POLICY BRIEF

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Higher Education Institution Network in Disaster Resilience – A Critical Game Changer in Asia

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Executive Summary

A well-updated education will help the country as well as the region to have successful learners and well-informed citizens who can build resilience in society. Quality education not only helps to bring economic prosperity in the region, but it also improves individual as well as the institutional caption on climate change mitigation, adaptation and impact reduction. Education is central to reorient efforts towards a new path for development with sustainability. It is also possible to achieve other SDG goals to its fullest extent through education. Education can also be a roadmap to support the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030. It is also necessary to develop new products services as well as promote further development and dissemination of Standard practices and operational guidance to

enhance disaster preparedness. Policy introduction and implementation at various levels through multidisciplinary educational curriculum and incorporation of disaster risk knowledge in formal and nonformal education can strengthen the capacity at all level (regional, National and local) to understand disaster risk and also help for effective risk communications. Multi-institution engagements and multidisciplinary and transdisciplinary approach will not only enhance Global partnership, but it will also help to mobilize shared knowledge, technology and financial resources towards sustainable Development Goal.

Introduction

Global DRR community has always put education as top priorities as articulated from the Yokohama strategy 1994, and continued so on. It was reported in the 2013 Global Assessment report that 72% of the reporting countries had been integrated disaster education within their national education curriculum (Ronan, 2014). Various science policy negotiations and multilateral dialogues also recognized the role of specialized disaster education and the need for its integration into a higher education curriculum (Chatterjee et al. 2015). For decades Higher Education Institution (HEIs) has played a vital role in fostering scientific and technological advancement which has supported disaster risk reduction and management at various spatial-temporal scale. Progress in science and technology innovation has always helped to establish and implement major initiatives in DRR. Various science policy negotiations and multilateral dialogues recognized the role of specialized disaster education and the need for its integration into the higher education curriculum. Many of the earlier frameworks such as the Hyogo framework for action 2005 -2015 recognizes the importance of science and technology the role of higher education in disaster risk reduction. The more recent Sendai Framework for DRR (SFDRR 2015–2030) also recognized the need to integrate education, science, and technology as an available mechanism to facilities priority actions. Education can also be a roadmap to support the implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 by developing new products services as well as promote further development and dissemination of Standard practices and operational guidance to enhance disaster preparedness. A strong specialized educational curriculum and incorporation of disaster risk knowledge at all levels of education can strengthen the capacity at national and sub-national level stakeholders to understand disaster risk and also help for effective risk communications and decision making. Training and education can also help to enhance good practices and cooperation between academician, scientist helps strengthen the governance (Pal and Shaw, 2018) by implementing well-informed policies. The aim of this policy brief is to advocate disaster education and sustainable development curriculum in HEIs, academician's participation in community outreach and promote multidisciplinary approach to offer joint curriculum with national and international collaboration.

Challenges in Multidisciplinary DRR & Sustainability Education

The global framework for disaster risk reduction and sustainable development goals also indicates the importance of capacity development, education and regional synergy for natural disaster resilience and sustainable development. Higher Education Institutions (HEIs) can potentially play an important role in imparting the sustainability education paradigm upon society and in integrating the notion into educational programs and systems. Building academic alliances for promoting the sustainability paradigm in postgraduate education and research will certainly enhance the regional and Global Disaster Risk Reduction and Sustainable Development efforts. A number of literatures demonstrate the need for national

policy and development of local and regional initiatives along with external collaborators, which can influence profound changes in higher education curricula.

It is very much imperative to understand the responsibility of HEIs to assess the current dynamics of the labor market and continued effort to upgrade their educational curriculum to reduce the mismatch between what they deliver and the technical and intellectual ability required in the market. Adapting Lifelong Student (Thayaparan et al, 2014) approach can be very helpful for the HEIs to set a continuum momentum for providing well-informed disaster-related education to achieving resilience as well as a response to the labor market. However, the complex nature of the environment and uncertainties provides a unique challenge and required a multidisciplinary approach to integrate formal education in disaster with other branches of Natural and fundamental science as well as vocational training. Science and Technology interaction with DRR education and some extent science policy implementation. Integration of technology such as early warning system or various construction techniques that improve resilience have been greatly beneficial in terms or reducing disaster risk.

The charter developed by CRE (1995) first pointed out the need of including sustainable development in university education to foster environmentally aware attitudes, skills, and behaviour in decisionmaker and teachers as well as it urges appropriate action and commitment to upholding the principal and practice of environment protection and promotion environmental ethics among all level of university students and employees. It also urges to promote interdisciplinary knowledge dissemination, communication and technology transfer for a successful reformation of education that upholds sustainability principals. Brunton (2006) points out the need for reorientation of education to promote sustainable principal at the same time McKewowen (2002) argues about the reorientation process should not increase the amount of curriculum (Alabaster & Blair, 1996).

One of the biggest challenges in DRR and Sustainability education is the attitude towards higher education as well as and lack of disaster prevention courses in the formal educational curriculum (Chen CY& Lee WC, 2012). The other challenges are lack of professional training for educators, whereas suitable teachers training in this fast-changing multidisciplinary technical domain is an absolutely critical component for effective DRR & Sustainability education (Rayan et al, 2010). Some other barriers mentioned by many researchers in universities such as insufficient flexibility of classes and courses, language and psychosocial barriers, economic factors, and rigid university regulations (Gilbert, 2005).

DRSD Education Network in Asia

The Asian region is recognized as critically important for global sustainability because of its rapid and uneven growth and high vulnerability resulting from the potentially dramatic environmental degradation, social disparities, human rights violations and most importantly geo-climatic adversity. Hazards and disasters have been increasingly recognized as not only external events interfering with humanity but as outcomes emerging from interactions between people and their environment. The project titled “Disaster Resilience and Sustainable Development Education Network in Asia” with the support of ProSPER.Net, UNU-IAS, Japan established a working group comprising experts from the leading university in the Asia Pacific region. This interesting pioneering project spearheaded by the Asain Institute of Technology, Thailand along with the three partner universities (eg., Keio University, Japan; Miyagi University of Education, Japan; and Universiti Sains Malaysia, Malaysia). The focus of the working group is to establish a nexus to understand the current state of higher education linked to sustainable development and disaster resilience as well as identifying gaps in the current curriculum to build resilience in educational institutions and society. The robust regional network with the collective capacity could be catalytic to lead the

multidisciplinary initiatives on sustainable development for the region will help to address the integration of the Natural and Social Science towards DRR and Sustainable development. Multidisciplinary, cross-cultural and diverse socio-economic background of the members of the Working group on Higher Education Institute on Disaster Resilience and Sustainable Development (HEI-DRSD) under this project brings unique expertise to build capacity among partners and stimulate long-term regional engagement. The unique amalgamation of disaster resilience and sustainable development educators in the Asian region is a vital need to develop cross-cutting education systems, particularly in a vulnerable region. The HEI-DRSD also undertake collaborative curriculum assessment on Disaster Resilience and Sustainable Development particularly beneficial for the Asian region.

Extensive survey at the institution and individual level administered by the AIT team was performed during the month of December 2018- March 2019 reflects the responsibility and commitment of the working group members supporting the initiative to further advancing the role of HEIs in disaster management. Following are the excerpt of the qualitative and quantitative assessment of the institutes and individual linked with the DRR and Sustainability related higher education.

Qualitative Findings

a) HEI needs to strengthen sustainable development education to reduce community risk in a disaster and expedite to achieve SDGs.
b) Working group members recognize the special need and responsibility of the HEIs required in Asia Pacific region to move forward the global sustainability initiatives as well as develop all kinds of community learners, critical thinkers and professional to support local sustainability challenges.
c) The members have recognized the unavailability of short term and professional courses in the HEIs educational framework which limits the opportunity of interdisciplinary research and collaboration with another natural science discipline. Limited chance of informal education and vocational training in local language also hinders the chances of effective community outreach and greater awareness.
d) Supporting the implementation of other SDG goals on HEIs curriculum has been identifying as a key mechanism to accelerate progress.
e) The members also identified the lack of national and International funding support in promoting education related to DDR and SDGs.
f) Supporting higher education initiatives and promoting science learning by scaling up mainstream innovation, fostering industry and stakeholders at all levels of government can ensure steady progress in building regional resilience.
g) Disaster Economics & Risk Insurance & Business Risk Management, Business Continuity/CSR, policy and practices should be the priority action area for bridging the gap in transforming learning experience into creating capacity and a conducive environment, as very few HIEs curriculum support similar courses.
h) Higher education curricula should consider the complex socio-economic diversity along with the sensitivity of the sub-regions in different disaster events and their magnitude.

Discussions and Policy Recommendations

It has been observed that the Asian region made considerable progress incorporating sustainability in higher education (Ryan, Tilbury, Corcoran, Abe, and Nomura, 2010) and offers many creative initiatives to understand the learning dimension of sustainability. Large scale and systemic integration of disaster risk management and sustainable development courses in the curriculum with continuity to promote

environmental education into university teaching and practices is the need of the hour (Brunton, 2006). The complexity of the sustainable development studies and curriculum need cross-cutting skills along with specific domain knowledge, communication, and social skills to tackle the challenges associated with sustainable science (Fortuin and Bush, 2010). The study also suggested the incorporation of curriculum, which promotes critical thinking into students by including problem-based learning, projects, incorporating the trans-disciplinarian module. Interdisciplinary courses in stage-based approach with focused topics and field-based exercise could also help students and professional to develop critical thinking and real-life problem-solving skills.

The robust regional network with the collective capacity is pioneering initiatives that associate the knowledge group from the HEIs to restructure and introduce multidisciplinary and transdisciplinary DRR and sustainability education in the region at all levels. The new dimension of the multidisciplinary course curriculum and risk information communication at various levels will protect society from shocks to physical, socio-cultural, politico-economic and natural systems and hence enhance the potential for sustainable development of the region. The regional educational network in the form of a working group could be able to address the integration of the Natural Science and Social Science approach towards DRR and Sustainable development through its multidisciplinary approach. The project is also an initial step to developing BIG Data on DISASTER Resilience Higher Education within the region.

The study outcome envisaged few critical recommendations at various level of the education system at the national and sub-national level.

a) The HEIs should take part in active advocacy and promote disaster education curriculum at secondary education level (in local language) for a smooth transition into higher education.
b) The HEIs should also participate in community outreach and help to develop appropriate material to promote Risk reduction actions and disaster education.
c) Establishment of an advisory committee to help reform and strengthen disaster specific curriculum of the HEIs and undertaking Periodic monitoring, adding a new course as per the subsequent updating of existing or innovative technology and theories.
d) HEIs should concentrate on developing specialized disaster specific curriculum based on the regional/ national/ local or based on their existing specialties and infrastructure.
e) HEIs should share expertise and enhanced technical capacity to develop/ support operational capacity to collect data (disaster specific) and develop disaster specific regional database.
f) HEIs should engage/ promote in offering a joint Curriculum (degree) to enhance the capability of the student in more than one dimension. The curriculum can be jointly offered by partnering with any two or three institutions within the country or in collaboration with another institute within the region.

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