

## **Teacher Educators' Preparedness for Re-Orienting Teacher Education Programs for Sustainable Development in Pakistan**

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### **ABSTRACT**

All nations of the world have ratified the Post 2015 Agenda, Global Action Program (GAP) on ESD and the Incheon Declaration 2015. The GAP and Incheon have prioritized to build capacities of educators and trainers to enable them to deliver ESD. This study was conducted to explore the teacher educators' (TEs) perceptions about the issues posing threats to sustainable development (SD) at the global and national levels, perceived role of teacher education in SD, the possible SD curricular spaces and the barriers in doing so. A questionnaire was distributed to 108 TEs of nine TEIs. They were found much below the satisfactory level on knowledge and understanding of the concepts and issues hindering sustainable development. They did not perceive much relevance of SD concepts in the courses they were teaching. They expressed that neither they have time and authority to modify the curricula nor do they have administrative and institutional support to do so.

**Key Words:** *Sustainable development, sustainable development goals, education for sustainable development, teacher educators, teacher education programs*

### **Introduction**

The developmental activities of human beings have created multiple issues both for the planet as well as for humanity. These unsustainable practices are reflected in the form of issues such as health issues, pollution, social and economic inequalities, climate change, poverty, resource shortage and terrorism (Hopkins, 2010; Mwaura, 2007). Some of the other issues are declining ecosystems, species' extinction and environmental degradation. In case these issues are not controlled or reversed they may pose severer implications for the coming generations. Therefore, it is must strive for economic, environmental and social development which is sustainable both for the present generation and the generations to come (McKeown, 2002). In this context, the United Nations (UN) adopted the Millennium Development Goals (MDGs) in 2000 with a time target of 2015. With

the end of the MDGs era, the (UN) has launched Sustainable Development Goals (SDGs). The seventeen SDGs aim at improving the quality of life by reducing all kinds of inequalities and by conserving the natural resources for the coming generations as well. Inclusive, equitable quality education and life-long learning opportunities for all, is one of the SDGs. Quality education is not only one of the SDGs, it has been declared as the key to the attainment of all other SDGs. Even earlier, education was considered to be one of the most important transformative tools to resolve all the economic, social and environmental problems (Mughal et al. 2011). For this purpose, education must be reoriented to integrate the concepts of sustainable development (SD) at all the stages. Higher education institutions (HEIs) had started expressing their concern about the environmental issue as

early as the 1990s in the form of Talloires Declaration of University Leaders for a Sustainable Future (1990) followed by the Swansea Declaration (1993), and CRE Copernicus Charter (1993). The period of 2005-2014 was declared as the Decade of Education for Sustainable Development' (DESD) by the United Nations and encouraged member countries to take initiatives to reorient education for sustainability.

With the advent of SDGs, the World Forum on Education adopted the Incheon Declaration committed to the SDG4 aiming at ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all with set targets in alignment with this goal. The World Forum on Education envisions the transformation of lives through education recognizing its important role as a main driver and force of development and achievement of the other SDGs (WEF, 2015). This vision covers many important areas relating to sustainable development which include social justice, human rights and dignity, human protection, preservation and respect for linguistic, cultural and ethnic diversity as well as promoting the culture of shared responsibility and accountability. The Incheon Declaration also recognizes the role of education as one of the essential tools for fostering tolerance, peace, human fulfilment and eradication of poverty. It aims to curb gender discrimination in teaching and learning environments; streamlining gender issues in teacher training and teacher education curricula; and eradication of all kinds of exclusion and violence in schools and educational institutions (WEF, 2015).

UNESCO (2006) recommended that teacher training institutions should

offer sustainable development as one of the areas of study. By the time the UN declared 2005-2014 as the Decade of Education for Sustainable Development, the role of higher education and that of teacher education had been recognized as vital for promoting sustainable development. For example, Mwaura (2007) stated that to achieve sustainability through education, there is a need to develop an ESD conscious teachers' generation for which the teacher education institutions (TEIs) are the vehicles. Hopkins & McKeown (2006) also believe that teachers' preparation for such future-oriented thinking is a critical primary task of teacher educators.

Similarly, the Incheon Declaration commits to ensuring adequate teachers' and educators' recruitment, their empowerment, training, and provision of a support system for their motivation. It strongly supported to implement the Global Action Program (GAP) on ESD launched at the UNESCO World Conference on ESD in Aichi-Nagoya in 2014. One of the two goals of GAP was to strengthen education and learning in all agendas, programs and activities help in promoting sustainability. Both of the priority action areas include building capacities of teacher educators and trainers to deliver ESD more effectively, transform learning environments and to integrate sustainability principles into education and teacher training settings (UNESCO, 2014). Many countries and universities around the world have taken initiatives to move forwards on ESD (Mai, 2007) and have incorporated some level of ESD into their curricula (Frederick, 2012). In Pakistan at least 19 of the goals listed in the National Education Policy (NEP) 2009 of Government of Pakistan related to ESD.

One of these is to include emerging issues and concepts i.e., school health, prevention education against HIV/AIDS and environmental education. The goals of NEP also include education on infectious diseases, population and development, human rights, school safety, interfaith harmony, peace, disaster and risk management, and prevention of child abuse. In despite clear policy statements and directions, ESD activities are not much visible in the educational institutions in Pakistan. However, the National Accreditation Council for Teacher Education (NACTE) has included standards relating to ESD in its accreditation standards meant for teacher education programs (Mirza, 2015).

### **Concepts of Education for Sustainable Development**

According to Nevin (2008), ESD is developing knowledge, skills, values and dispositions required to create a sustainable world and to ensure environmental protection and conservation, social equity and to encourage economic sustainability. According to UNESCO (2010) sustainable development addresses economic, social and environmental issues that badly affect our present and future. ESD model of education embraces learning about sustainable development through the adoption of and thinking about daily and professional life practices leading to sustainable development. With the progression of the concept over years, the UNESCO (2014) came up with a broader concept of ESD as an educational approach for empowering learners to make informed decisions and responsible actions for achieving environmental integrity, economic viability and just society, for both the present and future generations

with respect for cultural diversity. Moreover, it is an approach to lifelong learning and is an integral part of quality education. ESD model of education is holistic and transformational which addresses content, pedagogy, learning outcomes, and the learning environment.

ESD calls for readdressing the traditional models of education. According to UNESCO (2005), educational contents and teaching methods need to be oriented clearly towards the goals of sustainable development. Tilbury and Mulà (2009) identified some key principles and elements of education for sustainable development that include futuristic thinking, critical and creative thinking, participatory pedagogy and learning, intercultural competence through cross-cultural and intercultural partnerships and systemic thinking.

### **Teacher Education and Sustainable Development**

Even though ESD is one of the urgent and emerging concepts in the domain of teacher education, studies reveal that many of the teacher educators (TEs) do not have a basic understanding of these concepts. Mwaura (2007) found some educators admitting that ESD was a new concept to them and they had not heard about it before but most of the educators had some of its basic knowledge. In Australia, about 80% of teachers were either unaware of ESD or lack understanding what it is, and that only 2% teachers use teaching practices for promoting sustainable development in their classrooms (AESA, 2014). Similarly, in Malaysia where environmental education is part of the curricula of teacher education programs, teachers are least aware of the term sustainability, sustainable development and the relevant role of education

(Adawiah & Esa, 2012). But, the teacher educators in the UK had awareness and commitment to ESD and Global Citizenship (Hunt et al., 2010). The TEs who are familiar with the concept of ESD come up with its varied conceptualizations. Hunt et al. (2010) found TEs describing ESD differently such as education for values, rights and citizenship etc. Other TEs conceptualized ESD through subject-specific focus and yet others viewed it through a policy or research lens while very few conceptualized it at the practical teaching-learning level. Thus, some educators limit ESD with certain topics/themes, others relate it with some subjects and yet others make sense of ESD as a participatory pedagogical approach to prepare action-oriented global citizens.

#### **Teacher Educators' Perceptions of Sustainability Issues and Problems**

Teacher educators referred to various social problems facing their countries such as the spread of common diseases, the culture of tribalism and cultural conflicts. They also identified issues confronted in their countries such as racism, political problems, security issues, corruption, drought, famine and hunger, illiteracy, religious conflicts and hostility, transport problems and housing problems. The other issues include the inability to fight disasters, poverty, inequitable distribution of resources, overpopulation, unemployment, gender issues, drug abuse, abuse of women /children, bad governance, unemployment, corruption and inflation. They also referred to pressing environmental problems such as desertification and environmental degradation as serious issues (Mwaura, 2007).

#### **Educators' Perceptions of SD Themes in Teacher Education Programs.**

Educators identified various topical issues as foci of ESD. For example, Mwaura (2007) found educators identifying different areas of concerns which include issues of gender equality, rural development, environmental protection, health, human rights, wasteful consumption patterns, poverty and urban decay. He also found educators highlighting population growth, conflicts, violation of human rights and HIV/AIDS as topical issues. The academicians suggested that governments should focus on sustainable development policies. They also identified ICT, peace and reconciliation, sustainable production and consumption, eco-efficiency, biodiversity and environmental management as ESD themes for inclusion in the curriculum of teacher education programs ((Dawe, Jucker and Martin, 2005; Mwaura,2007).

#### **Teacher Educators' Perception of Effectiveness of ESD Courses**

Academics consider ESD approaches helpful in developing skills such as interdisciplinary thinking, problem-solving, team working and conflict resolution while exposing students with real-life like experiences. (Dawe, Jucker & Martin, 2005). Such courses were also termed to help develop critical thinking and systems thinking skills among students. Majority of the respondents considered ESD helpful in changing the outlook of participants throughout their lives. Mwaura (2007) found educators terming SD courses helpful for prospective teachers to learn about current issues i.e., environmental conservation, economic development, conflict and resolution, issues of political democratization, gender issues and children issues like child labor and child abuse, youth empowerment to

manage businesses sustainably, promoting community service activities and developing projects in sustainable farming. He also found educators terming ESD useful to equip the learners with knowledge and skills in sustainable development as well as to inculcate among them the relevant dispositions.

### **Challenges in Integrating ESD into Teacher Education**

Several declarations and forums have been created for SD but there is a lack of relevant initiatives in higher education. Some efforts in the form of the greening of campuses are there but long-lasting changes through reframing the curricula are quite limited and symbolic. Similarly, ESD has either remained somewhat neglected in teacher education programs or some random efforts have been undertaken (Davis & Ferreira, 2017). The report of UNESCO (2005) lists many challenges while integrating concepts and contents of ESD in the curricula of TEPs which include the development of courses ensuring contextualized quality education.

Hopkins (n.d) cited in McKeown (2002) identified twelve major issues hindering the inclusion of ESD such as lack of awareness of ESD, re-structuring and placing it in the curriculum, linking educational reforms with the existing issues, understanding complexity of sustainable development concept, challenges of community participation, engaging traditional disciplines in a trans-disciplinary framework, sharing responsibility and building human capacity. To him, the development of financial and material resources, policies regarding creative, innovative, and risk-taking climate for learning and promoting sustainability in popular culture were also hindering the inclusion of ESD into

curricula. According to Liu (2009), lack of resources is the major challenge to introduce ESD in higher education. Dawe, Jucker and Martin (2005) identified four major barriers to the successful integration of ESD into higher education which includes overcrowded curriculum, perceived irrelevance of ESD for curriculum by academic staff, limited staff awareness and expertise of ESD and limited institutional commitment for integrating ESD into curricula. Hunt et al. (2010) found similar barriers with the addition of limited staff involvement in the integration of ESD into curricula. Challenges identified by UNESCO (2005) in reorienting teacher education to address sustainability issue include the level of institutional awareness of the importance of ESD; availability of support and resources; prioritization of sustainability concept in the educational community; and reforming education systems and structures concerning the integration of ESD into curricula.

Like other countries of the world, some efforts have been made in Pakistan as well to integrate ESD concepts into teacher education. The infusion and inclusion of some of the topical issues and themes of sustainable development are one of such efforts. Despite these efforts, there are multiple challenges in the integration of ESD into teacher education curricula (Mirza, 2015). Some of the major challenges include the absence of objectives concerning ESD in the curriculum, time constraints, marginalization of education for sustainability, conceptual misunderstandings of ESD on the part of teacher educators, and absence of strategies to achieve the goals (Jumani & Abbasi, 2015).

### **Rationale and Focus of the Study**

Many ESD related concepts have been integrated into global frameworks and conventions such as climate change, biodiversity, disaster risk reduction and sustainable consumption and production. The Education Policy, 2009 of Pakistan also addresses several SD issues. The NACTE has included standards relating to ESD in its accreditation standards to evaluate the quality of TEPs concerning the infusion of ESD themes (Mirza, 2015). But there is a lack of evidence on all aspects related to ESD in Pakistan. One of the important aspects of the integration of ESD into TEs Curricula is developing the capacity of teachers/teacher educators for teaching ESD. Therefore, this study aims at exploring the awareness and practices of TEs on ESD.

### **Objectives of the Study**

The study intended to explore teacher educators’:

1. understanding of the concept of SD,
2. perceptions of issues that adversely affect sustainable development,
3. knowledge about international declarations and conventions on SD,
4. opinion about the topics in the courses of studies relevant to sustainable development and their perception about the contribution of such courses in developing prospective teachers’ understanding of sustainable development, and
5. perceived possibilities and challenges in the inclusion of ESD topics and activities in the courses of studies of the TEPs.

### **Significance of the Study**

The findings of the study may contribute to the literature on ESD in TEPs by providing insight into teacher educators’ perceptions of ESD concepts in Pakistan.

The findings of the study may also help initiate a discussion on ESD in teacher education institutions in Pakistan. The study has professional and empirical significance because the findings also may serve as the basis for recommendations for future scholarly research and professional development for teacher educators and prospective teachers. The findings also unpack barriers and challenges in integrating ESD into TEIs curricula in Pakistan for preparing prospective teachers as ESD conscious teachers. The study was of high significance even for the participants of the study. By participating in this study, teacher educators felt challenged about their awareness and practices of ESD which in turn may have an impact on their willingness to practice ESD in their respective classrooms.

### **Methodology**

The study was a descriptive survey using a mixed-method approach, particularly for data analysis.

### **Instrument**

After a detailed review of the related literature, a questionnaire was developed for the TEs to grasp their understanding and knowledge of SD, the issues adversely affecting sustainable development and ESD related content included in the curriculum. Most of the questions were open-ended so that the respondents may express their concepts and understandings without any feeding by the researchers. Open-ended questions were about the definition and concept of sustainable development, MDGs, and the issues affecting SD. Questions for seeking the TEs’ opinions about the role of education in promoting sustainable development and problems faced in the implementation of ESD in the curricula of teacher education programs were structured on a five-point

Likert type scale ranging from not at all=zero to great extent=4. The questionnaire was validated by two TEs having a sound understanding of ESD with some understanding about the inclusion and implementation of related topics in the curricula of TEPs.

**Sample and Data Collection**

Multistage purposive sampling technique was used for its appropriateness for this study. In the first stage three universities, one from the private sector and two from the public sector with their six affiliated colleges- three with each public university were selected. In the second stage, two TEs teaching undergraduate (one-year B.Ed.; 4years B.Ed., M.Ed.) and graduate (MPhil/ MS) degree programs were selected from each institution. The affiliated colleges were generally offering only one program while the universities were offering multiple programs including MPhil/ MS. The total number of TEs so selected was 108. The TEs were contacted by one of the researchers through the relevant head of the institution and/or the head of the program following all the ethical considerations. TEs were then personally contacted and requested to spare some time for the purpose and questioners were distributed to them. However, only 53 (49%) TEs returned the questionnaire and that too after a lot of persuasions. It is speculated that many of the teacher educators were not well versed with the concepts of ESD included in the questionnaire and perhaps they were taking time to orient themselves. The

distribution of respondents is given in table 1.

**Table1:**  
*Number of respondent teacher educators- distribution by type of institution and gender*

Type of Institution	Men	Women	Total
University	19	10	29
Affiliated College	09	15	24
Total	28	25	53

**Data Analysis**

The data obtained through open-ended questions were categorized by generally accepted concepts and themes about sustainable development. The knowledge about MDGs was classified according to the concepts stated under the eight MDGs. Similarly, the issues affecting sustainable development were categorized by the underlying themes. Frequencies and percentage under the so developed themes or categories have been presented. The data obtained on Likert type scale was analyzed using Mean.

**Results and Discussions**

Analysis of data reveals that majority of the respondents were teaching undergraduate courses whereas only eight of them were teaching MPhil/ MS courses as well. Only five of all the teachers were teaching a course relevant to SD- three of them taught environmental education course and two teachers taught sustainable development. The review of the syllabi of teacher education programs revealed that only one university has listed both of these courses while another one university has listed one course under elective subjects in their curricula.

**Awareness of Teacher Educators about Millennium Development Goals**

Since data were collected in 2016, teachers' awareness about the global and national efforts for sustainable development were explored by referring to the MDGs and not the SDGs because the later was very recent. It was assumed that the TEs might not know those. The data shows that majority of the TEs did not respond to this question. Perhaps, they were not familiar even with the MDGs. Only two of the MDGs, literacy and

gender equality, were mentioned by about one-fifth of the TEs. Those two MDGs were mentioned in general terms, not the specific targets laid down by the MDGs. Poverty alleviation was mentioned by 13.7% of the respondents. It can be inferred that TEs had no or very superficial knowledge of MDGs which is reflective of the fact that ESD is in its infancy in teacher education institutions.

**Table 1:**

*Teacher Educators' knowledge of MDGs*

MDGs	F	% of Cases
Increasing Literacy, EFA, UPE	18	35.3
Improving Living Standards of People/ Poverty alleviation	7	13.7
Gender Equality	11	21.6
Women Empowerment	1	2.0
Increase in Employment Opportunities	2	3.9
Social Justice	4	7.8
Early Childhood Care	3	5.9
Addressing Environmental Issues	3	5.9
No Response	29	56.9

*As the TEs lacked information about MDGs, they also did not know the relevant time period.*

**Respondents' Concept of Sustainable Development**

The TEs were asked to define SD. Nearly half of the respondents did not write any of its definition. It implies that they had either not heard this term earlier nor did they have a proper conceptualization of the concept. The other half of the TEs had

some conceptualization that development should be long-lasting and the rights of future generations should be protected. It means that half of the TEs had a good understanding of SD which is reflected from their reference to inter-generational equity.

**Table 3:**

*Teacher Educators' concepts of sustainable development*

Concept	F	%
1. Everlasting, Purposeful, Comprehensive & Enduring Development	11	22.0
2. Avoid activities which lead to environmental issues	2	4.0
3. Fulfill present needs without compromising future generations' needs	4	8.0
4. Addressing education, poverty & Gender equality	4	8.0
5. Other	5	10.0
6. No Response	24	48.0

**Issues Perceived as Adversely Affecting Sustainable Development**

The TEs were requested to list five issues that threaten SD. Nearly one-fourth of



them did not respond to this question. The other three-fourths considered environmental issues, as the topmost threatening issue to SD followed by economic, terrorism and wars. Collapsing around the categories, the environmental issues like pollution and deforestation were listed at the top followed by overpopulation. Terrorism emerged as the third most important issue with the shortage of water and energy as 4<sup>th</sup> in the

list that adversely affect SD. Literacy and education ranked 5<sup>th</sup> on this list. It is a matter of concern to know that TEs considered health and lack of awareness about sustainable development as the least threatening issues. It implies that teacher educators are unaware of the complex interconnection of the issues and how these issues are interdependent and interconnected.

**Table 4:**

*Issues perceived by teacher educators affecting sustainable development of the world*

Issues affecting SD	F	% Cases	overall Rank Order
<b>Economic</b>		<b>15.1</b>	
Unemployment	4	8.0	9
Uneven Distribution of Wealth/ Injustice/ poverty	5	10.0	8
Over Population	15	30.0	2
<b>Equity</b>		<b>11.3</b>	
Illiteracy/ Lack of Education	10	20.0	5
Health Related Issues	1	2.0	12.3
Corruption	3	6.0	10
Resources Shortage; Energy Crises, Water Shortage	12	24.0	4
<b>Environmental Issues</b>		<b>17.34</b>	
Lack of Awareness about Sustainable Development	1	2.0	12.3
Environmental Issues Like pollution, deforestation	30	60.0	1
Wastage of Resources Like Water, Oil, and Gas	6	12.0	7
Natural Disasters	7	14.0	6
Waste Management	2	4.0	11
<b>Other Issues</b>		<b>14.15</b>	
Terrorism, Extremism, War/Conflicts	14	28.0	3
Global Politics	1	2.0	12.3
No Response	12	24.0	

**Educators’ Perceived Role of Education in Sustainable Development**

TEs were not clear about the possible role of education to address the SD issues. However, they perceived a possible positive role of education in three areas i.e.

issues relating to the environment, social justice and economic wellbeing of people. The mean values against various sustainable development roles of education indicate that the teacher educators perceive education only as a moderate factor that may influence sustainable development.

**Table 5:**

*Perception of TEs about the role of education in the promotion of SD*

Perceived Role	Area	Mean weight/4.00
Fostering resource-friendly values and behaviors	Environment	2.08
Addressing the shortage of resources	Environment	2.0
Transforming culture to younger generation	Social	1.92
Addressing economic well-being of the people	Economic	1.87
Promoting social justice	Equity	1.87
Addressing environmental protection	Environment	1.85

**Educators’ Perceptions about SD in TE Courses**

Teacher educators had an understanding that TEPs do not include the required courses related to SD as the mean rating score was 1.58/4.00 and for that reason, the programs were not effectively preparing prospective teachers who could promote the adoption of sustainable lifestyles and practices among the youngsters of the country. They suggested four broad areas for inclusion in TEPs with the highest weightage for topics on culture,

peace and security. TEs attached less importance to ecological and environmental issues, social justice and poverty, and water and energy. It is relevant to mention that six (11.3%) of the TEs considered that SD topics are not relevant to the subjects being taught by them. This finding is also discouraging in terms of TEs understanding of interdisciplinary approaches as SD is not limited to any specific subject rather it can be incorporated into all subjects with relevant themes.

**Table 6:**

*SD concepts suggested by TEs for inclusion in the TE courses*

Broad Area of SD	Concept/topic	Mean rating/4.0	Rank order
Ecological & Environmental Issues	Waste reduction and management	2.19	5
	Climate change and all forms of pollution	1.92	9
	Deforestation, desertification	1.89	10.5
	Land, water, oil, gas and other energy shortage	1.89	10.5
	Disaster risk reduction, meeting emergency situations	1.85	13
Social Justice & Poverty Reduction	Poverty and poverty reduction	1.96	7
	Elimination of gender-based discrimination	1.94	8
	Violence in schools	1.88	12
Resource depletion: water and energy	Human rights	1.60	19
	Resource shortage	2.27	3
	Energy conservation practices	1.85	14
	Water conservation Practices	1.76	17
Culture, Peace and Security	Respect for resources	1.74	18
	Local, regional and global conflicts	2.34	1
	War, nuclear expansion	2.28	2
	Terrorism	2.25	4
	Developing tolerance for other cultures/faith	2.10	6
	Respect for cultural, ethnic and	1.83	15

ideological diversity	
Local cultural conservation	1.79
	16

**Problems Perceived by TEs in Reorienting Teacher Education for SD**

In spite of some realization to add sustainability relevant topics in the curricula of TEPs the TEs were reluctant

to work for the purpose stating that they do not have time and freedom to incorporate such topics and that they have no support from the relevant administration.

**Table 7:**

*Barriers perceived by TEs in incorporating SD relevant topics in curricula*

Problems	Mean weight/ 4.0
No time to change the course	2.53
No support from management	2.37
No freedom to incorporate SD in the course	2.19
Lack of knowledge about subject related concept about SD	2.04

The critical analysis of the data reveals contradictions and denial stage of the minds of teacher educators as the TEs refer to time constraints, lack of support from management and lack of freedom to incorporate contents of SD in the course which is not fully justifiable. The fact is that the universities in Pakistan follow semester system where academicians including TEs have some degree of professional freedom to infuse topics of contextual urgency and importance in their courses. The findings show that many of the TEs do not accept the lack of knowledge about course related sustainable development concepts as an issue that may hinder the incorporation of these concepts in the curricula of teacher education programs.

**Conclusions**

The overall situation of TEs' knowledge of the issues relevant to the sustainable development of their own country and the planet was below satisfactory. Nearly half of the teacher educators did not give any definition of sustainable development and they did not respond to the questions about MDGs. About one fourth of them mentioned literacy and gender equality as MDGs in general terms without referring to the specific targets. Comparison of responses on various issues threatening sustainable development shows that TEs considered environmental issues and overpopulation as threats to sustainable development. But their perceptions about

low-quality health, literacy and awareness about SD remained very low on the scale. This finding aligns with the policies and practices of the government of Pakistan which are not prioritizing on these two most important areas. Similarly, least realization was exhibited about the core players of SD i.e. changing attitudes and dispositions about resources, humanity, rights of the future generations, cultures and gender equality. TEs gave comparatively more importance, though on the lower side of the scale, to the need of including topics relating to peace and security in the curriculum of TEPs as they had identified terrorism and wars as the 3<sup>rd</sup> most important issue.

The findings regarding the low level of TEs' awareness about SD and related issues were similar to those identified by Mwaura (2007) in Africa. Eighty percent of the teacher educators in Australia, a developed country, were also not aware of the concepts of SD (Adawia and Esa, 2012). And those who knew the term had limited concepts. Thus, the findings of this study are consistent with other studies. However, the teacher educators of Pakistan are unlike their counterparts in the UK who were found as the most aware and committed to the concepts related to sustainable development (Hunt et al., 2010).

Teacher Educators suggested about 19 topics for inclusion in the curricula of teacher education. The top-ranking were

related to security and peace followed by shortage of natural resources and ecological issues. But they stated that cannot include those concepts in the courses being taught by them. They were teaching the traditional pedagogical courses such as classroom management, educational philosophy, educational psychology, research methods, educational administration etc. where they do not feel a room for SD concepts. Whilst many of the such courses are highly relevant and can accommodate infusion of SD concepts. TEs with their limited awareness of the issues of sustainable development and the possible role of education in its promotion feel that they have neither time and freedom nor administrative support to modify the curriculum of the TEPs. Lack of knowledge was also identified as a barrier to introducing new SD topics in the curricula though this item was rated low as compared with other items in the list. The findings are similar to those identified by Hunt et al. (2010) and Jumani and Abbasi (2015). The finding is also consistent with other studies such as Dawe, Jucker and Martin (2005), UNESCO (2005). Hopkins cited in McKeown (2002) has mentioned similar kinds of barriers in reorienting teacher education programs for sustainable development.

### **Discussion and Recommendations**

An analysis of the curricula of consecutive teacher education programs such as that of one-year BEd. and M.Ed, two years M.A. Education and MPhil show that those programs are overcrowded with the traditional pedagogical courses. In rare cases, one or two courses relevant to environment or sustainable development have been listed under electives which are offered only on the choice of students and availability of teachers. Moreover, such courses are offered only at university campuses and not at the affiliated colleges where a reasonable number of prospective teachers are enrolled to earn their professional degrees. Even the recently

introduced concurrent four years B.Ed program lacks emphasis on SD related topics. Because of this context the TEs in Pakistan neither feel a need nor do they have any orientation about the concepts of sustainable development. Hence, they are not in a position to suggest what SD topics should be included in TEPs and how should those be incorporated in the curricula. TEs generally do not know much about MDGs and the status of Pakistan and they are least familiar with SDGs. The fact of the matter is that Pakistan, a highly populous country of the world, has missed almost all the MDGs. Now for its survival, it needs to work seriously for sustainable development. Being a signatory to the SDGs, 2015 and the Incheon Declaration, 2015 it has the requisite springboard to jump and take up the ESD Agenda 2030. Within country law and support is also available. For example, the Supreme Court of Pakistan has directed to develop appropriate curricula both at school and college levels to promote a culture of religious harmony and social tolerance. The apex court also directed to take initiatives to promote inter-faith harmony. It also directed the Federal Government to constitute a task force for developing a strategy for religious tolerance (Supreme Court of Pakistan, 2014). The National Accreditation Council for Teacher Education (NECTA) has included some standards on ESD for accreditation of TE Programs (Mirza, 2015) to ensure their reorientation in the context of SD and prepare prospective teachers to address SD in their classrooms. Based on the above contextual facts it is recommended that SDGs along with its action plan should be disseminated and promoted earnestly with a focus on TEPs and TEs. The Higher Education Commission (HEC) of Pakistan should delineate the necessary strategy to analyze the curricula of TEPs. The curricula of four years of concurrent TEPs have more space to include topics on SD. At least one course on ESD must be added

in all consecutive TEPs such as 2.5 years and 1.5 years B.Ed. Moreover, the traditional pedagogical subjects should be taught using teaching-learning strategies that may ensure contextualizing learning with promoting critical and reflective thinking, empathy, collaborative and participatory teamwork. There is also a need to infuse contents related to ESD in all courses being taught in TEPs. Student activities may be designed enabling prospective teachers to actively participate in SD activities in the institutions and the

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