Environmental Education and Women: Voices From Pakistan

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Abstract
This article aims at investigating the relevance of a gender perspective in societies where women are mainly responsible for the household and childcare. For this purpose, the activities of two environmental and women’s empowerment–related nongovernmental organizations (NGOs) from Pakistan, Leadership for Environment and Development (LEAD) and Aurat (woman) Foundation, have been investigated with the help of a case study methodology. Semi-structured interviews have been conducted with 12 females. Through a feminist approach, this study analyzes the goals, scope, and programs of the selected NGOs in environmental education, ecofeminism, and women’s empowerment. Empirical results suggest that when a woman is environmental-aware, she has the potential to make more sustainable choices, and thus educate other members of the family.

Keywords
environmental education, women empowerment, gender equality, ecofeminism

Introduction
Drastic changes in the environmental patterns delineate a threat to human beings and lives on earth. However, a gender perspective is crucial, due to differences in the social roles and rights between males and females, to comprehend how environmental changes are affecting individuals in their societies. Environmental education and women’s empowerment are the essential and foremost components for sustainable development and its conservation globally (Sengwar, 2015). Therefore, developing countries such as Pakistan need to promote environmental education and women’s participation to ensure that the inhabitants of the country are concerned about not only the awareness of environmental sensitivity but also the role of gender in it. Environmental education does this through motivation, knowledge, skills, cultivating behaviors, and commitment among people to work collectively and individually to sort out the prevailing environmental and gender issues (Sola, 2014; United Nations Educational, Scientific and Cultural Organization [UNESCO], 1978).

Previous researches suggest that sustainable development strategies and environmental education that did not encourage and promote the equal participation of both genders, and particularly the empowerment of females, have usually failed to meet their objectives (United Nations Development Programme [UNDP], 2012). Boserup in Woman’s Role in Economic Development argued that in various socio-economic and patriarchal structures, females are continued to be oppressed and marginalized due to gender inequality behaviors (Boserup, 1970). Therefore, women’s participation in environmental awareness programs was one of the primary objectives of the United Nations Educational, Scientific and Cultural Organization–United Nations Environment Programme (UNESCO-UNEP), 1978, intergovernmental conferences on environmental education. According to the various UN conferences, focusing on the participation of women equally was the central point and promotion for sustainable development education (UNESCO-UNEP, 1978). Moreover, the Millennium Development Goals (MDGs) also gave acknowledgment to the participation of women as key to the sustainable development agenda. Women’s role as supporters of their communities in accomplishing household tasks, achieving food and nutrition security, improving

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family’s livelihood in rural areas, in particular, taking care of children and the aged, and overall well-being of the society show that without their full participation, any initiative is unlikely to succeed (UNESCO, 2005).

In September 2015, after the replacement of MDGs with the Sustainable Development Goals (SDGs), the agenda for equality of education for all genders including environmental education has been reinforced. Particularly, the inclusion of SDG 4 focuses to “ensure inclusive and equitable quality education, and promote lifelong learning opportunities for all” (Food and Agriculture Organization [FAO], 2011, p. 61) along with community environmental education. Despite this, several studies highlight that unlike their male counterparts, females remain unable to fully participate in environmental education programs due to the influential patriarchal systems that prefer males’ voice over those of females’ (Chifamba, 2013; FAO, 2011). Mostly, females continue to be demoted socially and put aside from the community environmental education (Alam, 2017; Chifamba, 2013; Roy, 2014). Furthermore, previous studies suggest that women’s participation in many types of research is measured by the numerical strength in Consortium for Energy Efficiency (CEE) programs, and activities in institutions and organizations where lesser attention is paid to women’s lived experiences (Imran & Hart, 2019; Mai et al., 2011; Sultana, 2014). Therefore, this article is an attempt to analyze the emerging female voices from Pakistan to promote environmental education and women’s empowerment.

Gender differences in many sectors have been explored in previous studies, particularly their behavior, attitude, and participation in environmental affairs (Agarwal, 1992; Alston, 2014; Björnsberg & Hansson, 2013; Momsen, 2000). The level of gender engagement, as researches affirmed, differs from their engagements to participation in public discussions according to the understanding of the issues and education level (Salehi et al., 2015). Therefore, education is an essential tool for women to make their voices listened to in male-dominant societies, and to gain equality and empowerment. General education is playing quite an effective role in developing countries such as Pakistan, India, Afghanistan, and Bangladesh to uplift women’s status, whereas environmental education and awareness have not been deeply employed (Imran et al., 2020). According to Sakellari and Skanavis (2013), “the subject of gender remains marginal to the field of environmental education research” (p. 81); therefore, this article is an effort to spotlight the importance of gender empowerment and the sensitiveness of emancipation in such societies where women are responsible for the private sphere. The term private sphere is taken as the household responsibilities that include domestic chores, bringing up children, and taking care of their education. For this purpose, the role and activities of two environmental nongovernmental organizations (NGOs) from Pakistan have been analyzed from educational and gender perspectives. The basic aim is to understand the significance and results of the environmental education imparted to females and how their knowledge and experience are being applied in the environmental education activities and programs.

A thorough investigation of environmental education and the role of gender in Pakistan is the need of the hour to promote women’s voices. To address the pertinent concern of sustainability in environmental education and the role of gender, the following research questions are set for this study:

**Research Question 1:** How can women raise their voices through environmental education for their empowerment?

**Research Question 2:** What is the role of NGOs in women’s empowerment and environmental education in Pakistan?

**Research Question 3:** What are the consequences of implementing gender-specific environmental education in Pakistan?

To seek answers to these questions, the article is organized into eight sections. The “Introduction” section provides the background of the major research focus on environmental education and its role in sustainable development. “Literature Review” section provides a comprehensive literature review on the need for environmental education in Pakistan, gender attitude, and women’s condition in Pakistan. “Method and Theoretical Framework” section introduces the methodology and methods adopted for this research and theoretical framework. The “Data Collection and Analysis” section contains data collection, whereas the section “Case Studies” presents a detailed case study of the selected NGOs. The “Findings and Discussion” section considers in detail the findings and discussion of the data, whereas the section “Analysis of Findings and Discussion” presents the analysis of the data. Finally, the “Conclusion” section concludes this study in brief.

**Literature Review**

This section provides general information about the situation of environmental education, its need, and the role of gender in Pakistan.

**Need for Environmental Education in Pakistan**

Currently, Pakistan is the fifth most populous country in the world by surpassing Brazil in early 2020 with more than 204 million people (World Population Review, 2020), and land, with a vast range of topography, ecosystems, and socioeconomic conditions and climatic zones, consisting of more than 88,000 km² (World Bank, 2010–2011) in South Asia. Her diverse climate and temperature zones are as different as her topography such as cooler in the northern parts, whereas hot and dry in the plains and coastal areas. According to the
Environmental Protection Authority of Pakistan’s report in 2005, the country has been facing numerous environmental issues including rapid climate change, shortage/lack of availability of safe drinking water, biodiversity loss, overpopulation, deforestation, and pollution in all its possible forms: air, land, water, and noise (Environmental Protection Agency [EPA]–Pakistan, 2005). Recent studies highlight that climate change in Pakistan can harm the population with its terrific economic, social, and environmental impacts (Khan et al., 2016). Therefore, the effects of global warming and climate change have been pronounced in Pakistan due to the overreliance on the environment for basic survival, poverty, high population growth rate, and minimal options to tackle the rapid impact of climate change. During the last century, an average increase of 0.6 °C in annual temperature is recorded (Khan et al., 2016), whereas according to UNDP 2006, an average increase in temperature in Pakistan has been 0.08 °C per decade (UNDP, 2006).

Moreover, in Pakistan, the contribution toward the emission of greenhouse gases is relatively lesser than in other countries; therefore, these gases severely affect the climate conditions. This rapid change in climate conditions in both southern and northern parts of the country with a ratio of 0.6 and 0.8, respectively (UNDP, 2006), is costing the country’s economy approximately 5% of gross domestic product (GDP) that is almost equal to US$5 billion per year. In the last 2 years, more than 10 million of the population have been affected and displaced due to disastrous climate changes (Climate Emergency Institute, 2017). Gender and Environmental Education

Gender and environment have an intimate relationship that is discussed and studied in various researches and is carefully theorized more than any other structural variation in the environmental concern (Dietz et al., 1998). It is believed that women are more apprehensive and careful about environmental aspects than men as Stern et al. (1993) argue that females are more environmentalist than men due to their caring nature. This argument is further supported in the Harris survey conducted in 1991 that highlighted that females are nearer to nature and concerned about environmental quality. It further explored that they have a more critical attitude about the government’s environmental policies and readiness to take lower standards and unhealthy living style (Westin, 1991). Therefore, women and the environment have a very close relationship because females are usually seen as more concerned about the environment than their male counterparts, whereas men are greatly interested in economic stability, growth, and take the environment as a constraint to economic growth (Van Liere & Dunlap, 1980). Generally, it is observed that mothers as compared with fathers are more aware and conscious about local environmental issues (Stem et al., 1993). In so doing, gender plays a significant part in defining reasons behind such differences in society: Male

| Country      | CRI score | Death toll | Deaths per 100,000 inhabitants | Total losses in million US$ PPP | Losses per unit GDP in % | Number of events (total 1998–2017) |
|--------------|-----------|------------|-------------------------------|--------------------------------|--------------------------|----------------------------------|
| Puerto Rico  | 1 (100)   | 7.83       | 150.05                        | 4.061                          | 5,033.16                 | 4.204                            | 25                              |
| Honduras     | 2 (1)     | 13.00      | 302.45                        | 4.215                          | 556.56                   | 1.846                            | 66                              |
| Myanmar      | 3 (3)     | 13.17      | 7,048.85                      | 14.392                         | 1,725.96                 | 0.661                            | 47                              |
| Haiti        | 4 (2)     | 15.17      | 281.30                        | 2.921                          | 418.21                   | 2.642                            | 77                              |
| Philippines  | 5 (5)     | 19.67      | 867.40                        | 0.971                          | 2,932.15                 | 0.576                            | 307                             |
| Nicaragua    | 6 (4)     | 20.33      | 163.60                        | 2.945                          | 223.25                   | 1.009                            | 45                              |
| Bangladesh   | 7 (6)     | 26.67      | 635.50                        | 0.433                          | 2,403.84                 | 0.640                            | 190                             |
| Pakistan     | 8 (7)     | 30.17      | 512.40                        | 0.315                          | 3,826.03                 | 0.567                            | 145                             |
| Vietnam      | 9 (8)     | 31.67      | 296.40                        | 0.350                          | 2,064.74                 | 0.516                            | 220                             |
| Dominica     | 10 (44)   | 33.00      | 3.35                          | 4.718                          | 132.59                   | 21.205                           | 8                               |

Note. CRI = Climate Risk Index; GDP = gross domestic product; PPP = purchasing power parity.

*Germanwatch available online: https://germanwatch.org/sites/germanwatch.org/files/Global%20Climate%20Risk%20Index%202019_2.pdf (Accessed on July 1, 2019).
normally gives priority to material well-being and economic growth of the family, whereas females inclined more toward the importance of health and welfare of the family (Altarf, 2019).

Recently, a study has been done about the environment and gender attitude in Bangladeshi boys and girls across urban and rural contexts. It concluded that girls displayed more positive environmental attitudes than boys, and particularly those who belong to rural areas (Sarkar, 2011). Another study in Turkey also has highlighted Turkish female students’ more positive environmental attitudes than boys (Yilmaz, 2004). In their study, Jenkins and Pell observed English boys’ and girls’ environmental behavior, and without any exception, they also confirmed that gender has a significant effect on the environmental concerns and attitudes (Jenkins & Pell, 2006). Therefore, it is evident from most of the studies that females are more concerned and sensitive to environmental challenges and issues.

Due to their distinctive roles, both men and women acquire their interaction and relationship with the environment differently. In most societies, women’s first and foremost responsibility is to accomplish household chores that keep on shifting from fetching water to managing the kitchen, along with bring up children and teaching them. The UNEP 2015 report “Gender Equality and the Environment—A Guide to UNEP’s Work” elaborates that it is difficult for women to adopt rapid environmental changes. This report also spotlights a series of factors that prevent a woman from adjusting to changing environmental scenarios such as limited environmental education, lesser attraction with technology and innovations, bad economic conditions, the privation of the tenure and land rights, and finally restricted involvement in policy and decision-making processes (United Nations Environment Programme [UNEP], 2015). Environmental education and involvement in decision making and policy designing are the primary focus of this article.

**Environmental Issues and Women in Pakistan**

Environment and women are indissoluble and inseparable from each other. The role of women always remained very crucial in environmental management globally. As the consequences of environmental changes have been lasting their impact on society since industrial revolutions in a disproportional way, each person can contribute significantly to protect the environment and it is a bounden duty too (Lubchenco, 1998; Rahman, 2006). Therefore, considering the environment, from social and cultural perspectives, means to think about the variables that play a significant role in people’s lives. These variables are ecozones, socioeconomic conditions, gender, health, race, ethnicity, religion, and class concerning their place-based contexts (Naturkyddsföreningen—Swedish Society for Nature Conservation, 2015). Unfortunately, women in Pakistan are disenfranchised in manifold communities because of religious, social, and cultural limitations. However, their significant roles among all sectors are very crucial while defining the sustainable development objectives. Recent studies show that environmental issues and climate change in Pakistan have affected women’s employment to a great extent because the agriculture sector offers 74.2% employment to them as compared with men who are only 34.7% (Hamid & Afzal, 2013). With alarming changes in the environment and shifts in weather patterns, the vulnerability of females is likely to boost in Pakistan. Therefore, due to women’s more productive and reproductive engagements in society, climate change is expected to influence them severely. The statistics of previous natural disasters show that women had been the most affected group in Pakistan as Maplecrofts Climate Change Vulnerability Index (CCVI) reported that, in floods of 2010, about 713,000 females between 15 and 49 years of age and 133,000 pregnant women had reportedly suffered (Shirkat Gah, 2011).

**Method and Theoretical Framework**

Through the qualitative method, a feminist approach is applied to gain a better understanding of the women’s voices empowered through environmental education in Pakistan, whereas ecofeminism provided the sound theoretical base for this study. Detailed information on each method, approach, and framework is elaborated in the following sections.

**Feminist Research as an Approach**

The present study is feminist research that aims at generating understanding that can support and empower female voice and encourage gender equality (Tickner, 2014). This approach strives to be transformative, comprehensive, and respectful to all participants. In feminist research, the discussion about the relation of power, submission, marginalization, and domination is a primary theme; therefore, this kind of, “research, which so far has been largely an instrument of dominance and legitimization of power elites, must be brought to serve the interests of dominated, exploited and oppressed groups, particularly women” (Mies & Shiva, 1993, p. 38). This kind of research acknowledges the position of the participants and the researcher as “subject-participants” rather than “objects of research” (Ackerly & Jacqui, 2013).

**Method and Research Design**

The qualitative research methodology is applied to discuss the data collected from both primary and secondary sources and their findings. Primary data are collected from three NGOs taking an active role in environmental education and women’s sustainable development in Pakistan. Whereas secondary data are based on the available previous studies about
environmental education and gender in general and women in particular.

The two NGOs, Leadership for Environment and Development (LEAD) Pakistan: Inspiring Leadership for a Sustainable World and Aurat Foundation, have been purposively chosen based on their pro-active environmental activities in Pakistan, especially in institutions. The primary focus for selecting these NGOs is twofold: first, to understand the relationship between gender roles and environmental situations in Pakistan, and second, to identify how these organizations use gender approaches in their various activities and programs. For primary data collection, fieldwork and semi-structured interviews with 10 females have been conducted from June to August 2019. The case study is selected as an appropriate design to address the problems of this qualitative research. This design of research entails a holistic approach by using a specific kind of evidence, data collection that is retrieved from a real-life scenario. It also links both context and case where triangulation is utilized to force internal validation and focuses to analyze a particular phenomenon (Gerring, 2007). For this article, a case study as a representative or typical “exemplifying case” (Bryman, 2008, p. 56) is considered that justifies the selection of the exemplifying design “because either they epitomize a broader category of cases or they will provide a suitable context for certain research questions to be answered” (Bryman, 2008, p. 56). Therefore, exemplifying a case study better fits this present research as an analytical tool where these selected NGOs establish the place to “examine key social process” (Bryman, 2008, p. 56) concerning gender and environmental education roles in Pakistan.

**Theoretical Framework: Ecofeminism**

Ecofeminism is taken as a potential theoretical framework for this study. The study of the environment and women dates back to the 1970s. Francoise d’Eaubonne’s arguments about environment and women were later introduced by Simone de Beauvoir as “the females have a significant affinity with the ‘natural world’ because of their exploitation by patriarchal structures” (Salehi et al., 2015, p. 32). Three different approaches are associated with ecofeminism (Heather & Lorenten, 2003). First, the empirical approach claims that women are the most affected creature by environmental issues than men. This approach takes women’s role as responsible for fetching water, fuel, food, and bringing up children. It takes women as the most vulnerable group to climate threats (Björnsberg & Hansson, 2013). Although the epistemological approach in ecofeminism implies the scientific revolutions in the 16th and 17th centuries have replaced the natural connection to mechanistic ideology and promoted domination and competition for economic growth (Sakellari & Skanavis, 2013). Therefore, in feminists’ views, the scientific values in the age of enlightenment have promoted unequal structures that imbalanced male’s and female’s status (Godfrey-Smith, 2003). Finally, the conceptual (cultural) approach associated with ecofeminism is that females are closer to nature than their counterparts because they own the traits of caring, community building, nonviolence, and Earth sensitivity. According to Momsen, the traditional role of women that is based on caring and nurturing “process of pregnancy and childbirth” shows that they are comparatively more sensitive and close to nature, earth, and environment (Momsen, 2000).

**Data Collection and Analysis**

Through the qualitative method, the primary data are collected from 12 volunteer women who were interviewed from two provinces of Pakistan: Punjab and Khyber Pakhtunkhwa (KPK) equally. For the case study, the two NGOs, Aurat Foundation and LEAD Pakistan: Inspiring Leadership for a Sustainable World, have been purposively selected based on their proactive women and environmental engagements for sustainable environmental education as well as women’s empowerment.

**Interviews**

For interviews, the face-to-face semi-structured method is adopted. This method is much flexible and provides a natural atmosphere for the respondents to answer and question than the quantitative and fully structured way (Williams, 2003). The semi-structured interview method also provides the researchers an opportunity to make any changes in the formulation, questions’ order, and time limits keeping in view the interviewee’s availability and background (Berg & Lune, 2012). Every interview was equipped with three sections of information: first, respondents’ cover information such as name, qualification, age, religion, profession, and marital status; second, the information about respondents’ interaction and experience with environmental issues was asked; finally, the respondents’ views about environmental education, and the role of women in Pakistan, and how education as a tool can promote gender equality and women’s empowerment. The basic information of the respondents is provided in Table 2.

Table 2 highlights the details of the interviews conducted for this study in the Punjab and KPK provinces of Pakistan. However, the names of the respondents are concealed, and their initials are used in the “Findings and Discussion” section for authenticity.

**Limitations and Validity**

The respondents for the abovementioned interviews are randomly selected from different cities of two provinces of Pakistan due to practical reasons. Practical reasons were financial restrictions, language barrier, and recently the
COVID-19 pandemic. We have tried to include respondents from various backgrounds so that multiple views are collected from the women working in the most interactive departments such as education and health and social welfare. Therefore, the primary aim behind these interviews is to contribute to the debate on the role of gender and environmental education awareness in Pakistan’s various regions where women are the key responsible people for the private sphere.

For case studies, the selection of NGOs from Pakistan is done based on their continuous progressive role in the environmental agenda and empowerment of women through education in lesser developed areas. Due to limited resources, we have restricted this study to only certain cities and their allied areas in only two provinces: Punjab and KPK in Pakistan. Another limitation was the language as most of the interviews are conducted in Urdu, the national language of Pakistan; however, all the relevant information was translated into English for a broader audience by the researchers themselves.2

Case Studies

This section focuses on the comprehensive case studies of the selected two NGOs from their contribution to environmental education, awareness, and women’s empowerment in Pakistan.

LEAD

LEAD is a nonprofit environmental and developmental leadership-building organization established in January 2005 in Islamabad, Pakistan. It is governed by an independent policy think tank that focuses on private and nonprofit sectors, public policy engagement (PPE), research, and leadership development in the people. Besides, LEAD is supervising different independent programs such as the Leadership Development Program, Social Capital Development, Climate Action Program, and Water Program. LEAD has recently launched three special initiatives for environment and development progress in Pakistan: Sustainable Cities Project, Knowledge Hub on SDGs, and Journey of Pakistan toward 2047. LEAD’s basic aim is to build the social capital of the targeted communities. Insurance for vulnerable communities in Pakistan and entrepreneurship education and skills development through education for women in Pakistan are among its primary objectives.3 Recently, through its proposed intervention Environment and Development Leadership Initiatives, LEAD organized a program for building leadership and political capacity of women elected in local body elections in KPK, district Chitral. In this program, 217 elected women through local elections as union council members in 2015 were trained to build their political and legislative skills for enhancing gender-sensitive development agenda at local levels in Pakistan. Following are the major current working areas of LEAD across Pakistan:

1. Leadership development program;
2. Environmental management program;
3. The social capital development program;
4. Climate action program;
5. Water program;
6. Special/need-based initiatives.

The rest of the abovementioned programs; many other activities are currently done by LEAD. Fridays for Future is a campaign part of the global youth climate strike movement initiated to demand action on climate change. In this activity, more than 300 students from 15 various colleges and universities in six cities with 60 protests during 8 weeks participated.4 Another project Entrepreneurship Education and Skills Development for Women through school-based productive enterprises are working under LEAD Pakistan. The objectives of this project are to develop a sound theoretical understanding for women to generate revenue from

| Respondent number | Occupation                          | Place            | Date          | Duration |
|-------------------|------------------------------------|------------------|---------------|----------|
| 1                 | Lecturer in government college     | Peshawar, KPK    | August 10, 2019 | 20 min   |
| 2                 | PhD scholar in a public university | Peshawar, KPK    | August 10, 2019 | 15 min   |
| 3                 | Housewife                          | Bannu, KPK       | August 12, 2019 | 18 min   |
| 4                 | School teacher                     | Peshawar, KPK    | August 13, 2019 | 15 min   |
| 5                 | The principal of a private school  | Peshawar, KPK    | August 13, 2019 | 13 min   |
| 6                 | Social worker                      | Peshawar, KPK    | August 13, 2019 | 15 min   |
| 7                 | Lecturer in girls college          | Mian Channu, Punjab | August 20, 2019 | 20 min   |
| 8                 | Lecturer in college                | Sahiwal, Punjab  | August 20, 2019 | 18 min   |
| 9                 | Lecturer in public university      | Sahiwal, Punjab  | August 20, 2019 | 15 min   |
| 10                | Housewife                          | Pakpattan, Punjab| August 21, 2019 | 20 min   |
| 11                | Head nurse in a government hospital| Lahore, Punjab   | August 22, 2019 | 15 min   |
| 12                | Government school teacher          | Lahore, Punjab   | August 22, 2019 | min      |

Note. KPK = Khyber Pakhtunkhwa.
school-based products through vocational and entrepreneurial skills, in addition to establishing a model training mechanism for women in terms of skills development, livelihood, and employability by providing suitable women’s vocational institutions. In 2015, in a policy briefing about Incorporating a Gender Dimension in Climate Change Adaptation and Disasters Risk Reduction with the collaboration of International Development Research Center (IDRC), LEAD highlighted that women depict very distinct types of vulnerability as opposed to men based on their distinct roles, responsibilities, and socioeconomic profiles. Therefore, this variation in vulnerability based on gender is important to study the differentiated local-level impacts of climate change and disasters on women to improve the people’s understanding of the causal social and economic factors of vulnerability.

Aurat Foundation (Woman Foundation)

Aurat Foundation was established in 1986 as a national, non-profit, NGO in Islamabad, Pakistan, with its one head office in the capital and four provincial offices in Lahore, Karachi, Peshawar, and Quetta, with a motive to working for women’s empowerment and democratic governance. This foundation, since 1986, has been committed to creating widespread awareness where men and women can equally live with self-respect and dignity, recognize their rights, commitment to justice, for a democratic and caring society in Pakistan. Aurat Foundation has been well acknowledged at both national and international forums as one of the leading organizations facilitating, creating, and strengthening civil society networks and groups, for promoting collaboration and trust among people to mobilize public pressure for women’s development and empowerment in Pakistan. The main goals of this NGO are to enable women to acquire greater access to knowledge, resources, and institutions; to influence attitudes and behaviors for a social environment response to women’s concerns and people-centered issues; and to facilitate citizens’ active participation in the process of social change and governance at all levels. The following activities and programs are the main focus of the Aurat Foundation’s agenda:

1. Women’s economic empowerment—Emphasis is on providing strength and facilities to advance women’s economic growth and empowerment. It also incorporates females’ concerns about macro-finance policy framework and social protection programs.
2. Women’s political empowerment—Highlights the performance and role of women leaders, local community representatives, legislators, and the steps taken for empowering women’s role in decision-making and political institutions.
3. Relief, rehabilitation, and disaster management—Provides grassroots-level relief and rehabilitation during natural disasters and take special care of women’s educational, economic, and residential rehabilitation after such disasters. This program helped thousands of women during the 2005 earthquakes and the 2010–2011 massive floods to rehabilitate their normal routine of lives.
4. Social mobilization of communities—Perceives as a strategy as well as an objective to develop, create, and preserve social capital in Pakistan.
5. Compliance with human rights conventions—Ensures Pakistan’s international commitments as an important objective to ratify the majority of International Human Rights Conventions. It is also engaged in providing an equal focus on the resolutions and discussions of the UN Commission on the Status of Women and Beijing’s follow-up process through efforts to incorporate them into Pakistani law.

Findings and Discussions

This section provides detailed information about the selected NGOs working for women’s empowerment and environmental education in attaining SDGs set by the UN.

NGOs: Women’s Voice in Pakistan

NGOs are established with multiple approaches to attain and reach their aims and objectives. These approaches to gain the set goals are further categorized into two top-down and bottom-up concepts. The top-down concept is a hub of discussion with policy-making authorities such as structuring pressures and government institutions, whereas the bottom-up method involves the community, grassroots activities, and local decision-making, also called service delivery organizations. This section highlights only two objectives of the selected NGOs: first environmental education and second empowerment of women through that education, whereas the last part of this section deals with the third research question—What are the consequences of implementing gender-specific environmental education in Pakistan?—based on the field interview results. The following Table 3 reviews the structural work of the selected two NGOs as a case study to show how they are working to educate and empower the women in Pakistan.

LEAD’s Activities as Women’s Voice

Being the first NGO in Pakistan dealing unanimously with LEAD, it does not consider gender differences obviously in the organization’s activities. Therefore, there are no specific clues mentioned about how this organization deals with the question of a gender-specific approach in its activities. From its vision, mission, and values, the following statements define LEAD:
Aurat Foundation is very popular across the country because of its working tirelessly for the betterment of women and girls. It aims to build the capacity of local community-based and civil society organizations through research activities and providing awareness programs for women on sexual and reproductive health issues, environmental sustainability, livelihood, formal and informal education, violence of all kinds, and sustainable development. The interviews taken from Punjab

To empower stakeholders and generate positive action for evidence-based policymaking, effective planning, efficient service delivery and lasting impact on lives and livelihoods. To create and support networks of people and institutions and strengthen leadership for economically sound, environmentally responsible and socially equitable development, and To mainstream equity, justice and environmental responsibility in the economic agenda of societies. (LEAD, 2019)

Consequently, we decided to investigate its various projects and activities to locate the specific gender roles in environmental development education and women’s empowerment. The researchers have followed NGO’s ongoing projects and also studied previously completed task reports from January 2015 to August 2019. For this purpose, the 12 women selected for interviews helped a lot in finding the answer to the question, “how gender was being approached during the environmental education activities and what were their personal views about the correlation between gender, environment, and education.”

Respondent 1—lecturer in a government college in Peshawar, KPK—was the first interviewee. She has been teaching for the last 15 years and has acknowledged the recent initiatives of the provincial government to ban plastic shopping bags and the clean and green Pakistan movement. She also told that her college teachers and students have participated in environmental awareness campaigns especially the billion tree tsunami project of the KPK government. She further explained that “NGOs are playing a very significant role in promoting environmental education and awareness. In recent days, the dengue virus awareness campaign is very actively being done by the female students with the help of certain organizations” (Respondent 1, August 2019). Respondent 2—a PhD scholar—shared her experience with LEAD’s program for women’s entrepreneurship and skills development at schools and its benefits. She said that “such programs are not less than a divine blessing as many women in slums and remote areas got benefit from these activities and work-based training” (Respondent 2, August 2019).

In the other three interviews, Respondent 1, Respondent 5, and Respondent 6 shared their experiences about LEAD’s activities to uplift women’s knowledge about health, education, and politics. According to them, women, in lesser developed areas in Peshawar and other cities of KPK Province, are spending most of their time in the homes doing domestic work or in some informal agriculture or brick manufacturing factories near their homes in very poor and unhygienic environments. Such female workers and housewives are likely to suffer from the negative health effects of pollution as well as lesser wages. They have named some of the projects LEAD offered in their cities such as Building Leadership and Political Capacity of Women Elected to Local Bodies in Chitral and Training for Pakistan. Finally, from KPK, the last interview was of Respondent 3—a housewife—and she told about LEAD’s program Women Farmers-Change Means Survival, a project that has changed the lives of many women who were living in villages and working in the agriculture sector.

**Aurat Foundation’s Activities as Women’s Voice**

Aurat Foundation is very popular across the country because of its working tirelessly for the betterment of women and girls. It aims to build the capacity of local community-based and civil society organizations through research activities and providing awareness programs for women on sexual and reproductive health issues, environmental sustainability, livelihood, formal and informal education, violence of all kinds, and sustainable development. The interviews taken from Punjab

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**Table 3. NGOs’ Structural Work to Educate and Empower Women in Pakistan.**

| Serial number | Name of NGO          | Strategic women’s needs                                      | Practical women’s needs                                      |
|---------------|----------------------|----------------------------------------------------------------|----------------------------------------------------------------|
| 1             | LEAD, Pakistan       | • Capacity building<br>• Leadership development<br>• Research, assessment<br>• Policy making | • Rehabilitation<br>• Confidence building<br>• Establishment of women’s institutions<br>• Poverty elevation, environmental awareness<br>• Climate change and water scarcity campaigns |
| 2             | Aurat Foundation     | • Gender awareness of basic human rights<br>• Highlight all kinds of violence against women<br>• Legal protection<br>• Lobbying for approving women-related ordinances<br>• Speak for IDPs rights and direct action for them | • Economic development<br>• Social empowerment<br>• Education for women* and girls<br>• Confidence building<br>• Awareness about environmental issues<br>• Psychological mobile units in natural disaster areas<br>• Temporary shelters for earthquake and floods victims |

Note. NGO = nongovernmental organization; LEAD = Leadership for Environment and Development; IDP = internally displaced person.

*Vocational and technical education for women.
Province were from those women who got benefit from this organization at any stage of their career. Respondent 7—a lecturer in a public college expressed her views that NGOs are doing well in women's development programs. In 2016, in a program, Institutional Capacity Strengthening of Women Development Department, Punjab, many working women were trained and empowered. Women development programs along with other possible modes for carrying crucial initiatives in collaboration Government of Punjab and Oxfam Pakistan through situational analysis need-based assessment and development of road map—women empowerment schemes’ (Respondent 7: 2019). She also shared her own experience of involvement in that development program.

Respondent 8 and Respondent 9 both have discussed NGOs’ role in promoting education for girls in Punjab. According to them, Aurat Foundation has helped 105,671 school children from which 61,446 were girls and 44,225 were boys between 5 and 12 years of age. This organization provided the necessary material and uniform to these students. They further appreciated Aurat Foundation for not only providing education to the children but also helping the poorest women from rural areas including about 12,450 villages in 430 union councils where community-based women’s committees are formed to highlight their relevant issues.

Moreover, Respondent 10—a housewife from Pakpattan, Punjab—highlighted the role of NGOs in promoting primary and basic education in rural areas. She, being a beneficiary of NGOs’ educational activities for women, appreciated Prime Minister of Pakistan’s Waseela-e-Taleem Program that was launched in 27 districts in collaboration with Aurat Foundation and Benazir Income Support Program (BISP) that started in 2015. Through this program, about 1,300,000 women were benefited and 850,000 children enrolled in schools in 2015, whereas in 2016, about 2,000,000 children enrolled in schools from 50 districts of Pakistan (Aurat Foundation). In their interviews, Respondent 11, head a nurse in a public hospital, and Respondent 4, a public school teacher, shared their views about NGOs’ role in promoting women’s voices at higher levels. Respondent 5 told how service structure in various public departments for women and regularization of the quota system has been implemented due to the efforts of NGOs working for women’s development in different sectors. She highlighted one initiative of the Aurat Foundation in collaboration with the Women Parliamentary Caucus (WPC) that enhanced the role of female members of parliament in the implementation of the MDGs and the transition to SDGs in Pakistan.

Finally, Respondent 12—a public school teacher—discussed in detail how different NGOs are working for environmental education among public and school students. She particularly talked about Aurat Foundation’s recent initiative about Women Water Network Islamabad and Women’s Colloquium Program. The basic purpose of this program is to invite and engage individual women and organizations playing their role in the issues related to water and sanitation, sustainable development, and women’s empowerment and development. This forum is open to all women from any background such as academia, health, businesswomen, water specialists, and rural women engaged with the agriculture sector. According to United Nations World Water Assessment Programme (WWAP) 2017 report, more than 2 million masses are living in countries experiencing dangers of high water stress. An average of 80% of all wastewater returns to the environment before being filtered or treated worldwide (Aurat Foundation). Therefore, it is a very crucial time for the Pakistani community to come forward and protect the water reservoirs and treat wastewater before its interaction with the environment.

Policy Making and Legislation for Women’s Development and Environmental Awareness

NGOs are playing a significant role in legislation and policy-making changes and in the establishment of rules. Similarly, LEAD and Aurat Foundation are struggling to initiate programs to build up female parliamentarians’ leadership skills and other legislative officials who are working for women’s rights and empowerment in Pakistan. Aurat Foundation launched a national campaign from the 1990s in Pakistani elections to reserve a 33% quota for women in the legislature. Similarly, this NGO organized campaigns for citizens to ensure and maximize the representation of women in government local bodies elections in 1998–1999, 2000, and 2005 (Anum, n.d.). This foundation has been successful in passing women-related pending bills with some amendments from the Government of Pakistan such as the following:

1. Women in Distress and Detention Fund Act (XV of 1996);
2. Anti-Women Practices Bill (Criminal Law Amendment 2011);
3. Acid Control and Acid Prevention Bill;
4. Amendment to Pakistan Penal Code (Section 59 of XLV of 1860);
5. The Code of Criminal Procedure 1898 (Act V of 1898);
6. Protection Against Harassment of Women at the Workplace 2010 and Protection of Women (Criminal Law Amendment Act, 2006; Anum, n.d.).

Similarly, LEAD Pakistan has gradually transformed its mission to establish a significant and effective role in guiding policy makers through the state-of-the-art research based on its policy and action research endeavors. LEAD named this initiative as PPE to help sustainable outputs and develop LEAD Pakistan as an institution source for national policy making. The following are few policy briefings LEAD arranged with the collaboration of other organizations:
1. Pakistan Intended Nationally Determined Contribution (INDC) in collaboration with Ministry of Climate Change;
2. Urban facilities for safe drinking water in Faisalabad, an equity perspective;
3. Sustainable groundwater management in Pakistan, challenges, and opportunities;
4. Incorporating a gender dimension in climate change adaptation and disasters risk reduction;
5. Attaining SDGs with cities on the steering wheel;
6. Empowering Pakistani women for growth and prosperity—from evidence to policy;
7. Mapping slums ensuring that no one is left behind;
8. Impact of the 21st-century climate change on surface water availability.

**Women’s Empowerment Through Environmental Education**

During field interviews, almost all participants agreed that environmental education and awareness play a very important role in women’s empowerment in the Pakistani context. Therefore, NGOs are doing their best part in imparting general and environmental education to women across Pakistan through different programs and activities. The selected NGOs for this study are also engaged in providing the services of environmental education, food and nutrition, health, vocational training, health awareness, and recreation activities through local female community involvement. This direct participation in different programs gradually builds women’s capacity to grow and gain confidence that strengthens them. Consequently, these females get encouragement and empowerment to face the adversities of practical life that they have already encountered or will in future. Aurat Foundation is a leading NGO in providing advocacy, grants, economic growth, and education for the empowerment of women across Pakistan. According to SR—a housewife from Pakpattan, Punjab—Aurat Foundation is a grassroots-level organization that provides funds, skills, and encouragement to the illiterate and poor women in remote areas of her district, Pakpattan. She further said in her interview, “equal learning opportunities lead to the participation of women in equal progress in politics, economics, and other fields” (Respondent 2, 2019).

Aurat Foundation through gender-responsive budgetary allocations and incorporation of women’s concerns into the macroeconomic policy framework and social and environmental protection programs has empowered women. Recently, this foundation launched a campaign for the women labor in the agriculture sector, which is the most affected economically and climate change wise. During this campaign, the agenda was “agriculture sector must declare as an industry to protect the agrarian women labor rights because of they as agrarian, WHBW and domestic labor force contributing 25% of country’s GDP” (Aurat Foundation).

Similarly, LEAD Pakistan focuses on women’s empowerment through education and awareness so that they would become independent in their practical lives. LEAD has published gender and climate change research related to Punjab Province keeping in view the National Climate Policy 2012. This research exposed a very dangerous impact of gender disparity and climate change on women’s economic and social growth. The following chart shows the difference between male and female participation in various sectors in Punjab just after the implementation of the National Climate Policy (see Figure 1).

This study further divided the participation of male and female employment in various sectors and highlighted the alarming rate of gender disparity in Punjab. Through the following chart, the necessity for women’s environmental, political, and vocational education and training is evident to make them empowered socially and economically. Figure 2 highlights the distribution of employees by the major industry divisions in Punjab, Pakistan.

Figure 2 shows that women are about doubled in the agriculture sector than men with 73.9%, and unfortunately, it is the most affected sector by climate change in Pakistan. The female workers in agriculture are still overlooked and unrecognized by the labor department as well as higher authorities. Similarly, in the construction sector, women’s participation is less than 0.3% in comparison with male employees. Therefore, it is a need of the hour to develop a road map for the economic growth and protection of agrarian women workers’ rights, domestic labor force, and home-based workers who are contributing about 25% of the country’s GDP.

Keeping in view this pathetic condition of women, LEAD also like Aurat Foundation emphasized women’s and girls’ education, because it is globally acknowledged, and recognized that the empowerment of girls and women must start through education and promotion of gender equity among societies. Therefore, LEAD in collaboration with BISP from the platform of the Waseela-e-Taleem Program has made a huge success in increasing enrollment of children in schools across Pakistan. After National Climate Policy 2012, a huge number of students enrolled, in which girls’ percentage is just following boys, with 48% and 52%, respectively. In 2013, this number was just 23,000 students both boys and girls, although after 4 years, this number increased dramatically: As in 2017, the total number of students was 1.9 million (LEAD).

The increasing number of enrolled students through NGOs’ efforts shows their commitment to the sustainable development of the country. Pakistan was the first country among the UN members that, through a unanimous resolution of parliament, adopted the SDGs 2030 agenda. So the NGOs LEAD and Aurat Foundation are fully endorsing the SDG goals by collaborating with the Ministry of Climate Change, Health, Education, Federal and Provincial Governments, Ministry of Environment, and Women Development.
Analysis of Findings and Discussion

The empirical findings and departmental reports have shown that gender plays a vital role in environmental matters and for the economic growth of any region and nation. The differences such as their work and inequalities between women and men, the activities they perform, their financial and resources access, level of education, and opportunities to take part in the decision-making process all affect gender performance (UNEP, 2015). Therefore, the involvement of gender sensitiveness in the provision of environmental education would enhance the chances to cover all deprived areas of the country where gender is still a stereotype such as tribal communities, minorities, and indigenous people (Sakellari & Skanavis, 2013).

Figure 1. Percentage of the situation analysis of gender disparity in Punjab, Pakistan. Source. Lead.org.pk.

Figure 2. Distribution of employees by the major industry divisions in Punjab, Pakistan. Source. Lead.org.pk.
The interviewees for this study also affirmed that gender roles are stereotyped in Pakistani society especially in rural and tribal areas. They uphold that females have closer contact and relationship with the environment because of their nature of work, daily household activities, and spirituality. The respondents have focused on the positive role of women in carrying out environment friendly activities and campaigns to influence their families first and then people in the surroundings about climate change, environmental problems, and women empowerment. Mothers are always good teachers of discipline, manners, and basic education as well. Therefore, they are the key educators of their children and primarily responsible for domestic chores. However, the main responsibility of women to cover household chores such as cleaning, washing, cooking, childcare, and basic education can become even riskier for women as two of the respondents pointed out this issue during interviews. The more women know about household affairs, the more chances that they are solely considered responsible for them despite their other jobs. So it can be riskier for women to acknowledge their primitive domestic role as it reinforces females’ status quo and confined them to the private sphere (household tasks). Therefore, much attention toward gender equality through education is needed in Pakistan, otherwise women’s proximity to the environment and the women’s vulnerability to the environment would make females more victims instead of leading figures and central acting roles in environmental discussion and decision-making bodies.

According to Freire and Myra (1970), the environmental education theory should adhere more strictly to the gender perspective while applying it into field activities. They further claim that the primary objective of education is to emancipate against injustice around. It is a process of transition and development of critical thought among the most victimized, marginalized, and subaltern groups of the society such as women. Women’s understanding and awareness about the environment, economic growth, and basic rights should be considered for their families or community only, but they must be included in the development of policies, curriculum, educational activities, and environmental agendas (Freire & Myra, 1970). All the participants concluded their interviews with this argument that the women’s perspectives and necessities should have to be transformed from the “private sphere” to the “public sphere” where their voice is heard and decisions are made.

The present study hopes to have a significant contribution to the discourse of women’s environmental education as a tool for their empowerment, sustainable development, and encouragement through NGOs in Pakistan. This field of study needs much attention of the researchers to explore more of its unique perspectives and experiences so that women’s contribution to value their environment and society is appreciated publicly. So, encouragement and motivation along with proper platform can play the role of the catalyst when women perceive themselves as agents of change and action, their education becomes “a form of intervention in the world” (Freire & Myra, 1970).

Conclusion

This study concludes that for the enlightenment and empowerment of women, the gender dimension of environmental education activities and programs works as a significant tool to achieve SDGs. From the ecofeminist theory and feminist research approach, this article examined the social role of the Pakistani community and the gender differences associated with environmental and climate change awareness through two NGOs’ activities and programs. For the methods, 12 face-to-face semi-structured interviews were conducted with six female respondents from KPK Province and six from Punjab Province. These respondents had interaction with selected two NGOs’ activities and programs; therefore, they helped a lot in understanding the working of these organizations.

From the analysis of the data collected through interviews and case studies, this study emphasizes that environmental education is necessary for uplifting women’s standards and social mobilization in male-dominant societies. The study further helps to bring a vital change in common people’s behaviors and attitudes toward gender roles. Therefore, education is the only way to emancipate against injustice around. Participants of this study stressed that education is the only most suitable process of transition and development of critical thought among the most victimized, marginalized, and subaltern groups of the society such as women. Moreover, in Pakistan, women are still responsible for the private sphere (domestic affairs) where gender sensitiveness can play a very crucial role to make women’s voices louder publicly. The activities and programs of both NGOs showed that after the SDGs’ 2030 agenda, the overlooked environmental education has been spreading rapidly across the country. Finally, women with domestic responsibilities and intimate relationships with nature and the environment, on one hand, and their acknowledgment as agents for social, economic, and environmental change, on the other hand, must be given important value in policy and decision-making processes. Therefore, women’s positions should have to be transformed from the “private sphere” to the “public sphere” where their voice is heard and decisions are made.

The findings from this study highlight the need for active participation of females to shatter the stereotype of the salience of gender within environmental awareness and education spaces in Pakistan. The role of NGOs is pertinent in promoting gender equality and providing privileges to the unprivileged class of society. The uplifting of the marginalized status of women through various outdoor environmental activities that resulted in the promotion of women’s voices and stances at the national level has challenged the stereotyped silenced and trivialized identity of women in Pakistan.
Acknowledgments

We are very grateful to the NGOs LEAD Pakistan and Aurat Foundation that they have given open access to their data and reports. Furthermore, we are also thankful to the candidates who cooperated in providing vital information about environmental education and its effects on women’s empowerment in Pakistan.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Notes

1. Maplecroft’s Climate Change Vulnerability Index (CCVI) assesses 193 countries and highlights subnational hotspots of risk. The index is composed of the exposure of countries to climate-related natural hazards, the sensitivity of populations in terms of concentration, development, agricultural dependency and conflict. This is then considered in the context of the ability of a country’s government and institutions to adapt or take advantage of the potential effects of climate change.

2. The researchers are experts in both Urdu and English languages and, therefore, no expert assistance was required at either level.

3. Leadership for Environment and Development (LEAD). Available online at http://lead.org.pk/lead/Pages/Page-Aboutus.aspx (Accessed on July 20, 2019).

4. LEAD. Available online at http://lead.org.pk/lead/postDetail.aspx?postid=10394 (Accessed on July 1, 2019)

5. Aurat Foundation available online at https://www.af.org.pk

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