ADDRESSING CLIMATE CHANGE IN EDUCATION: REFLECTIONS ON THE EDUCATIONAL PRACTICES

Dr. Aarti Yadav
Assistant Professor, Department of Education,
Central University of Haryana.

ABSTRACT

A pressing issue, raising questions on the existence of humanity, is Climate change. Education is considered as the impeccable weapon to address environmental problems as it trains the mind of youth to think critically and act proactively to discharge their responsibilities towards one another and the planet. Due to immense reach of education, education is laden with the responsibility of deliberating on economic, social and environmental issues. Is it possible for the education sector to effectively address the issues in disintegrated manner and bring substantial changes/improvements? Or, can we the EDUCATIONALISTS work towards building a sustainable society by adopting action orientated integrated approaches with actionable results?

A whole-institution approach needs to be adopted which focusses on the values to be addressed through curriculum, teacher development for engaging and application based learning, institutional culture, operations and risk management and community engagement. An educational institution is the base unit to address the issue of the climate change (or any other issues of concern) through its decision, function and evaluation. The present paper discusses the approaches to strengthen the idea of sustainability; adoption of whole institute approach for mitigation and adaptation of climate change, the higher education institutions ranking regarding sustainability practices and the faculty development to bring desired results in the field of climate change.

KEYWORDS: *Climate change, Educational practices, approaches towards climate change.*

THE IMPACT OF CLIMATE CHANGE

The scientific and industrial revolutions are followed with radical changes in the world. It led to reduction in poverty and improvement in health, which led to rise in living standards. In the race of development, humans played unethically with the environment. This unethical practice eventually may cost destruction of entire human civilization. The global rise in temperature, which is on its way to 1.5 degree Celsius is enough to unleash mayhem. The world will face critical problems with rise in temperature such as 20-30% of species are at the risk of extinction, sea level will rise leading to submerging of coastal habitats. Acidification of oceans, extreme flooding and droughts causing displacement and conflicts, deaths due to heatwaves shrinking forests and increase in extinction of precious flora and severe health problems are other repercussions to cite a few (WWF, 2018).

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Humankind in its various capacities has identified climate change as an irreversible disaster. Governments, philanthropists, scientists, educationists and other government and inter government organizations gather and deliberate on the actions to be taken to meet the challenges thrown by climate change. All nations are now standing together at various platforms such as United Nations climate change conference in Paris, COP, UN's Intergovernmental Panel on Climate Change (IPCC) and planning to implement Kyoto Protocol, Paris Climate Change Agreement and other agreements to tackle climate challenges. Recently, UN awarded Indian Prime Minister Narendra Modi for his efforts to control plastic pollution and to entering in to International Solar alliance. According to UN Secretary General Mr. Guterres, "Those who bet on grey Economy will have grey future and, and those that like in India, are betting on the green economy will have a dominant role in the global economy in the decades to come.International recognition of Indian efforts towards climate change shows that environmental issues are at the heart of national policies.

EDUCATION FOR CLIMATE CHANGE

The history of education shows that education directed towards addressing singular issues like sex education, bullying, AIDS education, environmental education etc. doesn't bring desirable changes. Similarly, the knowledge and awareness of environmental education hasn't brought any change in the attitude of society towards their environment. Therefore, there is a need to adopt an approach, which works in unification rather than isolation. Unification is important because climate change brings along social, economic, political and environmental changes.

The adoption of **whole institution approach**, based on the vision of educating for change instead of educating of change may work towards bringing desired changes for climate change (add supporting ref.). The usual approach for mitigation of climate change is reforms in curriculum achieving Education of Change but Education for change requires much beyond that. This is where the need to adopt whole institution approach gets in. Whole institution approach focusses on education for change by directing the institution's practices related to teaching-learning process, curriculum development, classroom activities and school operations towards developing climate friendly culture (McKeown and Hopkins, 2012).

The change in climatic conditions have an impact on the social, economic, political and environmental lives of the citizens. Therefore, the social, economic, political and environmental aspects of climate change need to be a part of curriculum of respective subjects and the teachers should address these aspects in their teaching. Besides, there is need for adoption of transdisciplinary approach for integrating the concept of climate change in the curriculum of existing subject areas related to arts, science and humanities(Mermer, T., 2010).

Community engagement includes providing expertise to projects working on climate specific research, providing capacity in form of person power to local government and agencies dealing with crunching resources and enjoying local leaders and officials in discussions and policy making on climate change.

Institutional leadership should view climate preparedness as another add on consideration that should be considered in to campus operations and masterplan. The strategies need to be designed around the local and regional climate conditions and also take into account other unique circumstances such as institutional culture, political environment and financial realities(Dyer, G. and Andrews, J).The deliverance of effective results by educationalists depends on their professional development through training programs.Therefore, the next section discusses the role of training of educationists in bringing desirable changes in the thinking and life style of all its stakeholders.
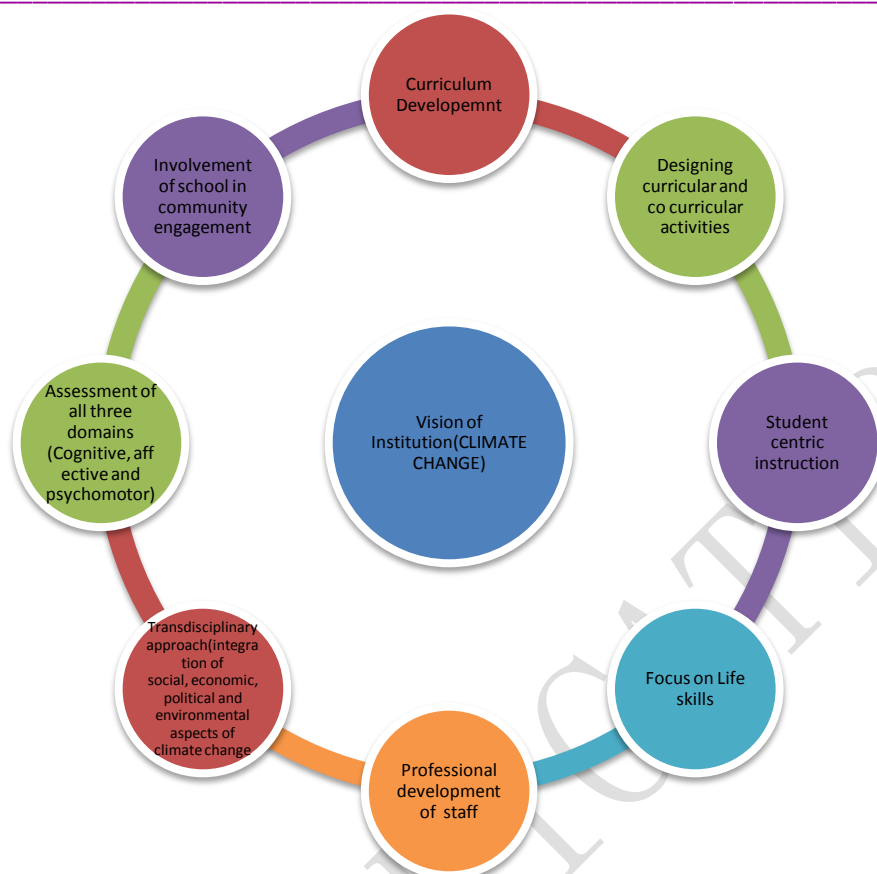
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Figure 1.: Whole Institution Approach

Teacher Training:

      Sterling (2004) advocates for adoption of sustainability education by transforming the elements of environmental education to include the wider concept of sustainability,which can be represented as a fundamental change in educational culture (Nolet, V, 2009). The Global Education Monitoring Report of 2016 reveals that the integration of element of sustainable development in teacher education has increased from 2% in 2005 to 8% in 2013 (UNESCO, 2018). The major component for bringing change in education is teacher and currently, Indian government is spending huge funds on teacher education through PMMMNMTT scheme for teacher education. However, the curriculum adopted in majority of the teacher education institutes doesn't show any promising efforts towards integration of varying aspects of education for sustainability. The concept of education for sustainability should be addressed in all the training programs such as pre-service teacher training, in-service teacher training and leadership programs for principalsat school level. Similarly, in the faculty development programs at higher education institutions, the faculty including the leaders should be oriented towards addressing mitigation and adaptation to climate change in their teaching and policy making. The support should be extended in the field application too by providing a wealth of background information, tips and further references, not only for the workplace but also for lifestyles in general. The organisations like UNESCO has developed a Staff Guide to Greening and in addition, the Internal Greening UNESCO web site provides information on the details about internal initiatives to involve staff in greening practices. Similar efforts are needed in every country and at all levels of education, and the efforts should not be limited to just training but the follow up support and feedback also. The vision created by the institute and its efforts towards fulfilling its vision are assessed through several ranking

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systems in order to provide information of an institutes performance on several parameters. This information facilitates in choosing institutions for education according to the preferences of students.

Ranking of Higher Education Institutions and Representation of Sustainability

The concept of world class university is broadly built on four distinct pillars namely,quality of research, quality of teaching ,employability of graduates and international outlook. The performance of universities is evaluated and ranked on the basis of these four broad dimensions. The rise in the phenomenon of massification, internationalization and commoditization of higher education have necessitated the logic of benchmarking institutions through various global ranking systems(Yeravdekar, V.R. and Tiwari, G. (2014).

The five popular ranking systems are: ARWU (Academic Ranking of World Universities, also known as 'Shanghai Ranking' is the oldest ranking system), Leiden, THE (Times Higher Education) and, QS (Quacquarelli Symonds) and U-Multirank.

These ranking systems have a geographic bias, namely U-Multirank towards Europe, ARWU towards North America, Leiden Ranking towards emerging Asian countries, and QS and THEtowards Anglo-Saxon countries and the second bias is the criterion of ranking in which academic excellence and research dominates (Moed, 2016)

The performance indicators in Times Higher Education World University Rankings are arranged into five areas:

- Research (volume, income and reputation)
- International outlook (staff, students and research)
- Citations (research influence)
- Industry income (knowledge transfer)
- Teaching (the learning environment)

QS World University Rankings evaluate universities according to the following six metrics:

1. International Faculty Ratio
2. International Student Ratio
3. Academic Reputation
4. Citations per faculty
5. Employer Reputation
6. Faculty/Student Ratio

These ranking systems have no mention of sustainable practices in academics or research.The rankings specialised in assessing sustainability rankings exist but sustainability doesn't form a criterion of evaluation into traditional rankings. It's integration in the mainstream ranking systems will create a more serious awareness of this issue and consequently the inclusion of sustainability into all universities agenda.

A similar initiative is 'The Higher Education Sustainability Initiative (HESI)' was created in 2012in the run-up to the United Nations Conference on Sustainable Development (Rio+20). It is a partnership between United Nations Department of Economic and Social Affairs, UNESCO, United Nations Environment, UN Global Compact's Principles for Responsible Management Education (PRME) initiative, United Nations University (UNU), UN-HABITAT, UNCTAD and UNITAR. The network of HESI educational institutions commit to: Integrate the concept of sustainable development in teaching and research across all disciplines, Dissemination of sustainable development knowledge, Efforts to create green campuses and support local sustainability efforts, and Engage and share information with international networks Sustainable Development Knowledge Platform.

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The only world university rankings for sustainability is UI GreenMetric World University Rankings and it has ranked 618 universities from 76 countries around the world since 2010. A steep increase has been observed in the number of universities ranked which rose from 95 universities in 2010 to 618 universities in 2017. The increasing number shows acceptance of the sustainability as an important parameter of ranking and a feature of universities to showcase to the world about their efforts in the area of sustainability. The 2017 data of UI GreenMetricshows that sustainability practices have been widely adopted in the 618 universities from 76 countries ranked under it. The data of ranked universities further shows that 1.697.280 faculty members and 21.526.407 students are striving towards realising the goal of sustainability. In terms of research funds, the data shows thata figure of US$ 9.920.012.140,27 forms the total research fund on environment and sustainability in participating institutions located all over world fromAsia, Europe, Africa, Australia, America to Oceania. The criterion of ranking includes: Education, Setting and Infrastructure, Energy and Climate Change, waste management, Water use, Transportation. (UI GreenMetricWorld University Rankings, 2018).

The seven Indian universities appeared in top 350 rankings. Among the seven Indian institutes, Indian Institute of Information Technology and Management Gwalior scores maximum in criterions of education and transportation, Dibrugarh University scores highest in setting and infrastructure, Institute for Financial Management and Research, Chennai scores highest in water, energy, and climate change and Kalasalingam university scores highest in waste management.

Recently MHRD initiated to rank universities based on clean campus, known as Swachh Campus Ranking. The ranking has been done for the Institute on the basis of multiple factors such as Toilets adequacy & maintenance, waste disposal methods i.e Garbage clearance systems; Water purity, storage, distribution facility; Hostel Kitchen hygiene & sophistication of equipment; Campus greenery & Rainwater harvesting; Use of solar systems, and Village or neighbourhood adoption for hygiene. The step is indeed laudable but has to integrate other dimensions for assessing the role of universities in promoting sustainability through mitigation and adaptation of climate change.

CONCLUSION:

Our education system can play significant role in formation of the value and belief systems of its stakeholder's necessary for strong sustainability approaches to occur. The solution depends on substantial efforts made by the education community to meet the tremendous challenges on the road towards sustainability. A whole institution approach is required to inclusively address the issues related to climate change or can broadly say sustainability. Inclusiveness means shaping the vision, mission, curriculum design, learning environment and policies of institution around sustainability. The teacher education institutions and institutions related to educational research need to develop training programmes for producing sustainability oriented teachers. Innovative training programmes and knowledge resources to enhance and support knowledge of social, economic, political and environmental dimensions of climate change should be developed. The international ranking system of universities also needs to adopt sustainability as parameter of assessing institutions. The conduction of green audit or participation in the green rankings or reporting the sustainable measures taken by institutions in their reports required for accreditation are motivated by the external accountability. In a report by Huffington Post in 2011, it is clearly mentioned that external accountability is not an effective driver of system effectiveness and doesn't contribute in achieving intended results. The worst undesirable consequences of external accountability may be cheating (Fullan, Rincon-Gallardo, & Hargreaves, 2015). Therefore, the institutions should create suitable conditions for internal accountability, which support creating a culture of taking personal, professional and collective responsibility

of continuous development by the individuals and groups for achievement of the sustainable development aims.

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