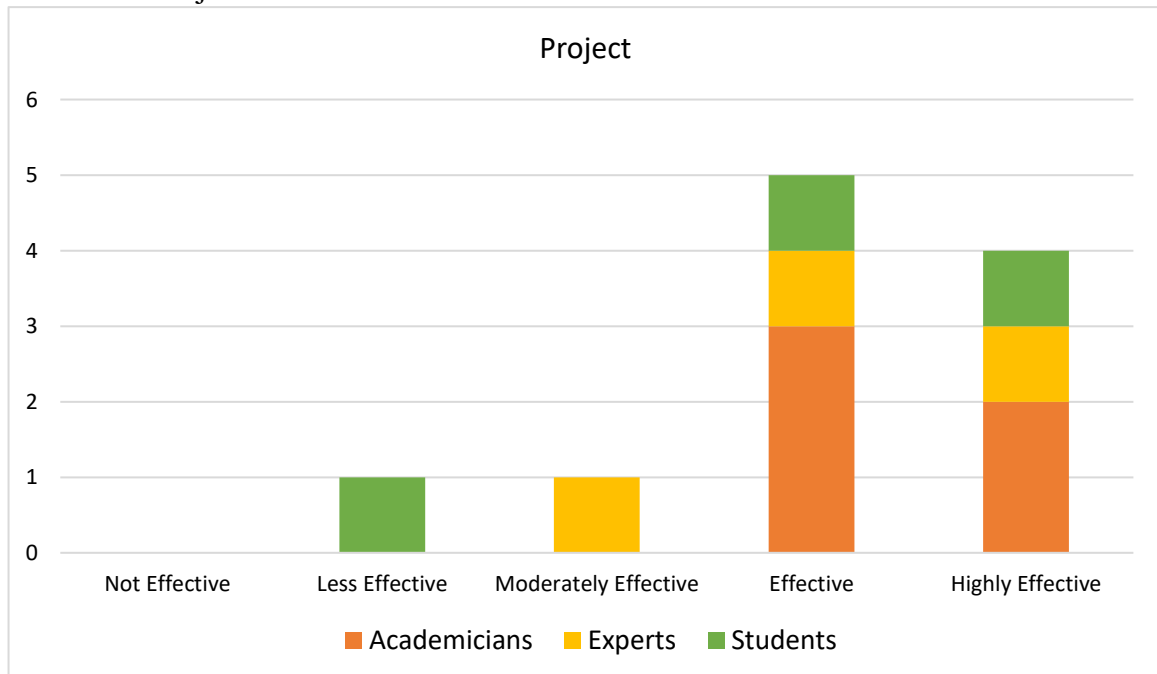
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d. Problem-Based Learning:



e. Project:

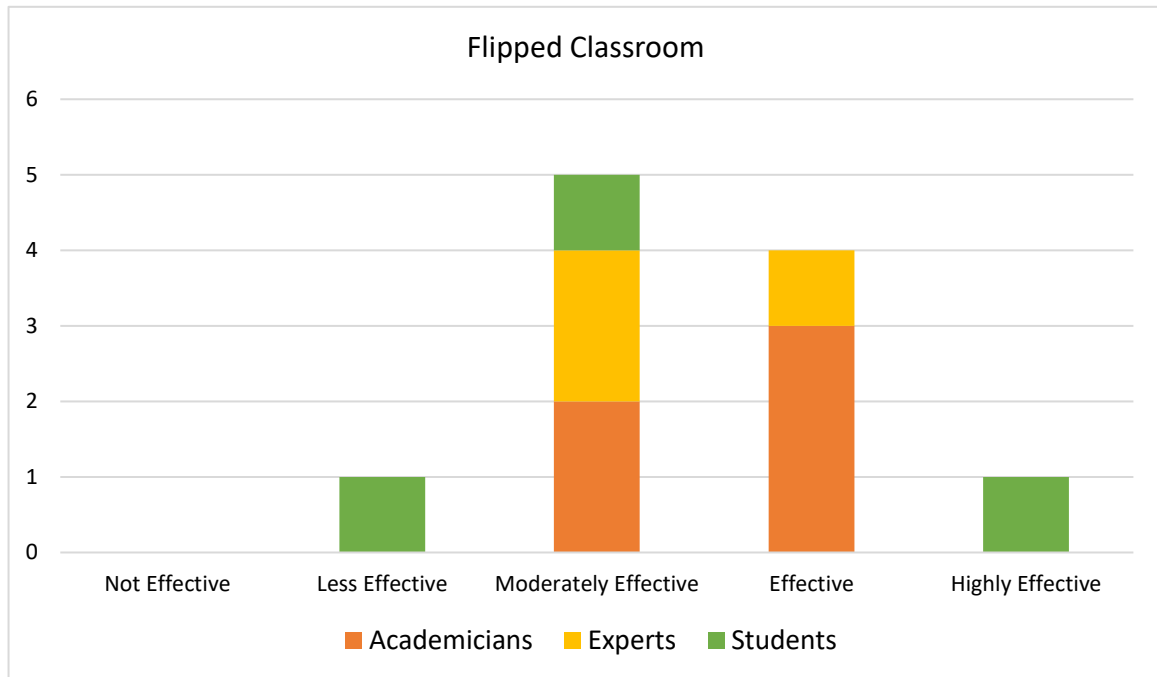




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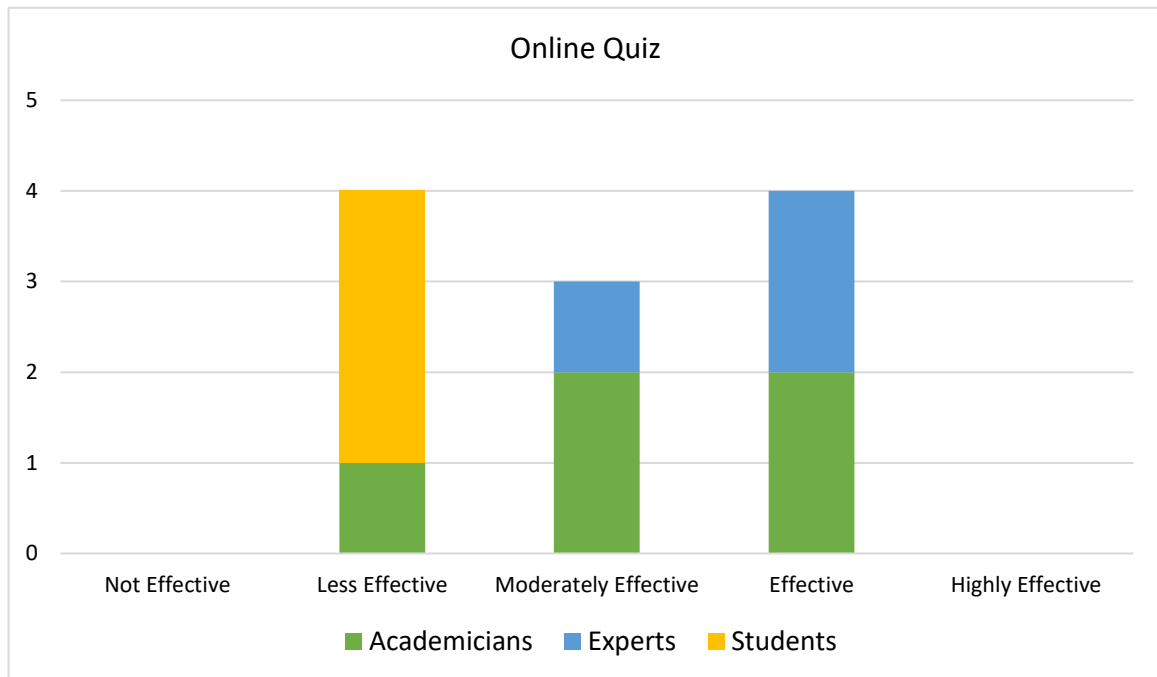


f. Flipped Classroom:

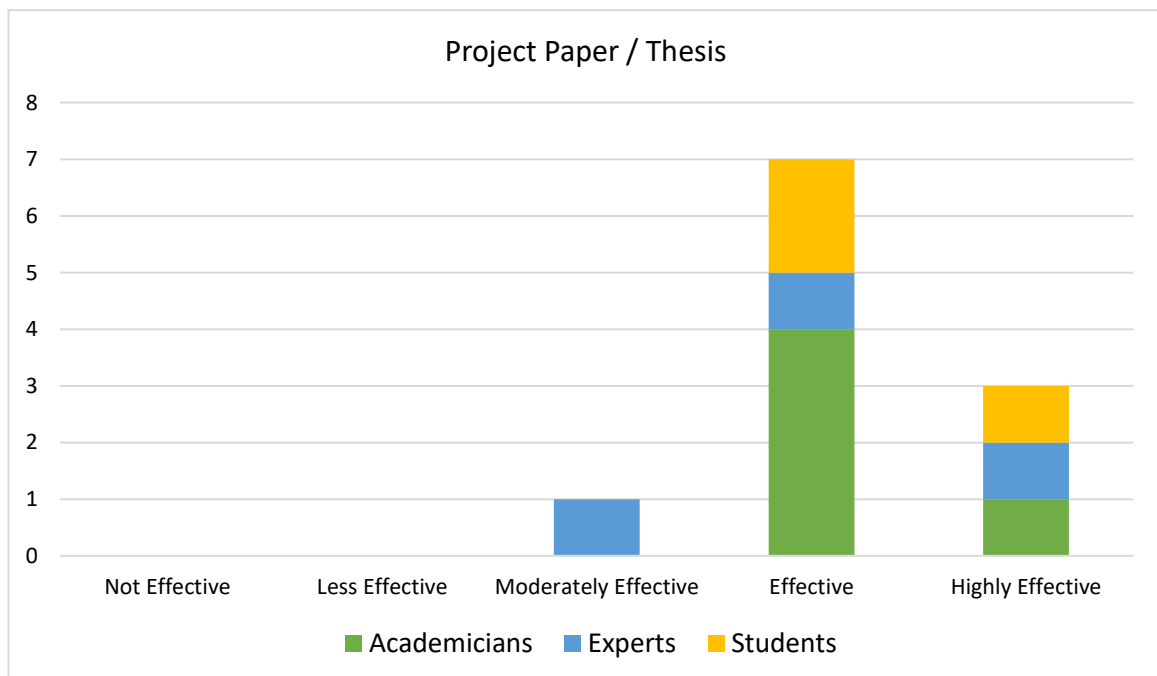


11. What are your suggestions for the type of assessment so that the objectives of the course are duly delivered? (Grade the following Assessment types accordingly from 1-5 as follows 1 = Not effective, 2 = Less Effective, 3 = Moderately Effective, 4 = Effective, 5 = Highly Effective)

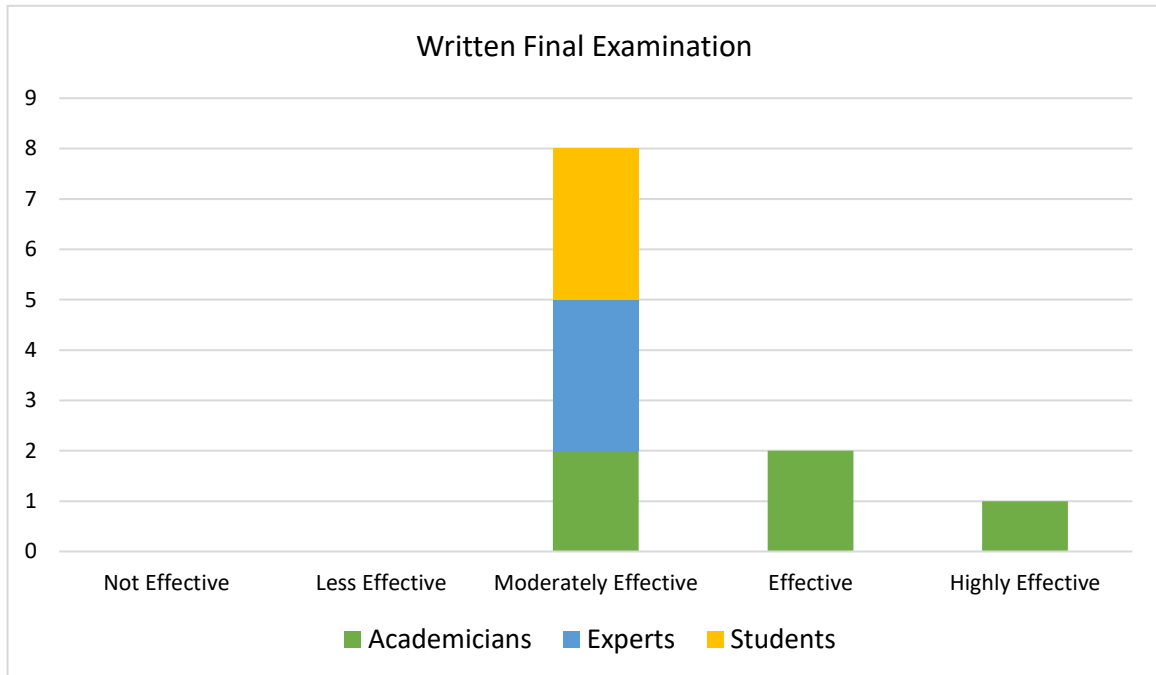
a. Online Quiz:



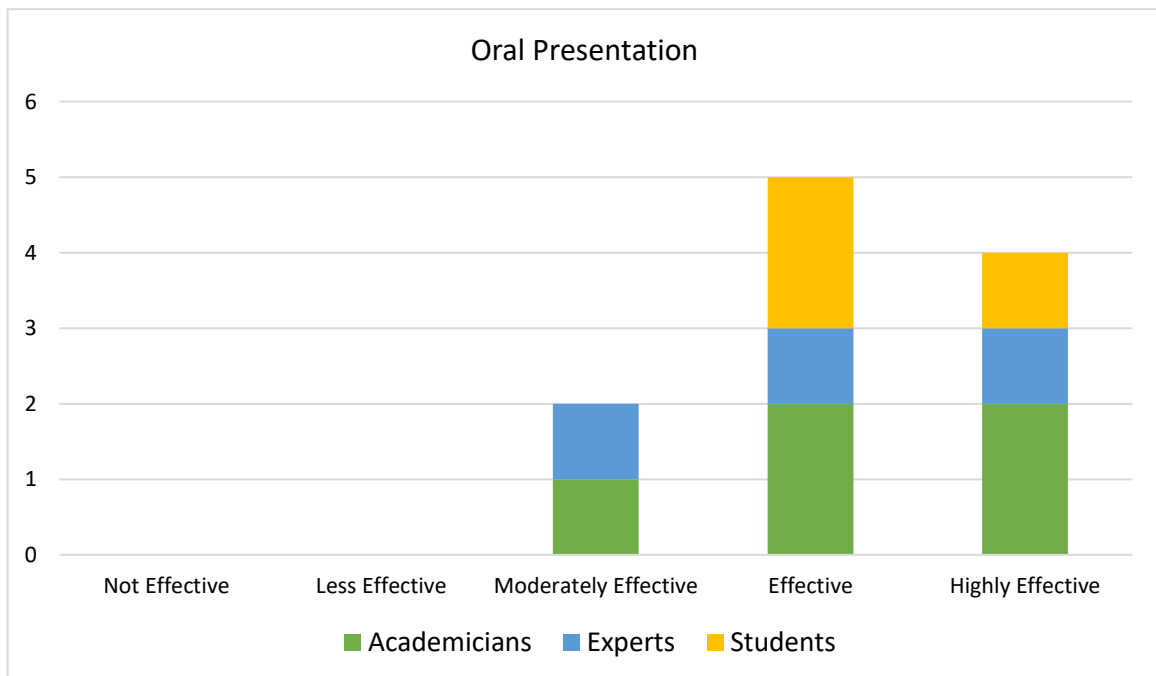
b. Project Paper / Thesis:



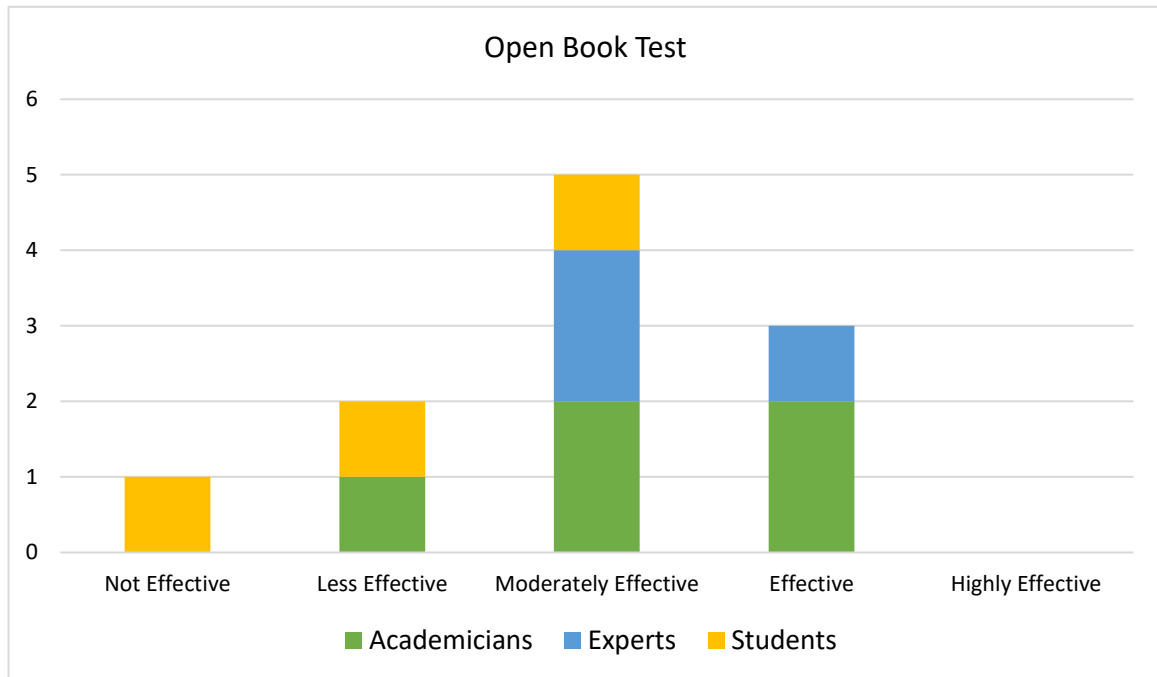
c. Written Final Examination:



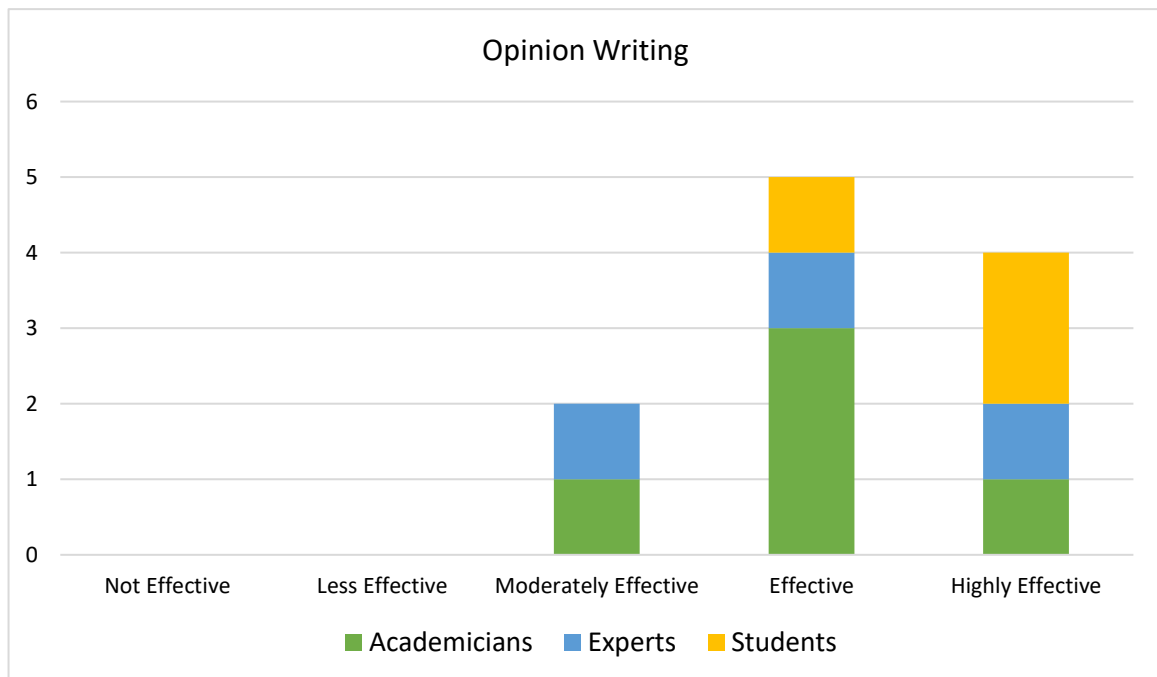
d. Oral Presentation:



e. Open Book Test:



f. Opinion Writing:





12. What kind of capacity building can be organised for the faculty so that they can effectively deliver the course? (You may tick more than one answer below and suggest others.)

	Academicians	Experts	Students
Briefing Session	4	1	2
Training the Trainer Program	5	2	3
Field Trips	5	3	3
Conferences and seminars	5	3	1

- a. Other responses (**Respondent A4**): Participation of faculty members in policy development as well as grassroots advocacy on matters relating to climate change.

13. Can you share some innovative best practices which can be identified and included in the course curricula? (You may choose more than one of the following and suggest others.)

	Academicians	Experts	Students
Competency Based Learning	3	0	3
Video Streaming	4	1	2
Flipped Classroom	1	1	2
Digital Textbooks	3	0	1
3D Printing	1	0	0
Data Analytics	3	3	3
Storyboard Teaching	3	3	3
Role Playing	5	2	3

- a. Other responses (**Respondent A4**): Internships - place candidates in government agencies, environmental audit committees of corporations, or public listed companies with strong focus on ESG practices, as well as community or non-governmental organisations that work on climate change related issues.



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4.6 Summary of Observations

14. How can this course lead to a sustainable transformation and change?

a. Academicians:

- i. **Respondent A1:** By bridging the science and technology to law and policies. the law on climate change can't be static, need to accommodate current issues and provide immediate solutions.
- ii. **Respondent A2:** Include the current issues and practise into the syllabus.
- iii. **Respondent A3:** Responsive law towards climate change.
- iv. **Respondent A4:** Knowledge is the catalyst for change. A good command of the basics of climate change - the sciences, the politics, the way negotiations are conducted within closed doors during COP, the inequality embedded in the international economic and trade system, as well as investment and the funding of investments (especially with regards to the funding of financial institutions of large infrastructural projects that are not consistent with emission-reduction objectives), the flaws and vested interests behind aid packages, commitments, and the use and transfer of technologies etc, would be instrumental in the training an informed individual, who would one day be in a position to lead transformation and change.
- v. **Respondent A5:** By increasing awareness and motivation of the student and propagate the same to others.

b. Experts:

- i. **Respondent E1:** This course will educate current and future leaders to make informed choices that could lead to a sustainable transformation and change.
- ii. **Respondent E2:** Sustainable transformation can only happen with policy support. Without a deep understanding of what policies are required, its social-economic impact in short and long-term, effort will remain as theoretical on paper.
- iii. **Respondent E3:** By inculcating critical thinking skills, creativity and the ability to handle complexity and competing priorities and interests.



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c. Students:

- i. **Respondent S1:** It would help nurture more climate change conscious lawyers and leaders, especially on the policy making and law drafting side.
- ii. **Respondent S2:** This course creates the awareness currently lacking in climate change and exposes students to the legal frameworks of climate mitigation and adaptation plans. To create sustainable transformation and change, it's important to have an institutional environment which allows for innovative solutions. This course takes one step towards the creation of that virtuous institutional environment.
- iii. **Respondent S3:** It provides in-depth exposure to students regarding contemporary issues on climate change, as well its law and policy. It is only by this exposure that students can catalyse change around themselves, and in the system itself some time in the future.

15. In what ways can the new curricula be made truly useful which also addresses the needs of the climate change crisis confronting the world?

a. Academicians:

- i. **Respondent A1:** The course will not only address current problems but also predict the future through scientific data.
- ii. **Respondent A2:** Include the actual practising practises into the silibus- the how element into the silibus. Do not just cover on the legal part but also to include how industry cater climate change.
- iii. **Respondent A3:** Equip enough knowledge to become more resilient.
- iv. **Respondent A4:** If the curricula be made a requirement for officers/ministers in the related ministries, as well as those in a decision-making position where the execution of their day-to-day work would in a way, direct the policy and decision-making on matters that could have an impact on climate change. It should be made compulsory to delegations who would be leading the country in negotiations in international fora.



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- v. **Respondent A5:** Conservation of resources and reducing wastes at every level...
- b. Experts:
- i. **Respondent E1:** The new curricula could educate current and future leaders on the science behind climate change crisis, strategies for endorsing climate actions and managements, to actualize the implementations of the CCPL.
 - ii. **Respondent E2:** Building a line of competencies that understands the entire support system towards climate change will be a catalyst to developing a sound and comprehensive action plan -- relating to climate change, and ESG.
 - iii. **Respondent E3:** By exposing the students to the many distinct narratives of climate change, the facts and science of climate change, and a rights-based approach towards thinking about the solutions.
- c. Students:
- i. **Respondent S1:** To be ever developing with the international climate discussion, discussion revolving around climate change develop quite fast, on top of the annual COPs and various climate change friendly framework being developed in the international sphere. Technological advancement and efforts made by countries and corporations are also advancing & changing at a steady pace. Hence the new curricula should be ready and stay update with all the developments going around and only then it would be best equipped to tackle the needs of the climate change crisis.
 - ii. **Respondent S2:** The curricula should be comprehensive, providing a broad worldview of the climate change crisis, with a focus on the regional and local environment. In reality, climate change international negotiations are often complexed by a multitude of factors involving politics, economics, and social factors beyond just the legal framework. It's important for future environmental lawyers to understand the different agendas countries have, and the conflicting incentives that arise between different parties, to be able to fully utilise their knowledge and



capacities to create the best and most equitable result. The curricula should provide an introduction to the different intersectional issues in climate change, e.g. children's rights in climate change, indigenous rights, women's rights etc.

- iii. **Respondent S3:** The curricula must be relatable to students by giving them real-life examples/facts that are near to the students.

16. How can the course curricula address the needs of the market so as to increase the employability of the students?

a. Academicians:

- i. **Respondent A1:** Practicality (the ability to provide solution).
- ii. **Respondent A2:** Include the practises by industry into the syllabus. It need to be multidisciplinary and multidimensional - not just to concentrate on the legal / lawyer input.
- iii. **Respondent A3:** Not sure.
- iv. **Respondent A4:** Climate change issues are so omnipresent in every sectors that it would be an additional bonus if a student has a good command of the whole regime of climate change, and be equipped with the ability to apply the knowledge and skills in the work that they are doing.
- v. **Respondent A5:** By including contemporary issues and solutions in the Curriculum.

b. Experts:

- i. **Respondent E1:** To include more practical management approach backed by science, liaison skills and updated information on contemporary issues.
- ii. **Respondent E2:** Expertise and competencies in the area of ESG are required by organisations more than ever. It has become 'a license to operate' in the new energy transition agenda.
- iii. **Respondent E3:** This question must be asked with the self-awareness that the role of the university is not merely to feed human resources to the market. That role is but a subset of the university's greater role,



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which is, to educate and inspire our present and future generations to apply their education in service of society. The climate change crisis has been caused by fundamental defects in our markets. All universities must have the awareness that not all jobs are equal, and must commit to educating change makers without fear or favour.

c. Students:

- i. **Respondent S1:** Emphasize the learning process on policies that corporations can take that can benefit the market. An intersectional approach towards tackling climate change would also be highly beneficial, learning the basics how climate finance and policies on sustainable cities can impact climate change would also make the grads of the course more dynamic & holistic hence attractive to the employers in the market space.
- ii. **Respondent S2:** It's important for students to specialise in a niche area to increase their employability. It'd be great to encourage students to work towards finding their passion in one area e.g. carbon trading scheme, green financing laws etc, children's rights in climate change, for instance, and then incorporate this in the thesis.
- iii. **Respondent S3:** The curricula must also provide module to enhance students' soft skills e.g. via stringent oral assessments, as well as Problem-Based discussions to ensure the students are well-equipped with skills to go through real-life scenarios at the workplace

17. What is the role of international collaborations to effectively realise the learning outcomes of the course?

a. Academicians:

- i. **Respondent A1:** International collaboration across all levels (government, NGO, academia, public etc) are vital to realise the outcome.
- ii. **Respondent A2:** Overview of the industry worldwide. Impact of climate change is impacted on just one countries and therefore international practises is equally important.



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- iii. **Respondent A3:** Global problem but localized solution.
 - iv. **Respondent A4:** The sharing of best practices and the training of the ability (of students) to understand the different context in which laws and policies operates would make international collaborations an effective means to realise the learning outcomes of the course.
 - v. **Respondent A5:** By sharing information on the issues and solution related to climate change.
- b. Experts:
- i. **Respondent E1:** International collaborations facilitate information exchange on the past, present (what is working and not), international development and new ideas.
 - ii. **Respondent E2:** Significantly important. EU for example has been the early adopters in implementing; supporting policies. Other than lessons learnt we can leverage, we can also understand the market behaviour (especially concerning green premiums), and also perspectives from diversified economic standing countries -- from rich to developing countries.
 - iii. **Respondent E3:** International collaborations provide the precious opportunities to switch perspectives, which can greatly enhance understanding as well as the appreciation of the universality of many themes learned. It is also crucial for developing the communication skills of students and building global solidarity.
- c. Students:
- i. **Respondent S1:** International collaborations especially with established organizations and universities that have solid foundation on climate change law & policy would bring their resources and expertise to the table which can be made accessible to students attending the course. This would maximize the desired outcome of the course.
 - ii. **Respondent S2:** International collaborations could bring to the table different experts on various subject matters in climate change and more resources including funding, internship opportunities, research fellowships, and job prospects upon graduation. As climate change is a



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global issue, a variety of experts could also inform students on the climate crisis outlook from a global and regional standpoint.

- iii. **Respondent S3:** The curricula may be streamlined with other universities from all over the world to ensure its quality. Other than that, international organisations pertaining to climate change law and policy can also provide training/assistance.

4.7 Conclusion

With LLM CCPL being the more favourable course to be offered compared to LLM International Law with a specialisation in CCPL, many respondents are shifting to a more modern approach of teaching and learning styles. The syllabi in question also requires a greater scrutiny to provide better and more effective academical approach in light of Climate Change Policy.

Not only will it expose possible graduates to laws and policies governing climate change control, it was also suggested for them to be exposed to also the scientific aspects to emphasis the practicality of the course. This could be a paramount suggestion to guarantee that the graduates would not only be prepared intellectually, but also geared up for leading and striving for climate change.

5.0 Overall Conclusions and Recommendation

Based on the findings, the favour is leaning to LL.M specifically catered to Climate Change rather than a sub-specialisation. This Climate-Change-centric approach was also suggested to incorporate elements that are non-law in nature, incorporating science and practicality in the course structure. The nature of teaching was also suggested to be diversified so as to be modern in order to satisfy the fast-paced development of the current era. Assessments are also suggested to assimilate more hands-on approach in order to experience field works, but also sustaining the necessary thesis-writing in order to fulfil the academic perspective of the course. In other words, CCP_LAW would not only integrate academic and practical values, but will also assist in the growth of professionals whereby graduates would not only be theoretically-ready but also committed to cause paradigm shifts through the diversity of learning and teaching approaches.



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Project

CCP-Law - Curricula Development on Climate Change Policy and Law

Project No. 618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP

Deliverable 1.3 Report on Similar Curricula in Asia

Document Details

Title	Comparative Report
Work Package	WP 1 Preparation
Nature	Report on Similar Curricula in Asia
Original Completion Date	October 2021
Actual Completion Date	January 2022
Dissemination Level	Public
Country	Malaysia
Prepared by	Haslinda Mohd Anuar Harlida Abdul Wahab Ani Munirah Mohamad Wan Norhayati Wan Ahmad Mohammad Farhan Mohamad Mohsin

Revision History

Version	Date	Author	Description/Comments
2	12/1/2022	Haslinda Mohd Anuar	Revised

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Index

1. Executive Summary

Curricula Development on Climate Change Policy and Law (CCP-Law) is a programme co-funded by the Erasmus+ Programme of the European Union participating by 6 partners Higher Institutions (HEI) in Asia and supported by 4 European counterparts. Taking climate change policy and law as its key issue, the project's general aim is to produce a postgraduate program in climate change policy & law in all 6 partner HEI. This report provides findings from Desk Research and Focus Group Discussion on a study to identify similar program in the subject area in Malaysia and to identify the gaps and better assess the exact academic needs that have to be catered for by the CCP-Law educational program. It yields that CCP-Law program is unavailable in Malaysia HEI and it is very significant to offer such program soon. Suggestions have been made by the participant in the FGD to develop a new curricula on climate change policy and law.

2. Introduction

Universiti Utara Malaysia (UUM) is a partner of the ERASMUS+ Consortium which seeks to develop an LL.M. Curricula in Climate Change Policy and Law (CCP-Law). Climate Change (CC) is currently the most urgent and profoundly complex environment-related problem for the international community. Solutions are urgently needed in policy & governance to mitigate and reduce impacts. To promote international cooperation and ensure the effective implementation of CC agreements, the system of Intended Nationally Determined Contributions (INDCs), applying a “bottom-up” approach, was confirmed by the landmark Paris Agreement, 2016. Thus, there has been a wave of Climate-specific legislative reform that has been sweeping across the globe over the last decade. The Asian countries like Malaysia will be adversely affected and the most vulnerable will bear the brunt of the impacts of climate change giving rise to the term climate apartheid.

2.1 Project Objectives

The general aim of this project is to develop, test and adapt new curricula in the field of Climate Change Law. Specifically, the integration of a multidisciplinary educational program on Global Climate Change Policy and Law, offered at a level of Postgraduate diploma or alternatively as LL.M depending on each Partner HEI final decision, will aim to address the need of a new generation of postgraduates in a LL.M that will acquire a high-level expertise on environmental policies and Climate Change Law.



The specific objectives of the project include:

1. To develop, test and adapt new curricula in the field of Climate Change (CC) Law
2. To support the modernization, accessibility and internationalization of higher education and to address the challenges facing the higher education systems in Malaysia, India and Vietnam
3. To improve the level of competencies and skills in the HEIs by developing a new and innovative ICT-based education program and by applying best practices pedagogical methodologies among academics and learners
4. To contribute to strengthened cooperation between EU and the Partner Countries
5. To promote people-people contacts, intercultural awareness and understanding
6. To open Climate Change Law Centers (PC HEIs)

2.2 Target Groups

The CCP- LAW project will address the needs of 3 target groups. First, it will build and strengthen the capacity of academic staff and researchers working in the Higher Education Institutions (HEIs) of Partner Countries. Particularly, teaching and support staff will be trained in the content and methodology of the new curricula of the Educational Programme on Global Climate Change Policy and Law. The academic staff will grow professionally and become highly upskilled in the field of environmental policy and Climate Change law. The continuous involvement of the HEIs staff in all the phases of the project life cycle will contribute to their professional growth and will address the skills gap identified during the needs' analysis. Activities will include desk and field research on the CCP-L, study-visits to Europe and exchange of best practices and know-how as well as the development of new and innovative curricula. The beneficiaries (academicians, lecturers and researchers) will receive online capacity-building training in innovative ICT-based teaching methodologies and the use of open and flexible learning implemented in the EU-HEIs.

Secondly, the project targets legal practitioners, policymakers, project managers, government officials and auditors of environmental issues of the three Partner Countries as it aims to build policy analytical capacity of relevant specialists through this multidisciplinary educational programme that will be offered at a level of Postgraduate diploma (PGDip) or alternatively as and LL.M depending on each Partner HEI final decision. The new postgraduate courses will first of all support the modernization, accessibility and internationalization of higher education in Malaysia, India and Vietnam.

Third, this multidisciplinary educational program targets graduates from the following schools: environmental sciences, social-scientific environmental studies, natural sciences or environmental engineering, or an appropriate field in social science or law.



Graduates of the educational programme will be introduced to the field of climate law and policy at national level and at the international level and will stimulate a critical awareness of the operation of international environmental policy and CC law.

2.3 National Laws and Policies for Climate Change, Environment Protection, SDG's etc.

Malaysia has a decentralized administrative jurisdiction of federal, state and local governments. The Constitution is the supreme law and the setting of legal frameworks on the environment and climate change stems from the Constitution's distribution of powers as provided in the legislative lists under the 9th schedule through List I (Federal List), List II (State List) and List III (Concurrent List).

The most relevant sectoral laws in Malaysia pertinent to climate change is the renewable energy sector. the Renewable Energy Act 2011 was passed to achieve the objectives of National Renewable Energy Policy and National Green Technology Policy, which were introduced to boost the development of green technology and expected to assist in mitigating climate issues.

The most important law on pollution control is the Environmental Quality Act 1974 which is enforced by the Department of Environment under the Ministry of Environment and Water, whereas the main policy document on environmental protection is the National Policy on the Environment 2002.

At the international level, Malaysia's direct involvement in the climate change process began when it ratified the United Nations Framework Convention on Climate Change (UNFCCC), followed by the Kyoto Protocol and the Paris Agreement. Under the Kyoto Protocol, Malaysia is categorized as a developing country that does not have a mandatory greenhouse gas emissions target. While the Kyoto Protocol is not legally binding for Malaysia, as one of the non-Annex 1 parties. In 2016 during the Paris Agreement, Malaysia pledged to reduce its GHG emissions intensity (per unit of GDP) by 45% by 2030 relative to the emissions intensity in 2005.

Tables below contain list of climate change related policy and legislations in Malaysia:

Scope		Policy Document
Climate change	1	National Policy on Climate Change (2009)
	2	National Energy Policy (1979)
	3	National Energy Efficiency Action Plan (2015)
	4	National Renewable Energy Policy and Action Plan (2008)
	5	National Biofuel Policy (2006)
	6	National Green Technology Policy (2009)
	7	Green Technology Master Plan Malaysia (2017-2030)



	8	National Transport Policy (2019-2030)
	9	Low Carbon City Framework (2011)
	10	National Policy on Industry 4.0 (2018)
	11	Policy and Mechanism on National Disaster and Relief Management (2007)
	12	National Agro-Food Policy (2011-2020)
	13	Intended Nationally Determined Contribution of The Government of Malaysia (2015)
	14	Malaysia Third National Communication & Second Biennial Update Report to the UNFCCC (2018)
	15	Biennial Update Report (2020)
Environment	1	National Policy on the Environment (2002)
	2	National Water Resources Policy (2012)
	3	National Policy on Biological Diversity (2016 – 2025)
	4	National Forestry Policy (1978, revised 1992)
	5	National Solid Waste Management Policy (2016)
	6	National Cleanliness Policy (2019)
National Development Plan	1	12th Malaysia Plan (2021-2025)
	2	National Physical Plan 3 (2016-2020)

Scope		Legislations
Climate Change	1	The Renewable Energy Act 2011
Environment	1	Environmental Quality Act 1974
	2	National Forestry Act 1984
	3	Wildlife Conservation Act 2010

2.4 Nodal Bodies in your country dealing with Climate Change, Environment Protection, SDG's etc.

Scope		Regulatory Agency
Climate Change	1	Ministry of Energy and Natural Resources
	2	Ministry of Environment and Water
	3	Ministry of Agriculture and Food Industries
	4	Ministry of Transport
		Ministry of International Trade and Industry



		Ministry of Science, Technology & Innovation
Environment	1	Department of Environment, Ministry of Environment and Water

2.5 Environmental Protection Index Ranking of Malaysia and other initiatives being taken in your country to protect climate change.

According to Environmental Performance Index (EPI) 2020 Report, Malaysia was rank 68/180 with 47.9 EPI score. Details can be viewed from <https://epi.yale.edu/epi-results/2020/country/mys>

3. Climate Change Law and Policy: An investigation into the Curricula of Universities in Malaysia

3.1 Desk Research Objectives

1. to identify similar programmes in the subject area in Malaysia
2. to identify the gaps and better assess the exact academic needs that have to be catered for by the CCP-Law educational programme.

3.2 Summary of findings Desk Research.

Table below shows that there are about 7 public universities and 2 private universities in Malaysia which offer 23 environmental-related programmes both in undergraduate and postgraduate studies.

Public University	Program	Discipline	Percentage of distribution
Universiti Putra Malaysia/ Faculty of Forestry and Environment	Master of Environment/PhD	SCIENCE	Science 50%; climate change 30%; policy & law 10%; management 10%
Universiti Putra Malaysia/ Faculty of Engineering/ Department of Chemical and Environmental Engineering	Master of Environmental Technology Management/PhD	Engineering; Technology Management	Science and Management 60%; Technology 40%
	Master of Environmental Engineering		
	Bachelor of Environmental Sciences and Technology with Honours		
	Bachelor of Environmental Management with Honours		



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	Master of Science (Environmental Protection)		
Universiti Putra Malaysia/School of Graduate Studies	Master of Science in Food Security and Climate Change (MS FSCC)	Agriculture, Natural Resources	
Universiti Malaysia Sarawak (UNIMAS)/ Faculty of Resource Science and Technology	Master in Environmental Science (Land Use and Water Resource Management)		
Universiti Malaysia Sarawak (UNIMAS)/Faculty of Social Sciences and Humanities	Master in Environmental Management (Development Planning)		
Universiti Malaysia Sarawak (UNIMAS)/Faculty of Engineering	Master of Engineering in Energy & Environment		
Universiti Kebangsaan Malaysia/Institut Perubahan Iklim (IPI)	<p>1. Master in Climate Change (Coursework) - Specialization- Environmental Science, Earth Science</p> <p>2. Master of Science (Research Mode) - Specialization - Space Science, Astronautic, Space Management and Policy, Climate Change Science, Climate Change and Social Science, Climate Change Policy, Geospatial Analysis</p> <p>3. Doctor of Philosophy (Research Mode) - Specialization - Space Science, Astronautic, Space Management and Policy, Climate Change Science, Climate Change and Social Science, Climate Change Policy, Geospatial Analysis</p>	POLICY, MANAGEMENT, SCIENCE	science (20) climate change (60), policy and law (20)



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Universiti Sains Malaysia (USM)	MSc (Sustainability) - Centre for Global Sustainability Studies PhD (Sustainability) - Centre for Global Sustainability Studies	SUSTAINABILITY	
Universiti Malaysia Perlis (UNIMAP)	Master of Science Environmental Engineering	Engineering	
	PhD in Environmental Engineering	Engineering	
	Bachelor of Environmental Engineering with honors	Engineering	
Universiti Malaysia Terengganu (UMT)	Master of Science (By research) Environmental Technology and Management	Environmental protection	
	Bachelor of Technology (Environment) with Honours	Environmental protection	
Universiti Teknologi MARA Malaysia (UiTM)/Faculty of Applied Sciences	Master of Science (Environmental Technology)	Environmental technology	
	Bachelor Of Science (Honours) Environmental Technology	Environmental technology	
Private Universities			
Management and Science University/Faculty of Health and Life Sciences (FHLS)	Bachelor in Environmental Health (Hons)	SCIENCE, MANAGEMENT	science (50%), technology, climate change (40%), policy and law (10%)
Sunway University	Master in Sustainable Development Management	Science management	

The finding shows that all public universities that offer law programs do not have such CCP-Law programmes offered at their faculties. Other faculties, should they have such a similar programme, are more related to sciences, engineering, technology and management. For example:

1. University Putra Malaysia have several related environmental programs that are offered at the master's level, but on different focus, such as Master of Science (Environmental Protection) and Master of Science in Food Security and Climate Change that focuses on agricultural and natural resources.
2. Universiti Malaysia Sarawak, where the Faculty of Resource Science and Technology offers Master in Environmental Science (Land Use and Water Resource Management).



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3. An institute in Universiti Kebangsaan Malaysia called Climate Change Institute (IPI) offers a Master in Climate Change (Coursework) with specialization on Environmental Science and Earth Science;

4. Universiti Sains Malaysia, through the Centre for Global Sustainability Studies, offers MSc. (Sustainability).

Details regarding Desk Research can be referred to **Appendix A - Desk Research**.

3.3 Conclusions and recommendations for desk research

In conclusion, desk research showed that other universities, though offer such related programmes, their focus is not directly related to law and policy. In certain cases, they just have one or two related courses because their focus is more either on sciences, technology, natural resources or engineering.

4. Focus Group Discussion

4.1 Focus Group Discussion Objectives

1. to identify similar programmes in the subject area in Malaysia
2. to identify the gaps and better assess the exact academic needs that have to be catered for by the CCP-Law educational programme.

4.2 Methodological framework

To achieve these objectives, UUM has conducted three series of focus group discussion (FGD) composed of 5 academics in the environmental law/science/governance/management, 2 climate change experts and 3 students from the field (environmental and law background). This process will guarantee that all relevant target groups will provide their input in developing a balanced educational programme. It also helps to ascertain that CCP-L will not cover existing curricula and will be truly innovative. The data from FGD have been analysed using thematic analysis, and the key findings are presented in 4.6 below.

4.3 Date of Meeting

The 3 series of meeting were conducted on 24 September 2021 at morning and afternoon, and 27 September 2021 in the afternoon.



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4.4 Members invited and their demography

Cluster	Name	Institution	Field of expertise
Academic	Prof Dr Wan Izatul Asma Wan Talaat	Universiti Malaysia Terengganu	Ocean Governance/Law
	Assoc. Prof Dr Haliza Abdul Rahman	Universiti Putra Malaysia	Environmental management/Science
	Assoc Prof Dr Siti Hafsyah Idris	Universiti Teknologi MARA	Biotechnology/Law
	Dr Hanim Kamaruddin	Universiti Kebangsaan Malaysia	Environmental law
	Dr Siti Sarah Sulaiman	Universiti Teknologi MARA	Environmental law
Expert from industry	Mr Kiu Jia Yaw	Malaysian Bar Council	Co-Deputy Chair, Bar Council Environment & Climate Change Committee
	Madam Nor Azah Masrom	PETRONAS	Ex Environmental Control Officer, Department of Environment
Student	Mr Parthiban Mogana Sondaram	Graduate	
	Mr Anthony Christopher Crimson	Graduate	
	Miss Divyanjali Loganathan	Undergraduate Student	

4.5 Points Discussed (based on an unstructured discussion, Project Objectives, Need analysis, and WP1.3 discussion in the Project Description)

12 questions have been asked to the participants in the FGD, as follows:

1. Do you think there is a need for a specialized course on CCL? If yes, why?
2. Are you familiar with any similar course? If yes, what are the contents?
3. Where do existing courses like environmental law, environmental sciences, and environmental governance etc. lack in addressing CCL?



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4. In what ways can the new curricula address the needs of the climate change crisis confronting the world?
5. What should be the percentage of values, skills, experiential learning to prepare an innovative curriculum? What should be the content?
6. What should be the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative?
7. What are your suggestions for the type of teaching methods, pedagogy and assessment so that the objectives of the course are duly delivered?
8. How can this course lead to a sustainable transformation and change?
9. Can you share some innovative best practices which can be identified and included in the course curricula?
10. How can the course curricula address the needs of the market so as to increase the employability of the students?
11. What kind of capacity building (human resources, facilities. support systems etc) can be organised for the faculty so that they can effectively deliver the course?
12. What is the role of international collaborations to ensure the effectiveness of the learning outcomes of the course?

These 12 questions then been clustered under 5 themes:

1. Necessity of having a specialised CCP-Law Program in Malaysia
2. Gap in the existing curricula
3. Significance of the CCP- Law Program
4. Curriculum design/ key feature of new curricula
5. Way forward

4.6 Summary of observation from FGD (Academics, Expert and Students in Environmental Law/Climate Change Law/Climate Change Policy)

1. Necessity of having a specialised CCP-Law Program in Malaysia

To develop a new curriculum, particularly a specialised program like CCP-Law, requires some feedback from various stakeholders. For that matter, the first question asked to the academics, experts and students was their views on the necessity of having a specialised CCP-Law Program in Malaysia. The views have been gathered from FGD are as follows:

Students' view

The students were of the opinion that it is very important to have a specialised program on Climate Change Law. The views were reflected in the answers given below:

“To create awareness among students, it is important to have this program, which includes local and international laws.”



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“It is important, for 2 reasons: (1) Environmental Law is broad scope, so many matters to be issued, specialising into more focus – academic discussion and developing expertise. (2) Climate Change is common, it might change the landscape of the world, important to be brought up. There is a dire need for it. Can bring some changes to eliminate/mitigate the risks.”

“The situation of Climate Change is a serious global issue, hence everyone is facing the consequences. More importance should be given on Climate Change as a specialized course, because more experts will be developed, and more students/people would be aware of these Climate Change issues”.

Academics’ view

All participants from academics agreed on the importance of having a specialised program on CCP-Law. One of the participants said, *“Addressing global problems of CC so far have thrust and challenged the academia to translate the commitment to innovative solutions for action to design a curriculum focusing on climate change law. The need for such an LLM course on Climate change is absolutely valid, especially tweaking the focus on countries in SEA in responding to CC from the legal aspects. This will inevitably connect the current fragmented and conflicted state of the discipline of CC law in Malaysia and countries in SEA.”*

Apart from that, another participant said, *“In Malaysia, having a specialised program is recommended, we should train more students on CC litigation, it is part of EL and dire need for it.”*

It is also important on the ground that, *“CC is the end of the process. It is caused by various actions e.g. air pollution, deforestation, waste management, etc.”*

Two of the participants suggested that not only is the specialised program important, it should also incorporate in law, science & technology and ethics.

Experts’ view

Both experts in environmental law & climate change gave their opinion on the necessity of the program.

According to one participant,

“It is important – exposure to students on CC because previously when I was with DOE (now at Petronas) everybody is talking about sustainability, it is beyond compliance, investors especially, they are looking forward to the need of sustainability to help with CC mitigation. People are not familiar with international treaties, how Malaysia offset/coping environmental issues. Students need to understand what CC is so that they can appreciate greenhouse emission, CO₂, etc. and need to know how to quantify,



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scoping, know the boundary, biodiversity, hazardous emissions, solid waste, verification, etc.”

Another participant said,

“Excellent, especially for the local context, it is crucial, as we need our own narrative – we need our own response. In the Malaysian situation, climate change is very multidisciplinary. We can work out on historical development, narratively. But in Malaysia, the government, the narrative is different, what have we done, what is the transition, what else can be done, carbon neutral society, what is equitable, and how do we transition the realistic part of what we can do. There needs to be a narrative between Malaysia citizens and the government that regulates climate change, hence we need students that specialise in this. We should do the young people justice, as to the changing and developing landscape. The timeline we are talking about is also crucial – for climate change it is very important that we prepare our young generation to be able to respond adequately – especially for the Malaysian context. Within the legal profession – we respond to the instructions by clients. Malaysia – just started e.g., banks recently doing environmental audit, or social regulations. If clients do not have the needs, law firms do not equip themselves. Law firms do not have specific leaders in environmental issues. A lot of people are still cynical as to the 12th Malaysian plan – although it says we need to focus much on environmental issues.”

2. Gap in the existing curricula

From the FGD, we can conclude that all participants, the experts, academicians as well as students, believe that the CCP-Law program is very relevant nowadays and therefore welcome the idea of introducing such a program at the postgraduate level. All academics and students who are from the law schools/faculties commented that so far they are only familiar with environmental law as a subject that is made as an elective course at the universities. On that basis where the course will not be able to cover everything that relates with environmental matters including climate change, the CCP-Law programme should be supported with the expected coverage should be wider but focused and involve technical aspects. One of the academics responded that she has come across the programme alike in India, LL.M in Environmental Law, Energy & Climate Change. As in Malaysia, she found one lacking common feature is the emphasis on public/climate litigation and empowering environmental lawyers. To her, there must be some initiatives to develop, foster and build interdisciplinary communities in respect of climate law.

Also, one academic mentioned that the University of Singapore (NUS) once shared that they have one special course on CC law, politics, UN framework, etc. where altogether, there were about 9 topics covered as well as the Paris Agreement. Portion is a lot on the



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Paris Agreement, and also focuses on CC litigation where, the ASEAN Research Institute on Environmental Law there, gives workshops on CC litigation and focuses on policy in ASEAN countries.

Generally, we conclude that all participants have never come across such a programme on CCP-Law in Malaysia.

When being asked where do existing courses like environmental law, environmental sciences, and environmental governance lack in addressing CCL, almost all academics positively responded that:

“Once, I taught EL for-science students, CC is not part of the course, they do not have time to discuss CC, even though they are international students. Therefore, we should have a specialised program for CC law and policy.”

“At UG level, we have Environmental Law as elective to the Faculty of Law and Business Faculty to take it. But it is not compulsory, and discussion on CC is limited.”

“We also have Environmental Law and Policy for Master of Enforcement Law, and CC is only part of it. If UUM wants to offer, it is highly recommended.”

Students also have similar understanding and opinion that CCP-Law is very interesting, relevant and should be good for students. They even look forward to having such a program. Among their responses are:

“I took Environmental Law (EL) in degree and Corporate Social Responsibility during my masters. EL scope of discussion is quite general such as EQA, EIA; and CSR on Deforestation. ...If there is a longer course and I am given the chance to take it, I would take up the CC Law program.”

“EL, during degree, does not have a very deep understanding of CCL. It is only for one semester, quite difficult to grasp CC matters. I am open to learning, it would be a good thing to learn, however, if taking it as a master course, I might need to reconsider.”

“Taking EL as one elective course, we did study on CC but only a small part of it. Not sufficient to gain full understanding on the policy and laws on that. The Environmental topic is close to my heart. I speak a lot about it, in the past year, I advocate a lot. If it is offered and I am given the chance to take it up, I definitely would take it.”

To conclude on the gap of the CCP-Law program as far as Malaysia is concerned, the results from the FGD shows that there are none of the courses or programs that are similar to the one that UUM is proposing, at least, in terms of the programme name/title



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and focus. Believing that there is a gap on such programs available at universities in Malaysia, it is timely to have a programme that focuses on CC law and policy. All participants really look forward to such a program being realised and they even support and recommend it.

3. Significance of the CCP- Law Program

Our discussion with round table participants that consist of students, academics and experts in climate change and environmental law has lead us to the following findings regarding the significant of the program to be offered:

3.1 *Addressing the needs of the climate change crisis confronting the world.*

Students' View

Based on students' views, the ways on how the new to be proposed curricula can address the needs of the climate change crisis confronting the world are divided into two; one is through the content of the syllabus itself and another is through the output of the program.

In students' opinions, in order to ensure that the program addresses the climate change crisis, the content of the curricula should cover the environmental issue; such as the discussion on the Kajing Tubek case on Environmental Impact Assessment (EIA). The case discussion like this will help students to better understand and be more aware of the impact of the climate change crisis to the people and planet as a whole. Other than this area, more content of the curricula is suggested by the respondents and further discussed in Section 4.4. Beside the classroom curricula, students also suggest the involvement of the students in the project that involve NGOs, government and international agencies for practical experience and exposure. Students should be able or get the opportunity to see the impact of deforestation for example, and other climate change impacts to the local community around them.

In terms of the output of the program, the graduates from this program should be those that possess strong passion for the environment and climate change. These people with such knowledge and passion perhaps can disseminate their knowledge to others and bring voices that could impact the decision makers to improve the climate change position in Malaysia. One of respondent remark is as follow:

“...having this group of people - they will become soldiers for this program, dedicating themselves towards a better world, reducing and mitigating the impact of climate change’.

Putting in simple words, these graduates can be a catalyst of change to make a difference in the area of climate change in Malaysia particularly.



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Academicians' View

As for academics, in this regard, their views focus more on the content of the curricula. One participant expressed that perhaps, the curricula should take into account the role of intellectual property and technology in addressing climate change by way of mitigation, adaptation and measuring climate change.

In addition to that, the participants also suggest that it is important to identify the gaps and loopholes in climate change law and policy and find the solutions of how these gaps can be fulfilled.

“Hence it is very significant for our future lawyers/enforcement officers, to understand the impacts of climate change and ecosystem on the legal system.”

Even though the program is open to non-law background candidates, from their experience they believe that students (especially working students) can relate what they learn to what is happening in their workplace. So they can better understand the climate change issues around them.

Experts' View

Both of the expert participants emphasize on the understanding of climate change risks. One of them said that the climate change crisis is understood differently with different people. For instance, businesses take climate change as a risk; where to them the end is business stability/sustainability. It is a different perspective; small island business is a different take. Therefore, the curricula should inculcate the skills to think about climate change across multiple different types of narratives. There is an underlying justice element – that is the basis of UNODC.

Further, it was suggested that students in this program should be trained to be able to engage in difficult conversations, especially in framing the climate change problem and confront people on this issue. For most people, this skill does not come naturally; it needs to be nurtured.

“.....it might be part and parcel of things to confront people in framing the climate change problem – how we engage with people who are social construct (other stakeholders), they should have the ability to engage without being embarrassed. It is not a thing that comes naturally”.

The participant highlighted that different stakeholders would have different priorities; thus students should have the ability to argue critically and cope with complexities involving people with multiple objectives. As climate change challenges are overwhelming, we need strong students/graduates that can progress positively in this area.



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“I think how the obligations is expressed through law and policy requires students to be able to have grasp of the values and principles in order to be able to critique, design contribute and reform, and be able to think about the law on climate change policies – they are changing, they might be changing for the next 50-100 years as we transition”.

Other than strong personalities that need to be nurtured, it was also suggested that the curricula expose students with the bigger context of climate change, including mitigation and adaptation measures that can be done by all the stakeholders, public, corporate industries, etc. Further, basically we are bound by international conventions, i.e. SDG and UNFCCC (United Nations Framework Convention on Climate Change). Therefore, we could always collaborate with regulators and policy makers, not only locally, we also can refer to cases and get support from overseas organizations such as the UN itself.

3.2 Sustainable transformation and change.

In this section, the participants were asked on how the program can lead to a sustainable transformation and change. Below are their views based on participants’ categories.

Students’ View

In students’ view, the knowledge that students of this program gain especially in law and climate change would help the government to achieve some of SDGs such as goal 13 (climate change), goal 4 (quality education), goal 9 (industrial innovation) and goal 11 (sustainable cities and communities). For instance, some of the officers in companies or even in local authorities, their knowledge on sustainable cities and communities is quite low. They may have knowledge on the practical side, but not the theoretical policies and laws. So if they take up this course, they could have solid knowledge and skills in climate change and in the end can have trained individuals in this field. Consequently, activities and initiatives towards goal 11 can be run by knowledgeable people and community awareness can be increased.

“People who take up this course and have more knowledge in this course, can also target jobs and get employed in this area. Would lead to lesser poverty (Goal 1)”.

Academics’ View

Aside from the structure and content of the program, an academician suggests that this course should be designed to take into account applications from non-lawyers or students with no legal background, policy makers, civil society groups, government officers and business sectors to reflect participation from multiple levels, sectors by multiple actors. Then, this course can be perceived to have been able to bridge a divide



between all relevant actors in addressing climate change and hopefully, it will translate to some positive change in climate governance and response which is sustainable.

Another participant suggests the program to include the ‘Introduction to Causes of Climate Change’ as one of the subjects in the program. According to her, this is important to see the interconnectivity between the science and technology of CC, so that the flow of the program will be nice – this would further enhance the sustainable transformation and change in the situation. Understanding the cause is the first step towards finding the solution and making sustainable changes.

“We need evidence-based policy, we need to know the science behind the problem, how to tackle the problem and social innovation/community engagement. Incorporation of all these would ensure sustainable transformation and change”.

Besides, academicians also suggest that students need to be exposed by all the 17 SDGs; therefore, it should be introduced at the beginning of the semester. In order to make changes and to ensure that the changes and transformation is sustainable, respondents hope that this program will be enrolled by government officers/policy makers/local authority as they can be the movers of mind setting. As they are the ones who develop the policies and enforce them, they should be aware and knowledgeable to make the change to the decision process. In addition, policy makers should be involved in the teaching and learning process too.

“We can expose our students to 60% of the law and policy to the students, so that the students can assist to transform the policy and other relevant strategies.”

Experts’ View

When we discuss sustainable transformation and change, one of the participants highlights that the problem of climate change is not carbon in the air; but the problem is ignorance of people to sustainability. It is the actions of the people that are making the world a difficult place to live in, and this is where we need to embrace this transformation. In order for the transformation to take place, he suggests that we need to change the behaviour, generally in the private sector. The reasons being they are placed on the corporate vehicle, and it is dominated by shareholders. Managers have to run the company with very clear objectives to maximise the returns for the shareholders, not the society. Therefore, there is a conflict of interest here between profit and sustainability development. For instance, we can put green technology in organisations, but organisations move forward to protect the shareholders and care more about financial ROI. They do not have concern for the fishermen (if they pollute the water with their waste), or how much they caused them.

“It is not top-down, it needs to be bottom up. We are empowering not just the stakeholders here to be able to give constructive meaningful impacts. We are



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empowering the decision-making actors to be able to catch the ideas/suggestions in an efficient way.”

This course would blend the elements of law and policy, management and SAT. This would help a lot in the enforcement process especially. The balance and blended knowledge of policy and management would make the change process better. If you have a good policy, but you do not possess good management skills such as in terms of enforcement and facilities, then the whole program won't run well or fail. So to make sure that sustainability transformation can be achieved, the decision maker and the enforcer need to have the law and the climate change knowledge, as well as the management skills. Perhaps, they can obtain from this program.

3.3 Market needs and Students' Employability

Everyone is talking about SDGs and many countries are committing towards this world agenda, and Malaysia is not excluded. Even though Malaysian progress towards it is a bit slower than other countries, especially European country; but we are moving towards the same destination. Therefore, all participants agreed that the course will potentially fulfil the market's future demands, as well as add value to the graduates and increase their employability. The following are the analysis of responses for each category respondents related to this.

Students' View

In students' opinion, the course will definitely increase their employability as now there are plenty of positions related to climate change, such as through the Jobstreet platform. For instant, there are demands for position like the followings:

- Climate change and Sustainable Service Manager
- Climate change Associate
- Climate change Consultant

In fact, the graduates' potential is not limited to the local market, the students having master qualification of this course would be marketable to local and international markets as well. Beside firms, students believe that graduates from this course would be useful for NGO that are conducting non-profit oriented programs and agenda, especially related to the environment and society.

On another remark, one of the participants believed that the CCP-Law Program should be marketable, so long as the government gives emphasis to climate change issues. For instance, when there is a requirement by law for a company to have a particular position, the company would come forward to appoint climate change officers.



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Academics' View

As the course is open to non-law background students too, this course will attract staff from government agencies to join. With a growing need in this area, one of the participants suggested that after completing the program, it would increase graduates' employability and work promotion in their existing workplace. Another participant agreed with the view and stated that:

"...if students come from relevant ministry, having these master certificates would help them for work promotion".

Another participant also views that the course will be able to enhance students/graduates employability if the course includes some elements of entrepreneurial skills. This is because the students can bring what they have learnt from the program to their organisations and make some impacts/changes.

In terms of increasing the marketability of the program, besides including the entrepreneurship elements, one of the academicians suggested that the course should also include the importance of CSR, trade and finance and value of green economy (EPR, circular economy), and migration/refugee law. In addition, the open and distance learning (ODL) concept would attract more students to this program; as students have more flexibility in attending the course without having to travel to UUM.

Experts' View

In Malaysia, even though the sustainability and climate change issue is not aggressively addressed, we are moving towards that. So, we have to be ready, to keep our pace with the world. In the future, when the climate change areas are expanded, for example when we practice carbon trading, there are possibilities of dispute, misuse, fraud and so on in the business. When they can trade, then it becomes a business. Even now, we can see the existence of middlemen who arrange these trading of carbon credit. Therefore, practitioners foresee that in the future, many issues will come up in this kind of business such as manipulation and how big companies can manipulate small ones. So, lawyers in these areas become so important soon.

For now, one of the experts, based on her experience as an environmental prosecutor officer, suggested that there are not many lawsuits on the environment, especially individual suing companies for environmental issues. One of the reasons is that not many lawyers champion environmental law, therefore not many law firms handle this area of cases. In many lawsuit cases, a lawyer with a lack of environmental background that only depends on the prosecutor officer (PO) to gather facts would lead to the prosecution failing.



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“I was once a prosecutor officer, and we work with court prosecutors where the prosecutors do not have an environmental background. On the other hand, the PO does not have the lawyer’s strong argument skills, this ends up the case is not successful. The lawyer needs to have the enforcement knowledge and exposure too. It’s better for the lawyer to have the knowledge rather than depend on the PO to provide information and facts”.

Hence, it can be foreseen that the demand for those who have a knowledge of law and environment, and climate change will increase in the future, in line with the change and growth in the climate change practice in Malaysia. By saying that however, one of the practitioners suggests that market survey is still crucial and needs to be carried out before the program is implemented.

4. Curriculum design/ key feature of new curricula

Particularly for the curriculum design and key features of the proposed curricula, the data sources for the study were generated from three groups of stakeholders. They have provided insightful expectations and recommendations as to the curriculum design on the proposed new program for Master of Law.

4.1 Contents of the new curriculum

All three groups of participants seem to agree that the new curriculum should contain major aspects of values, skills and experiential learning. Whilst experts from the industry practitioners and the academia opined there should be fair distribution among all three aspects, ranging between 30-40% for each aspect, the group of students were of the opinion that focus should be more to experiential learning (as much as 50-60%) as opposed to values and skills (20-25% each). This follows their reflections that the proposed new curricula major a topic which is more to technical and scientific, hence the field study or practical learning should be given emphasis so that students may learn more experientially on the field, rather than focusing on values and skills theoretically.

In support of the opinion by the academic, one participant mentioned:

“It depends on what type of cohort we are taking in, would they be of LLB or non-LLB background. For non-LLB background students, then values, skills and substance of knowledge should be emphasized and come first.”

Similarly, one participant from the industry mentioned:

“We should focus more on interactive learning during classes, so as to equip the students with the necessary skills and values on the subject matter. Therefore, I view that the distribution should be 1/3 each for the components of values, skills and experiential learning.”



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To the contrary, the students viewed that experiential learning should be the primary consideration, taking up as much as 50-60% of the proposed curricula. One student mentioned:

“By going for experiential learning, students would get more experiences from there, and benefit much from the program.”

Based on the above, the proposed contents of the new curricular is hereby suggested to be:

- 30% values
- 30% skills
- 40% experiential learning

4.2 Components of the new curriculum

All participants unanimously agree that the components of the new curriculum should predominantly focus on law and policy (50-60%) followed by management (20-25%) and science and technology components (20-25%). This is motivated by the central focus of the curricular, i.e. climate change law and policy.

Among the feedback gathered from the participants in this regard:

Academia	“As this is LLM program, focus should be more on law and policy”
Industry practitioners	“If the name is LLM, it might attract more students from legal backgrounds – their career trajectory would be more to policy/legal.”
Students	“At the end of the day, law and policy would work together with management and science and technology, but focus is on law and technology”

Therefore, based on the above discussion, it is suggested that the main components of the new curricula to be:

- 60% law and policy component
- 20% management component
- 20% science and technology component

4.3 Teaching delivery and assessment

Given the fact that the intended curricular is for postgraduate level, the teaching delivery for the program is expected to be more student-centred as opposed to teacher-centered. Adult learners at postgraduate level would appreciate more if the teaching and learning were interactive and revolved around problem-solving and real-world deliberations, as opposed to theoretical discussions. The informants further agreed that



the teaching delivery via face-to-face should be about the same method as remote learning. Additionally, the andragogy approach to be engaged in the delivery of the program is mixed between experiential learning and problem-solving. This is rightly suitable for postgraduate students who might have industry experience in the relevant fields of climate change and environmental law dominance.

As mentioned by an industry practitioner:

“After graduating, they would be engaged in organisations and become pioneers, they would be working on policies, technical, etc. They must have the courage to speak up, hence we need to prepare them with interactive learning and problem-solving.”

Meanwhile, the assessment is proposed to be continuous assessment (60-70%) coupled with final assessment/examination (40-60%). Although the students and one industry practitioner reflected that emphasis should not be given for final examinations, given that the main focus should be to train the students with experiential learning, knowledge and substance of the subject matter is undeniably an important aspect for law and policy courses. Therefore, there is an option for Malaysian institutions to choose either 60:40 or 70:30 for continuous assessment: final examination. The continuous assessment component could consist of case study or article writing assignments, quiz or projects.

To sum up, the following is the proposed teaching delivery method and assessment for the course:

Teaching delivery	Student-centred and self-centered, such as problem-based learning and real-world deliberations
Andragogy	Mixed between experiential learning and problem-solving
Assessment	60% or 70% continuous assessment 30% or 40% final assessment

4.4 Innovative best practices

A number of innovative best practices were shared by the participants of the study, with the aim for potential incorporation into the proposed new curricula. Among the practices are service learning, global learning, article contributions to newspapers and project-based learning.

- Service learning - credited project to be carried out by the students for the benefit of a targeted community, and forms part of the continuous assessment of the course. Students would investigate the problem faced by the community, prepare for the project implementation, carry out the project, reflect on their learning experiences and finally demonstrate their service-learning takeaways. This is seen to be an



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appropriate innovative way to learn climate change issues and challenges, particularly on the law and policy aspect.

- Global learning - collaborative events with member institutions from within Malaysia or outside, in which experts, academia and industry practitioners can join and participate for sharing of experiences, skills and knowledge.
- Article contributions to newspapers - Students can also be encouraged to write their piece articles to be submitted to newspaper portals, either printed or online sites. Not only this practice would sharpen the writing and outlining skills of the students, but they can also be exposed to wide readership and showcase their capabilities on the subject matter.
- Project-based learning (PBL) - Lecturers can prompt specific projects to the students, in which students are to “carry out” the projects in this innovative and inspiring learning strategy of PBL. Not only does PBL encourage self-learning on part of the students, they can also gauge managerial and communication skills among the project team members. PBL is seen as an appropriate strategy for teaching and learning of this program.

5. Way forward

Way forward theme refers to any effort that can be taken by faculty to deliver the course effectively. It involves two main elements: capacity building and international collaborations.

5.1 *Capacity building*

To deliver the course effectively, all participants agree that the support from university is the important factor.

a) Human Resource - The University needs to supply knowledgeable academic staff with expertise in this area. Beside theories, the staff must be equipped with updated/current issues related to climate change by collaborating with external bodies for training. Example:

“Trained Academics on CCL (continuous exposure and training on climate change issues), seeking industry experts from various related institutes such as the Bar Council, Ministries, AGC, ARIEL or ISEAS or ADB or UNEP or WWF or government agencies and from business/finance sectors and think tanks) for new information.”

“Human resources would need training: Critical, tolerance, respect, and engagement.”



Besides that, an invited lecturer from a practical expert was also suggested by participants to make the teaching interesting.

“... maybe we can invite practical experts to teach the students on those particular skills.”

The participants also mention that good supportive staff is also important and labs can be prepared if required.

b) Facilities – It can be like with other all law programs, nothing beyond the normal things. It must support traditional and online learning mediums. To support that, universities must provide strong internet connection and develop a good learning environment for students. The reasons are to encourage and empower students to create their own understanding from the class (e.g., support in the form of video and YouTube), to create space and stimulate them to self-organise and work out things spontaneously.

Besides that, the university must be prepared for the sustainability of the course in any situation such as a lock down due to a pandemic.

“If this course envisioned itself to be sustainable, perhaps, may have to prepare an online module/hybrid especially when unexpected pandemic such as Covid 19 were to persist indefinitely”

5.2 International collaborations

All participants agree that international collaborations are critically important to ensure the effectiveness of the learning outcomes of the course. From collaboration, it can gauge different perspectives, key aspects of CC which are complex and can benefit the student.

“..... can give impact to students. They can give input to students – to add value to LO, give global learning experiences, students will appreciate and gain more experiences”

“International collaboration would be significant to better understand other initiatives and learn from their experiences – different social challenges, building that confidence aspect. Ease of obtaining data, collaborations, opportunities, friends from wider networks is super important.”

“Can provide teaching aids for the students, e.g., materials/experts/professionals from developed countries that are more advanced in sustainable development and CC – can



guide students in terms of learning. The modules/methods can be adopted and applied to our syllabus which is in line with our local legislation and policies.”

The international collaboration can be in terms of:

1. Guest speakers from international partners to ensure updated information is communicated to students.
2. From partner universities or NGOs, E.g., inviting lecturers from other universities, to give lectures in class during, on certain topics given by me, on the syllabus.
3. Students’ exchange program.
4. Webinars for the public, NGOs and international partners will become the speakers – the impact is wider than what we have in the class.
5. The role can only translate to positive outcomes such as gaining expert views on CC from different parts of the globe
6. international supervisors/examiners/fellow/lecturers and to gain constructive inputs on how to improve the existing curriculum.
7. There could be opportunities to foster student participation to present their views on CC at relevant seminars/forums/conferences hosted by international organisations/universities. From such collaborations, research funding may also be possible. It is also important to create international linkages to promote the LLM program on CC.
8. Data sharing between partners
9. Student internship program in MNCs/organisations in terms of practical places. Job placements, we can also obtain experts’ perspectives.
10. scholarship opportunities for the students
11. Grant to develop research activities for CCP-Law for our students.

4.6 Conclusion

To conclude, the participants agreed that it is important to develop a specialised CCP-Law program in Malaysia because the existing environmental law taught in the universities does not cover the issue of climate change.

As a way forward, to ensure the efficiency and effectiveness of the CCP-Law program, the participants agreed that capacity building plays an important aspect especially the human resource and facilities provided by the university. In addition, international collaboration by way of invited speakers, student exchange, international webinar, research collaboration etc. will also help in strengthening the program.

5. Overall Conclusions and Recommendation

Lack of a specialised postgraduate program in climate change policy and law shows that it is timely to introduce such program in Malaysia. As climate change is a global



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issue nowadays the program is needed to train more experts in that area of law. Besides that, the existing programs offered by other universities in Malaysia are mainly focused on science-based programs on climate change or sustainable development, leaving a loophole in CCP-Law. Again, these show how significant it is to have a CCP-Law program in Malaysia in order to address the needs of the climate change crisis, and lead to a sustainable transformation and change, thus potentially fulfil the market's future demands, as well as add value to the graduates and increase their employability.

On that basis, it is recommended that the new curricula should consist of the followings:

1. Contents - 30% values, 30% skills and 40% experiential learning.
2. Components - 60% law and policy, 20% management and 20% science and technology.
3. Teaching delivery - Student-centred and self-centered, such as problem-based learning and real-world deliberations.
4. Andragogy - Mixed between experiential learning and problem-solving.
5. Assessment - 60:40 or 70:30 continuous and final assessments.
6. Innovative best practices - Service learning, global learning, articles contributions to newspapers, and project-based learning.

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Universiti Kebangsaan Malaysia, <https://www.ukm.my/ipi/postgraduates-3/>

Universiti Malaysia Perlis, <https://admission.ump.edu.my/postgraduate>

Universiti Malaysia Sarawak, <https://www.frst.unimas.my/courses-list/postgraduate>

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<https://akademik.umt.edu.my/academic/postgraduate/>

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REPORT ON SIMILAR CURRICULA IN ASIA

Document Details

Project	Curricula Development on Climate Change Policy and Law
Project Number	618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP
Work Package	Work Package 1 - Preparation
Deliverable Title	1.3 Report on Similar Curricula in Asia
Original Completion Date	December 30, 2021
Actual Completion Date	January 12, 2022 February 25, 2022
Dissemination Level	Public
Country	Vietnam
Prepared by	Hue University (HU)

Revision History

Version	Date	Author	Description/Comments
1	January 12, 2022	Hue University	Submission to WP1 leader
2	February 25, 2022	Hue University	Resubmission to WP1 leader

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1. Executive Summary

The CCP-Law project aims to develop and adapt a new curriculum, which addresses the special priority of Climate Change. Qualitative and quantitative data are collected to address the urgent need to substantially upgrade the level of postgraduate studies in the field of Law and offer specialization courses on CCP-Law and environmental policies. Hue University gets good knowledge of the necessity to have studies that have taken into consideration the need for implementation and compliance with the Paris Agreement and the roadmap for tackling climate change. In developing country like Vietnam, there is an important role ascribed to governments to create enabling policy system that helps the most vulnerable social groups and regions to start adapting to climate change (CC). The ability of the government to make intelligent collective decisions, to mobilize necessary resources, to produce robust evidence-based policy, to weave together different organizations and interests, to coordinate policy-making across and external to government, and to implement as well as formulate meaningful policy is of paramount importance. Unfortunately, policy analytical capacity at district and commune levels is very limited particularly due to the limited knowledge and skills in CC adaptation.

1.1. Introduction

The project aims to develop, test and adapt new curriculum in the field of CC Law. Specifically, the integration of an multidisciplinary educational programme on Global CC Policy and Law, offered at a level of Postgraduate diploma (PGDip) or alternatively as LLM depending on each Partner HEIs final decision, will aim to address the need of a new generation of post-graduates in a LLM that will acquire a high-level expertise on environmental policies and CC law. The project aims to improve the level of competences and skills in the HEIs by developing a new and innovative ICT-based education program and by applying best practices and methodologies among academics and learners.

The CCP-Law project will also support Vietnam to address the challenges facing their higher education systems by improving its quality and relevance for the labor market, especially through enhancing knowledge, skills and competences in the field where as it contributes to the better planning, delivery and management of the Master program.

The project will also contribute to strengthen cooperation between EU and the Partner Countries throughout organized study for capacity building of the teaching staff of the Asian HEIs and the voluntary convergence with the EU developments in the field of CC law and environmental policies curricula as well as exchange of best practices in the field that will equally respect national requirements.

The project will promote people-to-people contacts, intercultural awareness and understanding through the continuous exchange of knowledge and expertise as the partners will discuss their vision of what will the new programme include and through a creative process, they will decide which elements of the programme framework presented to them by their European partners will be easily transferable and will add value to their regional and national academic environments.

1.2. Target Groups

Firstly, the project aims to build and strengthen the capacity of academic staff and researchers working in the HEIs of Partner Countries. Academicians will grow professionally and become highly up skilled in the field of environmental policy and Climate Change law. The continuous involvement of the HEIs staff in all the phases of the project will contribute to their professional growth and will address the skills gap identified. Secondly, the main target groups are also legal practitioners, policy-makers, project managers, government officials and auditors of environmental issues. The objectives is build policy analytical capacity of relevant specialists through this multi-disciplinary educational programme that will be offered at a level of Postgraduate diploma or alternatively. Thirdly, the target group is graduates from schools such as: environmental sciences, social- scientific environment studies, natural sciences or environmental engineering, or an appropriate field in social science or law. They will be introduced to the field of climate law and policy at national level and at the international level and stimulate a critical awareness of the operation of international environment policy and CC law. They will be able to find careers as specialized legal advisers, government advisers, international negotiators, legal advisers to private companies and NGOs, international civil servants, specialized researchers in academic and think-tank institutions and independent consultants.

1.3. National Laws and Policies for Climate Change, Environment Protection, SDG's etc.

a. Laws and regulations related to open new Master's program at HU

- 2005 Education Law; 2012 Higher Education Law, and 2018 amended Higher Education Law, National Assembly of the Socialist Republic of Vietnam;

- Decision No. 16/VBHN-BGDĐT dated May 8, 2014 on combination the circular No. 04/2012/TT-BGDĐT and the circular No. 33/2013/TT-BGDĐT issued by the Minister of Education and Training;

- Decision No. 45/QĐ- BGDĐT on May 15, 2014 of the Minister of Education and Training on the training regulations for the master degree;

- Circular No. 25/2017/TT-BGDĐT dated October 10, 2017 issued by the Ministry of Education and Training promulgating level-four classification of education at master's and doctor's degree level;

- Circular No. 1251/BGDĐT-GDDH dated March 28, 2017 issued by the Ministry of Education and Training on authority to make a decision on approval for opening of training major;

- Circular No. 17/2021/TT-BGDĐT dated June 22, 2021 issued by the Ministry of Education and Training on Regulations on programme learning outcomes; building, appraising and issuing training programs at higher education levels;

- Circular No. 23/2021/TT-BGDĐT dated August 30, 2021 issued by the Ministry of Education and Training on Regulations on Regulations on enrollment and training master degree;

- Decision No. 755/QĐ-DHH dated June 1, 2020 issued by The President of Hue University on the Regulation on Organization and Management of Training Programs in Foreign Languages at Hue University;

- Decision No. 1538/QĐ-DHH dated October 18, 2021 issued by The President of Hue University on Regulations on enrollment and training for master's degrees at Hue University.

b. Laws related to Climate Change

- Law on Forest Protection and Development No. 29/2004/QH11 dated December 03, 2004 by the National Assembly of the Socialist Republic of Vietnam;

- Law on Economical and Efficient Use of Energy No: 50/2010/QH12 dated June 17, 2010 by the National Assembly of the Socialist Republic of Vietnam;

- Vietnam Constitution of 1992 with amendments through 2013;

- Law on Natural Disaster Prevention and Control No. 33/2013/QH13 dated June 19, 2013 issued by the National Assembly of the Socialist Republic of Vietnam;

- Law of Environmental Protection No. 72/2020/QH14 dated November 17, 2020 issued by the National Assembly of the Socialist Republic of Vietnam, amending the Law of Environmental Protection 2014;

- Law on Marine and Island Resources and Environment No. 82/2015/QH1 dated June 25, 2015 by the National Assembly of the Socialist Republic of Vietnam;

- Decree 66/2021/ND-CP dated July 06, 2021 issued by the Government of the Socialist Republic of Vietnam stipulating specifically to execute some articles in the Law on Natural Disaster Prevention and Control and the Law to amend and add some articles in the Law on Dykes.

1.4. Nodal Bodies in Vietnam dealing with Climate Change, Environment Protection, SDG's, etc.

It is noted that Vietnam recently established the National Committee on the implementation of Vietnam's commitments at the 26th Conference of the Parties to the United Nations Framework Convention on Climate Change. This Committee chaired by the Prime Minister consists of a range of Ministers and the equivalent ones.

No.	Nodal Bodies	Notes
1.	Ministry of Natural Resources and Environment (MONRE)	Department of Climate Change under the MONRE is in charge of climate change.
2.	Ministry of Agriculture and Rural Development	
3.	Ministry of Science and Technology	
4.	Ministry of Industry and Commerce	
5.	Ministry of Transport	
6.	Ministry of Construction	
7.	Ministry of Planning and Investment	



1.5. Environmental Protection Index Ranking of Vietnam and other initiatives being taken in Vietnam to combat climate change.

a. Environmental protection index ranking of Vietnam

Every year, Yale University in America releases its Environmental Protection Index (EPI) rating the ability of individual nations to protect both human health and the ecosystem. In 2020, the EPI didn't look great for Vietnam.

The 2020 EPI provides a data-driven summary of the state of sustainability around the world. The EPI offers a scorecard that highlights leaders and laggards in environmental performance and provides practical guidance for countries that aspire to move toward a sustainable future.

The 2020 EPI ranked Vietnam in 141st place out of 180 economies, citing its air pollution and modest biodiversity protection. Vietnam scored 33.4 points out of 100 in the biennial EPI compiled by scientists at American universities Yale and Columbia.

The report ranked 180 countries and territories around the world on 32 performance indicators across 11 categories covering environmental health and ecosystem vitality. The categories are air quality, sanitation and drinking water, heavy metal, waste management, biodiversity, ecosystem services, fisheries, climate change, pollution emissions, agriculture, and water resources.

Vietnam's low ranking resulted also from its struggles with climate change. It stood at 115th in air quality that measured household solid fuel use and PM2.5 average exposure.

PM2.5, super fine particles, measures a fraction of the width of a human hair, and is emitted by vehicles and industry. The World Health Organization Air Quality Guideline recommends an annual PM2.5 mean exposure threshold of 10 $\mu\text{g}/\text{m}^3$ to minimize health risks. According to the report, Vietnam's air quality was worse than that of many other Southeast Asian countries like Brunei, Malaysia, Singapore and Thailand. In the Asia-Pacific region, it was in 18th place out of 25 economies.

In biodiversity and habitat, Vietnam placed at 150th due to failure to maximize the conservation potential of its protected areas, especially marine ecosystems. It ranked 155th in climate change mitigation, which measured progress in combating global climate change, which exacerbates all other environmental threats and imperils human



health and safety. Vietnam, one of the highest emitters of greenhouse gases in Southeast Asia, seeks to cut greenhouse gas emissions by 9 percent between 2020 and 2030.

b. Vietnam's initiatives in response to climate change

Vietnam is one of the most vulnerable countries to the adverse impacts of climate change. Communities and individuals are confronted with a series of threats to which they must adapt and respond. This is why the country is so determined and committed to taking climate action and developing a green, sustainable, and low-carbon economy. As a signatory to the Paris Agreement, Viet Nam agreed to submit a national plan outlining how much it would reduce their emissions, known as a Nationally Determined Contribution (NDC). Viet Nam pledged in 2020 to reduce 9% of its greenhouse gas pollution by 2030, and is aiming for a 27% reduction with adequate international support. The country also pledges to contribute USD 1 million to the Green Climate Fund between 2016 and 2020.

In terms of reducing greenhouse gas emissions, the country issued a slew of policies and regulations, including Decree No.24-NQ/TW, Politburo Conclusion No.56-KL/TW, and Politburo Decision No.55-NQ/TW on the orientation of national energy development strategy by 2030 with a view to 2045.

The Vietnamese government recently signed Decision No. 1658/QD-TTg, which approved the National Green Growth Strategy for the period 2021-2030, with a vision to 2050. The strategy's overarching goal is to achieve green growth, thereby contributing to the acceleration of the process of economic restructuring in conjunction with growth model transformation in order to achieve economic prosperity, environmental sustainability, and social equality. It also aims to aid in the transition to a green and carbon-neutral economy, as well as to contribute to the reduction of global warming.

The upcoming power development plan for Vietnam is expected to accelerate the country's transition to clean energy. Aside from abandoning new coal plans, Viet Nam will convert existing coal power generation to natural gas wherever possible. Efficiency will be a priority for the remaining coal-fired power plants. It will improve investment conditions for wind and solar power in the future. By allowing the private sector to participate in the nation's electrical grid expansion, the government has been creating favorable conditions to facilitate the transition to green energy. The Government recommends amendments to the Electricity Law in Resolution 55 to allow for private

sector investment in power infrastructure. Attractive tariffs and tax incentives, have also attracted developers and lenders into the country, resulting in market growth previously unthinkable in the region.

In his address to the COP16, Vietnam Prime Minister Pham Minh Chinh stated that the country will take stronger measures to reduce greenhouse gas emissions using its own resources as well as international assistance in the form of finance and technology transfer. Specifically, as a result of the benefits of renewable energy, Vietnam will develop and implement strong measures to reduce greenhouse gas emissions using the country's resources. Furthermore, with international community support in technology transfer and financing to implement the Paris Agreement, Vietnam will strive to achieve "net zero" emissions by 2050. The government recommends that the Electricity Law be amended to allow for private sector investment in power infrastructure.

2. Climate Change Law and Policy: An investigation into the Curricula of Universities in Vietnam

2.1. Desk Research Objectives

The objective of the Desk Research is to point out and assess the existing/similar courses offered by universities in Hue city, Vietnam in the field of climate change, sustainability, environmental law and policy.

2.2. Methodological framework:

Universities offering courses on Environmental Science, Environmental Law and Environmental Science, etc were chosen at random for analysis.

2.3. Summary of findings for the following points. Include tabular/graphical representation wherever necessary

Please find below the specifications for the existing courses:

No.	University Surveyed	Type of University	Existing Courses	Degree	Gaps Found in Courses
1.	University of Law, Hue University	Public University	Environmental Law	Bachelor	No module on Climate



					Change Law and Policy
2.	University of Law,- Hue University	State University	Law on protection of environment in business	Master	
3.	University of Sciences, Hue University	State University	Environmental Science (Module: Climate Change Adaptation and Mitigation Module: Law and Policy on Environmental Protection)	Bachelor	No module on Climate Change Law and Policy
4.	University of Sciences, Hue University	State University	Environmental Science(Module: Critical Issues on Environment and Climate change)	Master	No module on Climate Change Law and Policy
5.	University of Sciences, Hue University	State University	Environment and Resource Management (Module: Climate Change and Responses)	Master	

a. Current situation and innovative characteristics of the existing courses and gaps found in the courses in terms of project objectives

Comparing to the project objectives, the aforementioned courses provided at the University of Law, Hue University have not addressed specifically the goal of tackling

climate change from a global perspective. They neither include the multidisciplinary elements. The teaching methodology is more traditional rather than carrying innovative ideas and methods.

The Bachelor's Environmental Law course offered by the University of Law, Hue University provides basic knowledge about the environment, environmental protection by law. The outcomes of the course is that learners will understand the basic concepts of the environment, components of the environment and the regulations of the laws on prevention and remedy of environmental pollution, on biodiversity conservation and protection of natural resources. The course provides knowledge on the application of various types of liability for violations of environmental laws. Methods of resolving environmental disputes are also addressed in this course. In addition, this course also provides basic knowledge on international cooperation in environmental protection, such as international declarations or international treaties on environmental protection that Vietnam has signed or acceded to.

The course help learners to develop various skills in relation to the field environmental laws, such as skills in analysis, synthesis, problem identification, assessment, commenting, information collection, systematization to give opinions and comments on issues of the Environmental Law.

The Master's course Law on protection of environment in business provides advanced knowledge on the policies and regulations of the laws for the purposes of protection the environment in business field. It aims to develop learners with various skills such as analysing environmental policies and laws in economic sector and suggesting solutions to improve the laws and their enforcement.

Although the knowledge and skills provided in the two courses ultimately contribute to the aim of protection of the environmental in general and tackling climate change in particular, they admittedly do not have any specific learning outcomes of dealing directly with the issue of climate change. They rather focus on the regulation of the state and the law on environmental activities and handling environmental law violations with the aim to protect the environment.

For aforementioned Bachelor's and Master's courses at the University of Sciences, Hue University, There is a shortage of knowledge on climate change international collaboration as well as practical skills in response to climate change, which significantly necessitates providing for students. Furthermore, all courses lack an

innovative approach to benefiting students in terms of ethics and skills. They are currently lectured using a teacher-fronted technique - the traditional method of teaching in which the teacher directs classroom activities through lectures or question-and-answer sessions with students. As a result, the project curriculum is expected to substantially assist Vietnamese lecturers in increasing their teaching capacity and changing their teaching method in an innovative and efficient manner with the support of Information and Communications Technology.

In general, all above-noted Master's and Bachelor's courses offered by University of Sciences, Hue University mainly provide fundamental theory rather than ethics or skills related to climate change. For the course of Environmental Sciences, the module "Climate Change Adaptation and Mitigation" provides knowledge with an emphasis placed upon adaptation and mitigation measures. Similarly, the module "Law and Policy on Environmental Protection" does not include any aspects of climate change law and policy. With respect to Master's courses in Environmental Science (module "Critical Issues on Environment and Climate Change", and Environment and Resource Management (module "Climate Change and Responses"), the lecturers partly mention a couple of international efforts in fighting climate change, such as United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, Paris Agreement, etc.

b. Conclusions and recommendations

At Hue University, the University of Law is offering The Environmental Law course/module with 02 credits (compulsory) and the Law on protection of environment in business in the Master of Economic Law Program with 02 credits (optional). The University of Sciences offers Bachelor's and Master's courses in Environmental Science (121 credits and 60 credits, respectively), and Master's course in Environment and Resource Management (60 credits). We selected these two member universities and found them in their official websites, but unfortunately the language on the website is Vietnamese.

In general, Hue University does not offer any courses in Climate Change Law and Policy. Regarding the course in Environmental Science, there are three modules: Climate Change Adaptation and Mitigation, Law and Policy on Environmental Protection, and Critical Issues on Environment and Climate Change. For the course in

Environment and Resource Management, there is one module: Climate Change and Responses.

Teaching methodology is the combination of face-to-face and online. Mostly the methods are almost traditional lecturing, questioning and answering and semester writing exam. Field trips, exchange activities or ethics issues are not yet covered.

The assessment methods are continuous evaluation and written exams. The quality assessment process is that adjustment every two years for non-compulsory courses and every four years for the whole programme.

For the Bachelor's courses in Environmental Law, the pedagogy/assessment tends to the dimension of training and compliance. Practical skills seem to be limited to students.

Therefore, it is of necessity to have a Master's programme on Climate Change Policy and Law. The courses as well as the teaching staff therefore would benefit from knowledge about new curricula which aims to offers high-level expertise and skills on environmental policies and climate change law.

3. Focus Group Discussion

3.1. Focus Group Discussion Objectives

The Focus Group Discussion aims to get opinions and feedback towards the adaptation to have a master's degree curriculum in climate change law.

3.2. Methodological framework

HU held a meeting (both online and offline) to collect information from stakeholders in Hue city, Vietnam. The purpose is to discuss the needs and gaps that have to be addressed by the project and better assess the exact academic needs that have to be catered for by the CCP-Law. This process will guarantee that all relevant target groups will provide their input in developing a balanced educational programme.

3.3. Date of Meeting

12 November, 2021; 14:00- 17:00, Vietnam time

3.4. Members (their background in the field, designation) invited and their demography

No.	Full name	Organization	Job title
1	Dr. Nguyen Xuan Huy	HU	Academia



2	Dr. Le Thi Thao	University of Law, HU	Academia
3	Dr. Nguyen Hong Trinh	University of Law, HU	Academia
4	Phan Dinh Minh, MA.	University of Law, HU	Academia
5	Assoc. Prof. Dr. Tran Anh Tuan	University of Sciences, HU	Academia
6	Hoang Thanh Hung, MA.	Luxembourg Climate Change project in Thua Thien Hue province, Vietnam	Practitioner
7	Pham Lien Hoa	Luxembourg Climate Change project in Thua Thien Hue province, Vietnam	Practitioner
8	Nguyen Xuan Dinh	University of Law, HU	Student
9	Nguyen Thi Huyen Diep	University of Law, HU	Student
10	Phan Anh Thu	University of Law, HU	Student

3.5. Points Discussed (based on an unstructured discussion, Project Objectives, Need analysis, and WP1.3 discussion in the Project Description)

- Needs for a specialized course on CCL
- Familiarity of existing courses and contents
- Lack of CCL in existing courses
- Ways to adapt a new curriculum addressing the needs of climate change crisis
- Percentage of values, skills and experiential learning
- Suggestions for pedagogy and assessment
- Ways for the course leading to a sustainable transformation and change
- Innovative best practices identified and included in course curriculum
- Ways the curricula addressing the needs of the market
- Kinds of capacity building for the faculty
- Role of international cooperation

3.6 Summary of Observations by 5 Academics in Environmental Law/Climate Change Law/Climate Change Policy

In the global situation, adaptation and mitigation to climate change are international climate policy. It is of necessity to have a curriculum of climate change which meets social needs. National policies on the adaptation and mitigation of climate change are shown clearly as witnessed that Vietnam Prime Minister attended UN Climate Change Conference (COP26) in Europe. Legal framework on this issue is primarily set up and issued. There is still a lack of consultants for competent authorities to issue policies regarding the matters. It shows the lateness in issuing the climate change policies at the local and central levels. The coming circulars and decrees will be the first legal frame of climate change in Vietnam.

There is no curriculum on Climate Change Policy and Law in Hue city, Vietnam. At university level, there are:

- The Bachelor's programme in Environmental Law at the University of Law, Hue University.
- The Master's programme in Law on Protection of Environment in Business at the University of Law, Hue University.
- The Bachelor's and Master's programmes in Environmental Science at the University of Sciences, Hue University.
- The Master's programme in Environment and Resources Management at the University of Sciences, Hue University.
- Some non-credit courses related to climate change such as the course on the adaptation and mitigation of climate change.

Also, there is no course relating to Climate Change Policy and Law. There are modules of environment policy and law now. The focus is on the law and policy on environmental protection and climate change adaptation and mitigation. Climate Change Policy and Law has not been integrated to the existing curriculum. Courses on recycled energy, thermal power, forestation, ecosystem are existing but there is no course on Environmental Protection Policy and Law.

In Vietnam, Vietnam National Qualification Framework (VQF) approved by Vietnam Government at Decision 1982/QĐ-TTg dated October 18, 2016 must be followed. Accordingly, the learning outcomes for the Master's programme in in Level

7 within the 8-level framework including: Knowledge, Skills and Capacity of Autonomy and Self- responsibility.

Percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative:

- 40% of law & policy
- 30% of management
- 30 % of science and technology

The compulsory course (Marxist- Leninist philosophy) is not included in.

Teaching methodology: both modern and traditional teaching methodologies are used

In the traditional teaching method, classrooms are teacher-centric, the chalk-talk method is prevalent, teachers are only the knowledge dispensers, not the facilitators, classrooms are strictly organized and controlled, there is no group learning and problem-solving sessions; clearing examinations are more important than grasping knowledge; it is a homework-based education; there is an absence of activity to sharpen the minds of students.

The modern teaching method, on the contrary, is a flipped classroom, problem-based learning and learner-centered; classrooms are being equipped with technology; the evaluations are being done at all stage; the skills and values development are put in the most crucial place; It is not only an collaborative learning which focus mainly on practical knowledge; but also an integrative and research-based learning which makes use of the internet, websites.

Assessment methodology: the assessment scores will include scores for class attending, essay scores, and examination scores.

Teaching methodology: With online teaching methods, students are required to set up separate rooms for discussions via Zoom, Zalo, Google meet, other apps. In addition, each student group is requested to make a video clip on such environmental topics as vegetarianism and environment, fashion and environment, green-living, role-playing for law practice. Upon each lesson, teachers need to reinforce the lessons by providing knowledge, quizzes, ...as well as getting feedback from learners.

By creating the link between training and enterprises and state management agencies by inviting representatives from enterprises and state management agencies to

give appropriate lectures, the course curricula can address the needs of the market so as to increase the employability of the students.

Three dimensions should be taken into consideration in capacity building for faculty:

- Knowledge: there should be the courses on vocational education training and specialized knowledge; the transfer of knowledge on climate change, climate change policies and law from the program countries to partners countries.

- Scientific research: join in both national and international joint research projects.

- Teaching methodology: there should be short training courses to transfer teaching methodologies from the program countries to partners countries.

To effectively realise the learning outcome of the course, HEIs should:

- Promote international cooperation and connections with HEIs to build PLOs and CLOs for mutual credit recognition, students and teaching staff mobility, joint scientific research and international publication.

- Build the infrastructure and legal framework for the issuance of digital credentials.

3.7. Summary of Observations by 2 Climate Change Experts

One of the most important things is the lack of experts in climate change policies. A curriculum in the Climate Change Policy and Law will help meet the urgent demands of international commitments and the emission of GHG reduction.

Besides, the needs of Climate Change Policy and Law Curriculum arise from the enforcement of environment and climate law for the past period, for example, issues on the monitoring mechanism of law enforcement relating to solar energy projects in the Central region of Vietnam.

The needs to raise awareness of community on this issues is very important. The curriculum will help integrate the international law on environment and climate change to national policies and law regulations.

Some experts teach some courses on the mitigation of climate change at the university. There are some programs, courses and workshops to issue certificates of capacity building.

About the legal documents on climate changes, the law on this issue has not been issued. However, we are having circulars and decrees on climate change. It is of

necessity to have modules on Climate Change Policy and Law in our curriculum of environmental science. It is essential to introduce international law as a basis for the national law on climate change.

The COP26 focuses on the mitigation of climate change. However, the existing courses concentrate on adaptation. Therefore, the new curricula should pay attention to Climate Change Policy and Law regulations to adapt to the global trend of climate change mitigation. The high percentage of Climate Change Policy and Law is encouraged.

Experts agreed with the academicians about the percentage wise distribution between law & policy, management, science and technology to make the curricula truly innovative as follows:

- 40% of law & policy
- 30% of management
- 30 % of science and technology

The compulsory course (Marxist- Leninist philosophy) is not included in

About the way that the course leads to a sustainable transformation and change, they revealed that according to the regulations by the Ministry of Education and Training, the master's training program was reviewed and adjusted yearly. The curriculum on law policy and implementation of law on climate change is adapted to meet the requirements of related stakeholders.

One expert said that regular meetings needed to be organized to collect stakeholders' opinion to build the PLOs which met the needs of the labor market.

3.8. Summary of Observations by 3 Students in the field

About the needs of a new curriculum, 3 students told that the young generation, knowledge and skills gained would help them contribute to environment protection and solutions of climate change adaptation and mitigation.

One of students feel familiar with the course as she is pursuing her Master's studies at Melbourne University, Australia has found LLM (Climate Change Law LAWS70293 (<https://handbook.unimelb.edu.au/2021/subjects/laws70293>)).

Three students know that in Vietnam, HEIs have to base on Vietnam National Qualification Framework (VQF) approved by Vietnam Government at Decision 1982/QĐ-TTg dated October 18, 2016. Accordingly, the learning outcomes for the

Master's programme in in Level 7 within the 8-level framework including: Knowledge, Skills and Capacity of Autonomy and Self- responsibility.

3.9. Conclusion

The findings show that the extreme necessity to have a new Master's course of Climate Change Policy and Law. Regarding the structure of the curriculum, there should be the courses on vocational education training and specialized knowledge; the transfer of knowledge on climate change, climate change policies and law from the program countries to partners countries. There will be the combination of both modern and traditional teaching methodologies. The scientific research is also paid attention should be included by joining in both national and international joint research projects. Short training courses of teaching methodologies should be exported from the program countries to partners countries.

4. Overall Conclusions and Recommendation

The new curriculum should pay attention to Climate Change Policy and Law regulations to adapt to the global trend of climate change mitigation. The high percentage of Climate Change Policy and Law is encouraged. The needs to raise awareness of community on this issues is very important. The curriculum will help integrate the international law on environment and climate change to national policies and law regulations.

However, the curriculum has to comply with Vietnam National Qualification Framework (VQF) approved by Vietnam Government at Decision 1982/QD-TTg dated October 18, 2016. Accordingly, the learning outcomes for the Master's programme in in Level 7 within the 8-level framework including: Knowledge, Skills and Capacity of Autonomy and Self- responsibility.

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FOCUS GROUP DISCUSSION

Project	Curricula development on Climate Change Policy and Law (CCP_Law)
Project Number	618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP
Work Package Number and Version	Work Package 1 Version 1
Submission Date	
Responsible Authors	Hanoi Law University (HLU), Vietnam



Document Control Sheet

Work Package Number	WP1
Work Package Title	618874-EPP-1-2020-1-VN-EPPKA2-CBHE-JP
Task Title	Report on similar curricula in ASIA
Deliverable Title	Focus group meeting
File Name	
Number of Pages	
Dissemination Level	Public
Main Author	
Contributors	Hanoi Law University Team

Versioning and Contribution History

Version	Date	Author/Editor	Contributors	Comments
V1	09.01.2022	HLU	Hanoi Law University Team	

Document last saved on	
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1. Focus group participant list

No	Full Name and Title	Organization & Position	Job
1	Assoc. Prof. Dr. Nguyen Hong Thao	Member of the United Nations' International Law Committee (2016-2021 & 2021-2026 terms and the Former Second Chairperson of the Committee	Academician
2	Assoc. Prof. Dr. Nguyen Van Quang	Hanoi Law University	Academician
3	Dr. Hoang Ly Anh	Hanoi Law University	Academician
4	Dr. Nguyen Vann Tuyen	Hanoi Law University	Academician
5	Dr. Vo Trung Tin	Head of Department of Land Law and Environmental Law, Ho Chi Minh City University of Law	Academician
6	Dr. Thai Thi Thanh Minh	Head of Department of Climate Change and Sustainable Development, Hanoi University of Natural Resources and Environment	Academician
7	Dr. Nguyen Hong Lan	Head of Department of Marine and Island Sciences, Hanoi University of Natural Resources and Environment	Academician
8	Dr. Nguyen Van Phuong	Head of Department of Environmental Law, Hanoi Law University	Academician
9	Assoc. Prof. Dr. Vu Thi Duyen Thuy	Deputy Head of Department of Environmental Law, Hanoi Law University	Academician
10	Pham Thi Mai Trang, LLM	Lecturer of Department of Environmental Law, Hanoi Law University	Academician
11	Dr. Pham Hong Hanh	Deputy Head of Department of Public International Law, Hanoi Law University	Academician
12	Dr. Mai Thi Mai	Deputy Head of Department of Constitutional Law, Hanoi Law University	Academician
13	Dr. Ha Quang Anh	Director of the Center for Ozone Protection and Low Carbon Economic Development, Department of Climate Change (DCC), Ministry of Natural Resources and Environment (MONRE)	Practitioner
14	Dr. Nguyen Van Toan	Head of Department, Institute of Marine and Island Research, Marine and Island Administration General, Ministry of	Practitioner

		Natural Resources and Environment (MONRE)	
15	Ms. Thai Thi Hong Nhung	Fourth Year Student of Climate Change and Sustainable Development, Hanoi University of Natural Resources and Environment	Student
16	Vu Quang Minh	Fourth Year Law Student, Hanoi Law University	Student
17	Le Thi Mai	LLM Student, Hanoi Law University	Student
18	Phung Chi Pa	Fourth Year Law Student, Hanoi Law University	Student
19	Vu Thi Hai Nhi	Fourth Year Law Student, Hanoi Law University	Student
20	Nguyen Hung Son	LLM Student, Hanoi Law University	Student
21	Nguyen Phuong Thao	LLM Student, Hanoi Law University	Student
22	Hoang Quynh Hoa, LLM	Admin Staff, Department of Research Management and Journal Administration, Hanoi Law University	Student

2. Venue: online via Microsoft Teams; the Host is Hanoi Law University Team chaired by Assoc. Prof. Dr. Nguyen Van Quang and Dr. Hoang Ly Anh. The meeting was recorded and the recording is archived.

3. Date: January 9, 2022

4. The purposes of the focus group discussion is to collect comments of participants on some issues with regard to training courses/modules related to climate change policy and law in order to identify any existing training courses/modules dealing with the issue in question and the gaps of those existing training courses/modules need to be solved by a truly new and innovative training program on climate change policy and law designed under the CCP_Law Project.

The participants of the discussion include academicians, practitioners and students in the field or the field related to climate change policy and law. It is noted that prior the discussion, a desk research on existing training courses/modules related to climate change policy and law in Vietnam, the current policy and law framework on climate change of Vietnam and the nodal bodies dealing with climate change, environmental protection, SDG's etc was conducted by HLU team; also, questionnaires designed by SIU were distributed among the participants and HLU collected all answered questionnaires. So the discussion aims to reaffirm the desk research, elaborate and collect more ideas/comments on the climate change policy and law curriculum.

The discussion mainly focuses on the following issues:

1. The need for a training program specialising in climate change policy and law in the context of Vietnam

All the participants of the discussion have agreed that there is the need for a training program specialising in climate change policy and law in Vietnam given the context, both global and domestic. Climate change and adaptation and mitigation to climate change has become a global issue attracting the interest of many countries in the world. Vietnam has faced a range of problems caused by climate change and always shows its interest in any initiatives to adapt and mitigate climate change problems. In regard to climate change policy and law, Vietnam has developed a climate change policy and law framework addressing the issue in question and it is noted that a Law on climate change is in the process of drafting to further improve the existing policy and law framework on climate change. It is of course much work needs to be done for a comprehensive climate change policy and law framework in Vietnam. So that it is of necessity to have a training program specialising in climate change to meet the demand of human resources for climate change policy and law- making.

From the practitioners' perspective, some participants pointed out that those who are in charge of climate change issues in state bodies at both central and local levels currently lack much knowledge of climate change policy and law so the enforcement of climate change policy and law has become a matter. This practice again addresses the need of a training program specialising in climate change policy and law.

From the perspective of international law, as Vietnam now is an active party to several international conventions/agreements regarding climate change, to fulfil Vietnam's international commitments in this regard the need to train the human resources who master climate change policy and law knowledge is obvious. Thus, a training program specialising in climate change policy and law can help Vietnam meet that demand.

During the discussion, the student participants also express their interest in courses relating to climate change policy and law. This is because they realise that climate change is a global issue which impacts on many aspects of the socio-economic life and people of all countries in the world and climate change policy and law plays an important role in resolving climate change related problems for sustainable development. Given the awareness the students participating in the discussion expect that a training program specialising in climate change policy and law soon to be opened to attract interested students.

It is noted that while agreeing on the need of a training program specialising in climate change policy and law many academicians emphasise that in order to develop a training program

specialising in climate change policy and law which can run sustainably in Vietnam or in any specific country, it is of importance to conduct a comprehensive survey on the actual need of the training program in the specific country context. This ensures that the designed training program really addresses the actual need of the country where the training program is offered.

2. The familiarity of the participants with training programs/courses/modules on climate change policy and law

During the discussion, all participants have agreed that until now in Vietnam there is no training program (both undergraduate and graduate levels) specialising in climate change policy and law. However, in relation to climate change or climate change and sustainable development, in several universities in Vietnam, existing training programs/modules addressing the issue in question can be easily identified and many participants have taught / or studied those courses/modules. For examples:

- The bachelor of climate change and sustainable development program at Hanoi University of Natural Resources and Environment;
- The master of climate change and development program at Vietnam – Japan University-the Vietnam National University, Hanoi;
- The master of climate change program at the faculty of interdisciplinary sciences the Vietnam National University, Hanoi;
- The master in climate change and sustainable tropical agriculture program; the master in climate change and delta management program; the master in climate change and integrated coastal fisheries management program at Can Tho University;
- In most law schools in Vietnam within LLB or LLM programs, several offered modules such as environmental law, law on environmental protection in business or international environmental law in which the topic of climate change has been introduced.

The participants also stress on the specific knowledge and skills offered in those training programs/courses/modules. For example, in the bachelor of climate change and sustainable development program at Hanoi University of Natural Resources and Environment, most courses of the program focus on engineering, technology and management relating to climate change and sustainable development and the practice-oriented approach is mainly used in the training program. Similarly, the main focus of the master of climate change and development program, the master of climate change program, the master in climate change and sustainable tropical agriculture program, the master in climate change and delta management program and the master in climate change and integrated coastal fisheries management program is engineering, technology

and management which not much attention has been paid to policy and law. Among modules offered at law schools in Vietnam, there is no module which entirely focuses on climate change policy and law; in some related law modules,, the topic of climate change is introduced together with my other topics in the field of environmental law.

During the discussion, a participant from the Ministry of Natural Resources and Environment also mentioned some courses specialising in climate change policy and law offered in some law schools in the US that he found during his research.

3. The lack of addressing climate change policy and law in existing training programs/courses/modules and some suggestions for a training program specialising in climate change policy and law

As noted before, all the participants have agreed that in Vietnam there is no any training program/course/module which comprehensively address climate change policy and law, specifically:

-In climate change related BA /MA programs, most offered modules are related to engineering, technology and management while there are some offered modules which either generally or incomprehensively introduce climate change policy and law;

- In LLB/LLM programs, some environmental law or international environmental law related courses/modules are offered but the topic of climate change is introduced among many other topics and the time for the analysis of laws (both international and domestic), case studies, fieldwork and practice is insufficient. Particularly, the topic of climate change in those offered courses/modules is normally examined from the law but not policy perspective.

Given the lack of addressing climate change policy and law in existing training programs/courses/modules in the Vietnam, the participants have suggested several ideas regarding the design of a training program specialising in climate change policy and law:

-To equip students of the program with the comprehensive and sufficient knowledge and skills in the field of climate change policy and law, the program should be a multidisciplinary training program which covers science and technology, management, policy and law. In regard to which percentage of distribution among science and technology, management, policy and law in the program should be, the participants point out that it is hard to suggest exact percentages without a careful and comprehensive research on curriculum especially in the context of Vietnam where there is no equivalent training program. The participants, however, note that the suggestion of colleagues from Hue University that the program should cover 40 % of policy and law, 30 % of management and 30 % of science and technology is worth consulting.

- In regard to the learning outcomes of the program the participants emphasise that attention to knowledge, skills and attitudes must be paid in accordance with the law and regulations on higher education training of Vietnam. Some participants stress on the practice skills and suggest that it is essential for the program to distribute sufficient time for students to practise, to do fieldwork, to research case studies and to meet experts and practitioners for practical experience.
- In regard to the portion of policy and law of the program, it is suggested that while the program should cover the policy and law on climate change at both national and international levels, specific details regarding the policy and law on climate change arising in the context of Vietnam must be the main focus. Given this suggestion, the participants agree that one of the key tasks for designing a training program specialising in climate change policy and law in Vietnam is to develop a range of case studies relevant to the context of Vietnam and based on that students can gain practical experience for dealing with real issues that they will do in their future jobs.
- As practical experiences play a very important role in a training program specialising in climate change policy and law, the participants suggest that experts and practitioners in the field who have practical experience (in Vietnam and abroad) should be encouraged to teach for the program. In addition, fieldwork at areas where the people face with the impacts of climate change is strongly recommended as a teaching method.
- To admit students for a training program specialising in climate change policy and law, the participants also suggest that those students who have background on science & technology and management and those who have law background can be admitted. Depending on their background, prior to enrolling in common courses of the program, those students can be separately provided with certain courses to fill the gap of knowledge and skills required by the program.

4. Teaching methods and modes of assessment for the program

As the participants coming from different universities/institutions, their practical teaching experience varies and their responses to the question of teaching methods and modes of assessment are also various.

Those participants who are academicians of law schools state that they mainly use traditional teaching methods such as lecture and seminar in which student participation is strongly encouraged. It is noted that in lectures and seminars conducted by lecturers, specific methods such as student group discussion, problem-solving method, case study method or moot activities are often used. Clinical education is also offered but for environmental law related courses, this method is less popular in comparison with other law courses such as criminal law, contract law, property law or family law courses. Currently, thanks to the technology development, traditional



teaching methods as mentioned above are supported by several new applications (classes now can be totally online, videoclips used for lecture/ seminar illustration, phone apps used for teaching and assessment etc). In regard to the modes of assessment, law schools mainly use some traditional modes including class participation, group assignment, individual assignment (normally essay) and final exam (either seating exam or take- home exam).

For those participants who are academicians of schools for science, technology and management, apart from traditional teaching methods such as lecture and seminar, they also use teaching methods specialised for their areas such as fieldwork, lab, experiment, etc. Also, corresponding with such specialised teaching methods, some modes of assessment are designed to assess the gained knowledge and skills of students.

For a training program specialising in climate policy and law, the participant suggest the combination of teaching methods and modes of assessment that are used in teaching science and technology, management, policy and law courses in which much attention is paid to the application of new technology for pedagogy purposes.

5. Reviewing, updating, adjusting, upgrading and reforming the training program

All participants have agreed that like any other training programs/courses/modules, the training program specialising in climate change policy and law must be reviewed/updated/adjusted and/or reformed in accordance with the law and regulations, especially the regulations of the Ministry of Education and Training. This applies to the whole training program and each individual module offered by the program (especially for reviewing/updating/adjusting module syllabi) in which:

- New knowledge and skills must be updated;
- Seeking comments of experts, practitioners and stakeholders in the field for reviewing/updating/adjusting module syllabi is compulsory;
- All standard methods for reviewing/updating/adjusting module syllabi must be applied.

For a new training program like the climate change law and policy, researching the labour market to identify the needs of labour market and develop and reform the training program meeting such the needs is quite essential. Given this practice, the participants stress on developing a strong industry-school partnership so that the program graduates can be expected to serve better the labour market needs.

6. Capacity building for faculty members and universities to effectively run a training program specialising in climate change law and policy



As the climate change policy and law training program is a multi-disciplinary training program and it is a totally new training program in Vietnam, training of trainers (ToT) is vital. All the participants have agreed that in order to effectively run the program:

- The faculty members need to be trained and updated with the new knowledge and skills on climate change policy and law. Particularly, those whose background is science & technology and management need to be trained on policy and law and vice versa. Also, international experience in this field is of necessity so that opportunities for academic exchange with international colleagues through training courses, seminars, conferences, study visits, etc. must be taken into consideration.
- Research capacity in the field of faculty members needs to be strengthened. In this regard, faculty members should be encouraged to conduct research works (at both national and international levels) and collaboration with international colleagues plays an important role. For Vietnam, the support of international donors for the development and operation of a climate change policy and law centre in relevant universities is a good initiative to attract research activities of faculty members, students and experts in the field.
- For teaching purposes, short training courses on teaching methods for climate change policy and law are necessary as through those short courses, faculty members are trained and updated with new and relevant teaching methods so that they can use during the course of teaching.



PHOTOS OF THE FOCUS GROUP DISCUSSION HOSTED BY HANOI LAW UNIVERSITY TEAM

