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Awareness Regarding Environmental Education: A Qualitative Study Suggesting Practical Steps in Education Leading to a Green Pakistan

Abstract *Green Pakistan is a very famous slogan nowadays and one of the core objectives of the present government. This research focuses on the qualitative perspective on the need and significance of Environmental Education in Teachers Training programs to provide awareness to forthcoming teachers. Environmental Education is included in Millennium Development Goals by the United Nations. Recently the Sustainable Development Goals (SDGs) have been launched by the United Nations and subsequently, Pakistan has signed a treaty to fight against Climate Change and Global Warming. The researcher examined the modules which are to be incorporated in the syllabus of teacher education. The inclusion of modules apropos of Environmental Awareness in Teachers' Training programs was recorded highly beneficial in numerous experimental studies all over the world and particularly in Pakistan in one of the doctoral-level research. The correlation among Millennium Development Goals, Sustainable Development Goals, and due to continuous learning process improvement in the Environment at local settings was established based on a qualitative study.*

Key Words: Environmental Education, Sustainable Development Goals, Teachers' Training

Introduction

Environmental Education is a vast subject and getting attractiveness vigorously globally. Environmental Education consists of major science subjects so its agenda is broad. Scientists have been contributing to the progress of Environmental Science since 1960. Some international nongovernmental organizations have been working towards the sustainability of the environment from the last five decades. The United Nations Environmental Education Program (UNEEP) is a widespread charter to publicize the concepts of preservation and conservation all over the world.

Globally the concept of Environmental Science is deliberated under two major areas which are Climate Change and Global Warming. The change in weather all over the world has been observing a dangerous fact for the survival of thousands of creatures. The main factor of damaging climate across the world is global warming which is growing day to day due to human activities. The ecologists have been studying from the last six decades that activities individually or collectively by humans are the major cause of environmental degradation.

The demarcation as developed and developing countries has been delineating under the charter of the United Nations. It is proved that both types of countries have been putting their share equally in damaging the climate in various manners. In developing countries the major issue is the rise in population and due to which human development index is found very low in such regions. Poverty is measured as the leading cause of environmental degradation because most human actions are destroying the natural atmosphere. But on the other hand, the developed countries are also contributing to a fast rate towards ecological destruction. The ecological demolition is being continued equally by developed and developing countries without any discrimination.

Climate Change is at a dangerous level nowadays in Pakistan. Water scarcity is one of the leading issues in environmental hazardous and it is being observed in most parts of the country. During the

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current summer season, the Khanpur lake and Rawal lake both are observed at the lowest water level. The process of deforestation is very high which is alarming for the survival of wildlife. Water pollution is causing severe diseases in the public particularly in towns and villages. Air pollution is reaching dangerous levels according to international scales which are due to massive usage of auto vehicles and electrical appliances. The agriculture lands are reported to be reduced due to the extreme use of synthetic fertilizers and pesticides. The idea of waste management is under miserable conditions in megacities of Pakistan just like in third world countries in South Asia and Africa. The civic sense is very low almost all over the country including cities towns and villages. Overall the population growth is high which a leading reason for creating maximum environmental issues in the country.

Statement of Problem

The Environmental issues are austere in Pakistan but the level of awareness to handle such issues publicly is at the lowest level in all strata of society. A strong mechanism is required to sensitize the public at large apropos of handling Environmental hazardous. For achieving this purpose there is an urgent need to generate awareness in the coming generation and it is possible by sensitizing future teachers in training programs train regarding environmental preservation and conservation.

Objectives of the Study

1. To highlight the need to step in after committing the United Nations to adopt international standards for a neat and clean environment in Pakistan.
2. To incorporate modules strengthening concepts of environmental awareness of future teachers in teachers' training education in Pakistan.

Review of Literature

The environmentalists stated clearly that behaviors are the most important among individuals to preserve climate nationally and internationally. Furthermore, such actions are required through which individuals have the sense to care environment domestically. It is obvious that environment-friendly changes in actions and behaviors are only possible through a continuous formal learning process which is still not operative in its true spirit in Pakistan as "Environmental education has traditionally focused on how to foster changes in individuals that are associated with pro-environmental actions and behaviors (Chawla & Cushing 2007; [Hungerford & Volk 1990](#))".

The environmentalists indicated that the behavior of individuals or groups is the key to improve the ecological conditions in a particular setting. Furthermore, it is elucidated that the protection of the local environment is possible when people in the respective setting become knowledgeable up to a certain extent to care about ecological concerns. It is apparent that environmental changes in behaviors are only probable through a continuous formal education process which is still not effective in its true spirit in Pakistan as "It was generally thought environmental behavior would change and improve as people became more knowledgeable and aware ([Bruvold, 1973](#); [Riordan, 1976](#))".

The Islamic point of view should be highlighted to bring into light the importance of preservation and conservation. Cleanliness is one of the leading lessons of Islam and not only individual but collective cleanliness is emphasized. It is evident that environmental awareness is very important from a religious point of view but practically the level of awareness is found very low in our society. Environmental hazardous is being continued without any hesitation due to which Pakistan is facing huge challenges apropos of climate protection as "Human should realize that they are appointed by Allah to become a caliph or leader in flourishing this earth, as they are provided with mind and potency to manage this world (Usman, 2000)".

The process of environmental degradation is vigorous and especially in our region, South Asia pace is higher so there is a need to develop a strong mechanism for its smooth handling. For this purpose education and training is an effective platform to motivate individuals at large in society for protecting

and nurturing the environment. Although few topics have been incorporated in the syllabus of the primary and secondary level they are not found influential in shaping the attitude of students towards care of the environment. Training of teachers is very important in this aspect as through proper training of teachers better output may be estimated. A properly trained teacher can deliver effectively to achieve very good results in the society to preserve climate as “It is because, the pious individual would consider regarding the protection and nurturance of the environment ([Shamsuddin & Ujang, 2008](#))”.

The importance of environmental education in formal schooling should be emphasized. The author narrated the stories of school teachers about their efforts to guide their respective students' apropos of environmental preservation. In the article, efforts have been described by many local teachers who have been guiding their students about changes in climate in their respective areas. The melting of glaciers, deforestation, agriculture and farming, water and air pollution, etc. all-important domains of the environment were quoted in local contexts which were found to be valuable in other parts of the world. The important thing in the stories is that teachers have been doing individual efforts at their level to conserve ecology domestically but the need was determined to develop collective efforts. Most teachers pointed out the need for proper syllabus of environmental awareness in the formal education system because without such measures the element of interest in the classroom couldn't expect. Moreover, the need to train teachers formally was highlighted as “Many teachers in schools described efforts to impart the reality of climate change whether or not it was an official part of the curriculum ([Harmon, 2017](#))”.

“Sense of Duty to Teach Climate Change” is a very strong message globally to pay heed towards preservation and conservation. If the phenomenon is being ignored, consequently, the severe effects of poor-quality environments would be faced around the world. It is a sense of duty to include the subject of climate change in formal educational settings and especially in tertiary education programs at earliest. This is a step to develop a sense of ownership among learners to care for climate restoration regionally because it is obvious that without claiming ownership in the system the sense of empowerment is very difficult to achieve.

Research Methodology

The study is qualitative in nature. The qualitative research proved to be an effective tool in developing an insight into environmental issues, and aesthetic and ethical values relating to the cause amongst the learners. This research paper thus studied the modules of environmental education, designed by Sohaib during doctoral thesis in 2013-14, subsequently, the curriculum carrying thirteen modules on the subject of Environmental Education was designed and tested in the classroom to establish its effectiveness in future settings of formal teachers' training programs. By seeking persistent changes in the system of Teachers' Training Education, the element of enrichment of environmental awareness of teachers may be enhanced by improving the chances of longer-lasting impact in the society. The research was undertaken in the perception that awareness of environmental issues in Pakistan is lacking behind the rest of the civilized world. It is considered that the best way to redress the situation and take Pakistan at the level of developed nations in this respect was to first initiate teachers aware of the environmental concerns and further allows that trained teachers to spread knowledge to their students in a formal education system which is one of a better way to achieve long term goals. It is recognized that universities and schools are the potential contributors to the efforts needed to reverse environmental damage in the country and hoping sincerely their contribution will bear fruit and prosperity in the future. Meanwhile, there is a need to establish attention by higher education authorities to allow the greater role to be played by major contributors to this effort through the rapid decision making and may be able to incorporate modules of environmental awareness at earliest in Tertiary Education.

Significance of the Study

The study will be significant in incorporating the curriculum of environmental awareness in teachers' training all over Pakistan. The research would be supportive in developing useful guidelines towards

the teaching of environmental issues in programs of teachers' training education with confidence that the awareness would transfer to a huge number of students at different levels of education.

In the field of pedagogy, environmental awareness had been a topic of research in limited manners in Pakistan that's why only a few pieces of research had been conducted. Research on the topic of environmental awareness in Pakistan in teachers' training programs was limited. The research paper would be productive for the curriculum specialists in Pakistan in demonstrating effective ways to include the syllabus of environmental awareness in formal educational settings.

Discussion

Pakistan, United Nations Sign Sustainable Development Framework

Pakistan has signed the Sustainable Development Framework with the United Nations (UNSD) in 2017. The seventeen goals have been launched by the United Nations for sustainable development (SDGs). Pakistan has promised to utilize its resources to achieve SDGs by the year 2030, subsequently; a mechanism is required to meet this challenge. Out of seventeen many goals are related to Environmental Awareness. It is crystal clear that sustainable development is possible to achieve by setting targets to upkeep the environment overall.

National Statement of Pakistan at the Third Session of the United Nations Environment Assembly

Mr. Raza Bashir Tarar, permanent ambassador of Pakistan to United Nations Environment Program delivered a speech at the third session of UNEP assembly:

"Pakistan is a front-line state which is directly facing adverse effects of climate change since the last 100 years and we have lost precious lives, livelihood, and infrastructure on account of unprecedented devastating floods. In addition to this, Pakistan is experiencing one of the worst impacts of smog which has engulfed South Asia".

The above-quoted statement is starting part of speech in which major environmental challenges have been highlighted in Pakistan. The severe condition of environmental hazardous is very much clear in the statement and it depicts the failure of concentration at the state level from the last five decades.

"Pakistan is fully committed to the implementation of the work program to fight pollution identified in Agenda 21 and reaffirmed by the World Summit on Sustainable Development. The Government's commitment to its implementation is embedded in the Pakistan Vision 2025 which aims at achieving sustainable, socio-economic growth".

In the above-quoted statement, the honorable ambassador of Pakistan to the United Nations has committed to the implementation of agenda 21 to fight against pollution. It is also noticeable that such commitment has already been incorporated in Pakistan Vision 2025 program which is supposed to be a roadmap for achieving sustainability in the country.

"The Ministry of Climate Change is mindful of the adverse effects the country is facing when it comes to pollution. It has taken several steps to overcome the huge challenges confronted by Pakistan. This includes preparation of National Climate Change Policy, National Climate Change Act as well as a National Sustainable Development Strategy, Development of Technology Action Plans for adaptation and mitigation, and a National Action Plan for Sustainable Consumption and Production".

Here the role of the Ministry of Climate Change has been endorsed in a strong international platform afterward it is very much important to establish a clean environment in local settings from the researcher's point of view to show reality. Pakistan has been promising to include Climate Change as a top priority in National Policy and the famous National action Plan. All these commitments lead towards concrete efforts to flourish clean climate in the coming decades in all districts of Pakistan which is an achievable task due to a huge number of availability of laborers locally. On the contrary, there are no such pieces of evidence still existed based on which the right direction apropos of clean climate by local organizations could be proclaimed so a lot of work with sincerity has to be done for face-saving in the global market.

Analysis of the Researches done in the area of Environmental Education

Veronica Gaylie, Pieterlen, Switzerland, Peter Lang in 2009 wrote a book on 'The learning garden: ecology, teaching and transformation' in which the part of teacher education in generating environmental awareness in the public was highlighted. The objective was to involve the community for building gardens at large. Further by caring properly the gardens, environmental awareness could be enhanced ([Gaylie, 2009](#)). To formulate a curriculum of environmental education for teachers' training programs, Daniel Kassahun [Waktola in 2009](#) developed on Challenges and opportunities in mainstreaming environmental education into the curriculums of teachers' training colleges in Ethiopia' in the same year. Over again In May 2009 Mehmet Erdogan, Tom Marcinkowskib, and Ahmet Okc published research work on content analysis of selected features of K-8 environmental education studies conducted between 1997 to 2007 in Turkey. The main target was to investigate the syllabus of environmental awareness of class eight students and then it's upgrading according to modern developments ([Erdogan, Marcinkowski, & Ok, 2009](#)). Nash shared on predicting Participation in Environmental Education by Teachers in seaside Regions of Tanzania. The core aim of the research was to generate awareness among teachers of Tanzania. A teacher training course was planned to implement in domestic settings in Tanzania to give awareness to teachers about local environmental issues. For this goal, an awareness level of trainee teachers was tested initially. A workshop was also arranged to enrich the awareness level of local teachers (Bruyere & Peter, 2007.)The fruitful results were produced at the end of the research. Whereas in 2010 Krasnya and Roth established their research work on Environmental education for social-ecological system resilience: a perspective from activity theory to develop capacity building among participants in Ethiopia about local watersheds. The motive behind it was the speedy falling level of water in Ethiopia. The training program was organized to increase the awareness level of the local population. Subsequently, in the same year two months after the research by Krasnya and Roth, one more research was published by Penny Singh on 'Developing a community of thinking: assessment of environmental education with the objective was to build the thoughts of social constructive charter among participants apropos of environmental education ([Krasny& Roth, 2010](#)).

Pilar Aznar Mingueta, M. Pilar Martinez-Aguta, Belen Palacios, Albert Piñerob, and M. Angeles Ullc researched Introducing sustainability into university curricula: an indicator and baseline survey of the views of university teachers at the University of Valencia to develop environmental sustainability among university teachers. Additionally, the curriculum was developed to develop awareness among university teachers. In the same part of environmental education in 2010 Cecilia Lundholma,c and Ryan Plummerb worked on Resilience and learning: a conspectus for environmental education to construct the adaptive capacity and resilience of social-ecological systems. For attaining this purpose human progress was the core issue. Numerous research works have been done globally on the subject of environmental education but very rare efforts have been carried to include it in tertiary education. Several pieces of research have been planned to analyze environmental changes occurring in poor countries by developed countries. The subject is not being given proper concentration in Pakistan and still few researches have been executed in this field.

Developing a sense of Ownership on Ecological Issues Among Citizens Globally: A Perspective by UNESCO

"It is not sufficient to tell students about ecology, students must experience a curriculum which allows them to discover how they interact with the environment themselves. Only in this way will citizens the world over be able to make sound and responsible decisions concerning environmental issues ([UNESCO, 1989](#))".

The above-mentioned statement is strong evidence to focus on the preservation environment through a platform of UNESCO around three decades before. As a result, the need to develop a formal curriculum of environmental education was established under the umbrella of UNESCO for different tiers of education. Subsequently, the initiatives were taken to formulate the syllabus of environmental

education for the students of the elementary level. At this stage during the implementation of the curriculum, the importance of properly trained teachers apropos of environmental awareness was determined. So in the last decade of the twentieth century, a campaign was originated from the desk of UNESCO to incorporate the curriculum of environmental awareness in the Teachers' Training programs. But still at the end of the second decade of 21st century, specifically in developing and under-developing countries, the due heed is not being paid to equip Teachers' Training programs with the curriculum of environmental awareness to generate a high level of understanding about environmental hazardous at domestic regional and international levels.

Incorporate modules in Teachers' Training Programs to Generate Environmental Awareness

The primary goal is to teach basic concepts and terminologies of environmental awareness along with its relationship with the daily activities of people. The history of environmental preservation and conservation should be taught. The factors of environmental degradation globally should be pointed out. The environmental philosophy, values, and ethics should be highlighted to convey the spirit of the subject. It is also very important to convey the religious and cultural aspects of environmental awareness. The impacts of human actions on natural ecological settings should be explained in a way that a caring attitude towards its preservation should be strengthened.

The learners should be able to understand the need for environmental awareness as a subject in their lives. The crux of teaching this course is to develop insight among students to value the environmental philosophy as a compulsory part of their lives. The learners should be capable of understanding the process of environmental justice in their daily activities. The learners should realize their responsibilities to protect their respective surroundings from the ecological perspective in a broad spectrum.

Availability of Modules apropos of Environmental Awareness to Incorporate in Different Programs of Tertiary Education

The Doctoral study "Developing Teachers' Training Curricula to Promote Ecological Awareness at Tertiary Education" was completed in 2015 by Sohaib Sultan. In an experimental study, the modules were developed and subsequently taught comprehensively in M.Ed. classes in 2013 and 2014. The findings were very appropriate and estimated results were clinched after experimenting. The interest of the learners was observed high in the classroom because a new subject with a modern approach was introduced. It was deduced that awareness regarding preserving the environment could be enhanced if it is to be made a complete course work in teachers' training programs.

The thirteen modules have been formulated and tested in the comprehensive form which is supposed to be a rich source of upgrading Tertiary Education programs. Moreover, these modules can be broken down into logical parts to inculcate at various levels of education. The availability of developed modules is key to step in immediately to sensitize future teachers regarding environmental awareness.

Summary

The aim was to highlight the importance of Environmental Awareness in the present era because warnings are being given by environmentalists all over the world to pay maximum attention to conserving and preserving climate. The scenario apropos of environmental awareness in Pakistan had been highlighted in Review Literature. Pakistan has been facing water scarcity, deforestation, and poor waste management issues at a massive level and still, the concentration is very low among all stakeholders to resolve these issues all over the country. There seem to be no concrete efforts still seeing from governmental or non-governmental sides. Recently, Pakistan has signed the document "Sustainable Development Framework" with the United Nations and for its implementation in the framework of seventeen goals protection of the environment is one of the core goals. Further, the ambassador of Pakistan to the United Nations had delivered a speech at the third session of UNEEP

assembly and committed to giving priority for the restoration of ecology domestically cum regionally. Under such circumstances, it is very important at this stage to step in for the investment in the subject of environmental awareness. The awareness to maintain green climate should be transformed to grass root level in different regions of Pakistan. For showing achievements apropos of clean climate the best way is to create Environmental Awareness as a regular subject informal educational setting. The modules are available in teachers' training education but the actual need is to incorporate modules properly and to teach them regularly. In many research projects in many developed and underdeveloped countries, such practices were fruitful and result oriented. The short term and long term goals are suggested by UNESCO and UNEEP for working at local and national levels. The incorporation of teaching modules in teachers' training programs is the process of achieving long term goals that are supposed to be the milieu for the survival of the planet.

Conclusion

Environmental degradation is one of the main issues to resolve all over the world. The efforts are being carried on in different perspectives to achieve a clean climate globally. The United Nations has initiated a charter for Environmental Protection Programs from the last five decades. Officially Pakistan has signed to follow the "Sustainable Development Framework" which carries seventeen goals and environmental protection is the fourth one. Further Pakistani Ambassador to UNEEP has promised to strive for climate care in the light of the direction of the UN. It has been recommended that formal education is a powerful source to sensitize population at large scale apropos of environmental education. Teachers' training programs are considered as the most relevant platform to upheave environmental awareness in the mob by UNESCO. Many research projects apropos of generating environmental awareness locally have been completed successfully and findings were drawn in favor of climate protection. By assimilating all four aspects in a rectangle (Sustainable Development Framework, United Nations Environment Education Program, Incorporating Modules in Teachers' Training Programs and Productive Research Projects) the desired outcomes can be achieved regionally cum locally. The modules are available to incorporate in Teachers' Training Education urgently for getting maximum benefits apropos of generating environmental awareness at large scale. Research projects can be designed in different parts of the country by trainee teachers to provide awareness publically. The urgent need can be required concerning environmental awareness to step in for fulfilling international commitments.

Recommendation

The modules of Environmental Awareness should be incorporated as a compulsory part of education in Teachers' Training Programs. The experts of environmental education should be given munificent incentives by the government to deliver quality education. The encouragement should be promoted to launch a mechanism of conduction of seminars, conferences, training, etc. in educational institutions all over the country. For a healthy and safe climate, the charter given by the United Nations Environmental Education Program (UNEEP) is the best forum to apply a plan of action at ground level.

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