



## The Assessment of the Alignment of Environmental Law and Other Environmental Regulations of Afghanistan in Light of the Environmental Realities in Herat City

**Ali Asghar Modaber**

Ph.D. Associated Professor and Head of Public Law Department, Faculty of Law and Political Sciences,  
Herat University, Afghanistan  
Email: [modaber1985@yahoo.com](mailto:modaber1985@yahoo.com)

**Najiburrahman Taraki**

Teaching Assistant Professor, Public Law Department, Faculty of Law and Political Science,  
Herat University, Afghanistan  
Email: [najiburrahmant@gmail.com](mailto:najiburrahmant@gmail.com)

**Khodadad Khairandish**

Senior Teaching Assistant Professor, Public Law Department, Faculty of Law and Political  
Science, Herat University, Afghanistan  
Email: [kh.khairandish@gmail.com](mailto:kh.khairandish@gmail.com)

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### **Abstract**

The aim of this research is to assess the alignment of Afghanistan's environmental law and other environmental regulations in light of the environmental realities in Herat city. The type of research is applied based on its purpose, and survey-based based on the method and data collection approach. The statistical population of this study includes all students of Herat University and employees of Herat departments, from which 158 students and 50 employees were selected as a sample size using a multi-stage (cluster and simple random) sampling method. In order to collect field data, a researcher-developed questionnaire was used, which focuses on three dimensions: knowledge, attitude, and practical behavior concerning Afghanistan's environmental law. The validity of the questionnaire was determined using construct validity, and reliability was assessed using internal consistency through Cronbach's alpha method. The results of the study indicate that the awareness and understanding (knowledge) of students and employees about environmental issues, the laws, and the institutions related to environmental regulations in Afghanistan are low. The beliefs, opinions, and interest (attitude) of students and employees toward environmental protection in Afghanistan are relatively high. The opinions of Herat University students and employees of Herat departments regarding actions and practical behaviors related to environmental protection in their living and working areas were positive, contrary to the research hypothesis.

**Keywords:** *Environmental Law; Herat University Students; Employees; Herat City; Afghanistan*

## Introduction and Problem Statement

Environmental laws are legal frameworks established to protect the environment, ensure the sustainable use of natural resources, and safeguard human health and well-being. These laws cover a wide range of areas, including air and water quality, pollution control, hazardous waste management, resource conservation, and more. Environmental legislation constitutes a vital component of any governing system, encompassing a comprehensive set of rules and regulations related to air and water quality, as well as other environmental aspects. Such laws are essential as they guarantee a healthy, fresh, and accessible environment for all.<sup>1</sup>

Protecting the environment is crucial for the continuation of life on Earth, as it is well known that humans depend on various resources such as food, air, water, and oxygen. It is essential for individuals to recognize their role in safeguarding the environment.<sup>2</sup>

It has been observed that the state of the environment has deteriorated over the past few decades. According to the 2021 report of the Intergovernmental Panel on Climate Change (IPCC), the Earth's temperature is projected to rise by up to 1.5°C within the next 20 years, primarily due to human activities. This increase is expected to significantly impact future environmental conditions.<sup>3</sup>

To prevent environmental degradation, the effective enforcement of environmental laws is essential. Environmental laws serve as tools to prevent and penalize actions that may harm the environment. International environmental law addresses critical global issues such as climate change, mass extinction of species, and the depletion of the ozone layer. The primary objective of environmental law is to manage environmental issues and ensure the long-term protection of the environment.<sup>4</sup>

Erahbor and Don (2016) discussed the impact of environmental education on students' knowledge and attitudes toward the environment. In a study<sup>5</sup>, it was reported that individuals bear the responsibility of establishing restrictions and undertaking preventive measures to protect the environment. One of the possible approaches to addressing current environmental issues is to enhance environmental awareness and understanding among people. It was found that the global climate crisis has led to severe tropical storms, hurricanes, heatwaves, and flooding around the world.<sup>6</sup>

It has been found that weak governance is a contributing factor to environmental degradation.<sup>7</sup> Nash et al. (2019) reported that environmental concerns include food waste, loss of biodiversity, plastic pollution, deforestation, air pollution, melting ice caps, rising sea levels, ocean acidification, agriculture, water and food insecurity, fast fashion and textile waste, overfishing, and cobalt mining.

For many people in Afghanistan, the term "environment" refers only to flora and fauna such as trees, animals, birds, and insects. In reality, it is a much broader concept. The environment encompasses nearly everything around us, as well as the interactions and processes that connect these various elements. It includes tangible environmental resources (such as water, land, minerals, forests, rangelands, crops,

<sup>1</sup>- Bilal Ahmad Bhat & et al. An Empirical Study on Environmental Laws Awareness Among College Students of Kashmir Valley. *Jurnal Pengabdian Masyarakat*, 3(3), 111–125.

<sup>2</sup>- Fallah Shayan & et al. Sustainable Development Goals (SDGs) as a framework for corporate Social Responsibility (CSR). *Sustainability*, 14(3), 1222.

<sup>3</sup>- Buis A. A Degree of Concern: Why Global Temperatures Matter. <http://www.ipcc.ch/sr15/>.

<sup>4</sup>- Chu, E.W. & Karr, J.R. Environmental impact: Concept, consequences, measurement. In Reference Module in Life Sciences. Elsevier.

<sup>5</sup>- Kousar, S. & et al. Environmental awareness and air quality: The mediating role of environmental protective behaviors. *Sustainability*, 14(6), 3138.

<sup>6</sup>- Clarke, B. & et al. Extreme weather impacts of climate change: an attribution perspective. *Environmental Research: Climate*, 1(1), 012001.

<sup>7</sup>- Stern, N., Stiglitz, J. Climate change and growth. *Industrial and Corporate Change*, 32(2), 277–303.

wildlife, and air) as well as problems and issues resulting from poor management of these resources (such as diseases caused by contaminated water, respiratory problems from air pollution, population displacement due to drought, and loss of livelihoods and income due to land and resource degradation).

Afghanistan is a country that relies heavily on agriculture and livestock. Nearly 80% of the population depends directly on the country's natural resources to meet their daily needs. However, this resource base has been seriously degraded and damaged, and it no longer sufficiently supports the basic survival needs of many people—let alone their development needs.

The sad reality is that, under current conditions, Afghanistan's environment is having a negative impact on the livelihoods of generations. It adversely affects the health of the Afghan people, entrenches the cycle of poverty in which many Afghans are trapped, and limits the post-conflict reconstruction and development of the country.

If current environmental problems in Afghanistan are not addressed, the following consequences can be expected:

- The unequal distribution of water resources may lead to severe shortages in some areas—threatening livelihoods, creating environmental refugees, worsening humanitarian conditions, and increasing regional tensions.
- Continued deforestation, along with overgrazing and water scarcity, may result in greater soil erosion, desertification, and a decline in soil fertility and ecosystem services. It can also lead to floods, mudslides, and rapid water runoff during the wet season.
- Land degradation and resource scarcity may give rise to environmental refugees.
- Existing chemical pollution of some air, soil, and water sources continues to threaten human health and undermines labor stability and economic productivity.

In light of these issues, it became clear that an appropriate legal framework to govern environmental management was an urgent need for Afghanistan's post-war government. For this reason, the newly established National Environmental Protection Agency (NEPA), with support from the United Nations Environment Programme (UNEP), considered the drafting and enactment of an Environmental Law a critical and urgent priority. In January 2007, the final version of the Environmental Law came into force.

This law, approved by the National Assembly, is based on international standards and recognizes the current environmental conditions of Afghanistan, while establishing a framework for gradually improving governance that will ultimately lead to effective environmental management. It is now binding for both the Afghan government and its people. One of the key responsibilities of NEPA under this law is to develop and implement programs for environmental education, training, and awareness-raising in coordination with relevant institutions.<sup>8</sup>

In today's society, students and the general public are expected to possess the knowledge, skills, and values necessary to care for the environment. However, reality often falls short of this expectation. It has been found that climate change poses a significant threat to the environment, while plastic pollution continues to contribute to habitat destruction across the globe.<sup>9</sup>

Another study reported that the environment plays a vital role in supporting human life on Earth, despite the existence of numerous environmental issues. The responsibility for these environmental

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<sup>8</sup>- Afroze, Z. & Qadeer Karyab, A Guide to Afghanistan's 2007 Environment Law.

<sup>9</sup>- Lincoln, S. & et al. Marine litter and climate change: Inextricably connected threats to the world's oceans. *The Science of the Total Environment*, 837(155709), 155709.

challenges largely falls on human actions, including those of students, who are expected to serve as stewards of the Earth.<sup>10</sup>

However, it has been found that students may not always be aware of the consequences of their actions.<sup>11</sup>

In the literature<sup>12</sup>, various authors worldwide have discussed environmental awareness among students. If such a situation persists, environmental issues will worsen. In light of this and considering the importance of environmental awareness in the academic environment, the present study was conducted in collaboration with a group of students<sup>13</sup> from the Environmental Law department at the Faculty of Law, Herat University, in Herat, Afghanistan, with the aim of assessing the implementation of environmental law and other environmental regulations in Afghanistan, in the context of environmental realities among students and staff of various government institutions.

## 2. Theoretical Literature

### 2.1. Environmental Law of Afghanistan

The Environmental Law of Afghanistan, consisting of 78 articles across 9 chapters, was approved and published in the official gazette on 12/10/1385 (January 2007). Article 2 outlines the objectives of the Environmental Law, which include the protection of human, animal, and plant health, improving their livelihoods, securing the benefits and needs of both current and future generations related to the environment, preserving natural and cultural heritage, and facilitating the reconstruction and sustainable growth of the national economy.

The first chapter, containing 8 articles, deals with the general provisions of the law. The second chapter, with 4 articles, defines the duties and powers of the National Environmental Protection Agency (NEPA). The third chapter, consisting of 14 articles, addresses planning, programming, procedures, and the regulation of environmental activities to protect the environment. The fourth chapter, comprising 7 articles, is dedicated to controlling environmental pollution and establishing regulations to prevent pollution. The fifth chapter includes measures for the protection and regulation of water resources. The sixth chapter establishes rules for biodiversity, conservation, and the regulation of natural resources. The seventh chapter discusses public awareness, environmental education, and training for environmental protection. The eighth chapter outlines legal penalties and the responsibilities of legal entities, while the final chapter deals with miscellaneous provisions related to the environment.

The purpose of the Environmental Law is to establish a regulatory framework for the sustainable use and management of Afghanistan's natural resources, defining measures for the protection and restoration of the environment in line with social, economic, reconstruction, and ecological goals. Sustainable development is one of the key objectives of modern international law and policy. It is typically defined as development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. For example, this means that communities relying on local water resources, forests, pastures, and wildlife should not exploit these resources excessively to ensure that their children and grandchildren will also have access to them.

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<sup>10</sup>- Yue, B. & et al. Impact of consumer environmental responsibility on green consumption behavior in China: The role of environmental concern and price sensitivity. *Sustainability*, 12(5), 2074.

<sup>11</sup>- Sorqvist, P., & Langeborg, L. Why people harm the environment although they try to treat it well: An evolutionary-cognitive perspective on climate compensation. *Frontiers in Psychology*, 10.

<sup>12</sup>- Sivamoorthy M, & et al. Environmental Awareness and Practices among University Students. *International Journal of Humanities and Social Science Invention* 2(8) 11-15 ISSN (Online): 2319-7722, ISSN (Print): 2319-7714.

<sup>13</sup>- M. Ebrahim Faqiri, M. Taha Noori, M. Sharif Jami, Masoud Yosofi, Fardin Ahmad Danishyar, Ahmad Iqbal Kakar, Jawed Ehsan, Sayed M. Reza Mousawi, and Qari Mahbobullah Sadati.

The law grants the people of Afghanistan the following rights:

- Use of natural resources in accordance with sustainable traditional practices.
- Formation and participation in environmental NGOs.
- Access to environmental information held by the government.
- Participation in environmental meetings, demonstrations, and decision-making processes affecting local communities.
- Lobbying the government on environmental issues.
- Expressing concerns about the environmental impacts of infrastructure and development projects.
- Refraining from engaging in environmentally harmful activities or activities that threaten human health without proper protective measures.

At the same time, the people of Afghanistan have the following legal obligations:

- Adhering to the provisions of the Environmental Law.
- Using environmental resources in a sustainable manner.
- Taking steps to prevent pollution or harm to the environment.
- Obtaining permits or approvals before engaging in activities regulated by the law (a list of such activities can be found below).

The law also imposes fundamental obligations on the Afghan government to encourage relevant authorities to promote and enforce the Environmental Law. These include:

- Applying the fundamental principles of environmental management outlined in the law when making decisions or exercising any powers under the law.
- Engaging the public in environmental decision-making processes.
- Formulating policies, laws, and regulatory tools aimed at preserving and restoring the country's environmental resources.
- Coordinating the activities of the government and other stakeholders involved in environmental management.
- Increasing public awareness of environmental issues.
- Implementing international environmental conventions to which Afghanistan is a party.
- Monitoring environmental indicators and collecting and making environmental data accessible.
- Preparing regular State of the Environment (SoE) reports and the National Environmental Action Plan (NEAP).
- Enforcing the Environmental Law.

## 2.2. The Concept of Environment

The term "environment" in its literal sense refers to the place of life, habitat, and the surrounding environment. The word "environment" is of Arabic origin, derived from the active participle of the verb "h-w-t," meaning "to surround." In Arabic, the ocean is referred to as "al-Muḥīṭ" because its waters surround it. The word "life" is a Persian term synonymous with "existence" and "vitality."<sup>14</sup>

Therefore, the environment refers to the various surroundings in which life takes place, and in Arabic, it is called *al-Bi'ah*. Its terminological meaning does not differ much from the linguistic one. In the book *Al-Islam wa al-Bi'ah*, it is defined as follows: The environment is the space where all living organisms exist, and it is formed by the Earth's surface, air, water, plants, and other living organisms. In the Environmental Law of Afghanistan, passed in 2006, paragraph 10 of Article 4 defines the

<sup>14</sup> - Mashhadi, Ali, *Collection of Environmental Laws and Regulations in the Oil Industry*, Khorsandi Publications / First Edition / 2014.

environment as follows: Natural resources, the interactions between elements of natural resources or between those elements, humans, and animals, and the physical, cultural, aesthetic properties or conditions that affect their health and well-being. Thus, it can be said that the environment is a space that includes air, water, soil, natural resources, plants, animals, humans, and the mutual relationships between them.

### 2.3. Environmental Attitude

An environmental attitude is a set of individual inclinations, feelings, beliefs, and judgments towards an environmental phenomenon or event in life. One of the fundamental assumptions in environmental studies is that many environmental problems can be addressed by increasing public awareness of the environment. In other words, it is believed that increasing environmental knowledge is key to solving many environmental issues.<sup>15</sup>

### 2.4. Previous Research

Ahmad Bath and colleagues (2024) conducted a study titled "An Empirical Study on Awareness of Environmental Laws Among College Students in the Kashmir Valley" using a descriptive survey method. In this study, a well-designed, valid questionnaire was used to collect information from 400 college students (200 males and 200 female) through online/offline modes using simple random sampling. The collected data were analyzed using SPSS statistical software (version 20). The results of the study showed that most respondents were unaware of the legal regulations that are a significant part of a healthy society. Studying and knowing environmental laws is important for every individual because it helps in understanding the principles and regulations related to environmental protection. Statistically, no significant difference was observed between the students of the arts and science departments regarding their attitudes towards the environment.

Ibanez and colleagues (2023) conducted a study titled "Assessment of Environmental Law Awareness and Pro-Environmental Behavior Among Agricultural Students" using a descriptive survey method. This study examined the knowledge and attitudes of undergraduate agricultural science students towards environmental laws in the Philippines. The research was carried out through a structured questionnaire survey and interviews. The results showed that agricultural science students at the DEBESMSCAT-Cawayan campus had weak knowledge and awareness of environmental laws. However, their attitude towards enforcing environmental laws was deemed essential. Furthermore, the students believed that the government was ineffective in enforcing environmental laws in the country, with low trust in the government regarding environmental laws, and most people were unaware of these laws. Ultimately, community clean-ups, tree planting, energy conservation, and shared responsibility were some of the pro-environmental behaviors exhibited by agricultural undergraduate students.

Niazi and colleagues (2022) conducted a study titled "Investigating and Evaluating Environmental Literacy of Stakeholders Regarding the Preservation and Restoration of Forests in Afghanistan" using a survey method. The goal of the research was to examine and evaluate the environmental knowledge, attitudes, and behaviors of various stakeholders, including university professors, students, and local forest communities in Laghman Province, Afghanistan, regarding the preservation and restoration of forests, and to compare them. Descriptive statistics were used to analyze demographic information, and inferential statistics were used to analyze the data with SPSS22 software. The results showed that among the three target groups studied, the local community had lower environmental literacy regarding forest ecosystem preservation and maintenance compared to the students and university professors. Therefore, due to the increased population in recent decades, the growing trend of forest exploitation in Laghman

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<sup>15</sup>- Baqeri, Danial, et al. "Determining the Attitude and Knowledge in the Environmental Behavior of Citizens of Gorgan City (2017)." *Scientific Journal of Golestan University of Medical Sciences*, Winter 2018, Vol.20, No.4 (Issue 6).

Province, and the resulting destruction and pollution of forests, it is essential to develop an educational program to enhance and improve the awareness and knowledge of the forest communities.<sup>16</sup>

Ofogh Andisheh (2022) published an article titled "The State of the Environment in Afghan Laws and Regulations and Its Fiqh Foundations" using a descriptive approach. This study aims to examine the environmental laws and regulations in Afghanistan by elucidating the fiqh foundations of environmental protection. According to Article 15 of the Afghan Constitution, Chapter Eleven of the Penal Code, and Article 807, which consider environmental pollution as a crime, as well as Articles 59, 60, 61, 62, and 63 of the Oil and Gas Law, and the 2006 Environmental Law of Afghanistan, it can be concluded that Afghanistan's laws and regulations in the area of environmental protection, especially in oil-related projects, seem appropriate and sufficient.<sup>17</sup>

Baqeri et al. (2017) conducted a study titled "Determining Attitudes and Knowledge in the Environmental Behavior of Citizens of the City of Gorgan" using a descriptive-analytical method. The study was conducted on 400 citizens (209 men and 191 women) from the city of Gorgan during 2017. A multi-stage sampling method was used to select the samples. The city of Gorgan was divided into 3 urban categories, and neighborhoods within each category were considered as clusters. 40% of the neighborhoods from each area were randomly included in the study. The tools used for data collection included demographic questionnaires and questionnaires on environmental knowledge, attitudes, and behaviors. The results indicated that the environmental knowledge and attitudes of the citizens were weak, while their pro-environmental behavior was strong. Older individuals, those with higher education, and those with employment showed better pro-environmental behaviors. A statistically significant inverse relationship was found between environmental attitudes and pro-environmental behavior. Increased environmental knowledge led to an improvement in pro-environmental behavior.

### 3. Research Objectives:

- To investigate and compare the environmental awareness and understanding of students at Herat University and employees of Herat government offices regarding environmental issues, laws, and relevant institutions in Afghanistan.
- To investigate and compare the beliefs, opinions, and interest of students at Herat University and employees of Herat government offices regarding environmental protection in Afghanistan.
- To investigate and compare the opinions of students at Herat University and employees of Herat government offices regarding practical actions and behaviors related to environmental protection in their respective living and working areas.

### 4. Research Hypotheses:

- It is expected that the level of awareness and understanding of environmental issues, laws, and relevant institutions among students and government employees is low.
- It is expected that the level of beliefs, opinions, and interest in environmental protection among students and government employees is high.

<sup>16</sup> -Niazi, Abdul Samim, and colleagues. "Investigating and Evaluating Environmental Literacy of Stakeholders Regarding the Preservation and Restoration of Forests in Afghanistan (Case Study: Laghman Province)." *Journal of Research in Forest and Rangeland Protection and Conservation of Iran*, Volume 20, Issue 1, Pages 96-116.

<sup>17</sup>- <https://ofoghandisha.com>

- It is expected that the opinions of students at Herat University regarding practical actions and behaviors related to environmental protection in their living areas are negative.
- It is expected that the opinions of government employees at Herat regarding practical actions and behaviors related to environmental protection in their workplaces are negative.
- It is expected that the level of awareness and understanding of environmental issues, laws, and relevant institutions among students and government employees differs.
- It is expected that the level of beliefs, opinions, and interest in environmental protection among students and government employees differs.
- It is expected that the opinions of students and government employees regarding practical actions and behaviors related to environmental protection in their living and working areas differ.

## 5. Research Methodology:

This research is applied in nature, and the data collection method is survey-based. The statistical population includes all students of Herat University and employees of government offices in Herat. According to the table of Krejcie and Morgan (1970) and based on the size of the statistical population, 158 students and 50 employees were selected as the sample size using multi-stage sampling (cluster and simple random sampling). The research tool consisted of a researcher-designed questionnaire with three dimensions: knowledge, attitude, and practical behavior concerning Afghanistan's environmental law. The questionnaire contained 30 questions for students and 20 questions for employees, assessed on a 3-point Likert scale (Yes, Somewhat, No).

To measure the validity of the research tool, the preliminary questionnaire was first reviewed by professors and several experts in the field, and content validity was obtained through face validity by deleting and revising some of the items. Construct validity was determined through factor analysis, and reliability was measured using Cronbach's alpha<sup>18</sup> for internal consistency. The reliability coefficient for the variables of the research was 0.714, which is above the acceptable threshold of 0.7, indicating internal consistency. Furthermore, the factor loading for all items showed values higher than 0.4, indicating the construct validity of the research variables.

Descriptive statistics were used with SPSS software to describe the demographic characteristics of the respondents and the central and dispersion indices of the variables. Inferential statistics were also used to examine the relationships between variables and test the research hypotheses.

## 6. Research Findings

### 6.1. Descriptive Findings

According to the descriptive results in Table 1, the majority of student respondents, with 99.4%, are between the ages of 18 and 25. Most of the students, with 99.4%, hold a bachelor's degree. 88% of the students are single, while 12% are married. The largest group of students, with 8.2%, belongs to the Faculty of Veterinary Medicine.

<sup>18</sup>- Cronbach's Alpha



**Table 1: Frequency and Percentage of Demographic Variables of Students**

| Variables      | Groups                | Frequency | Percentage |
|----------------|-----------------------|-----------|------------|
| Age            | 18 to 25 years        | 157       | 99.4%      |
|                | 25 to 32 years        | 1         | 0.6%       |
| Education      | Bachelor's Degree     | 157       | 99.4%      |
|                | Master's Degree       | 1         | 0.6%       |
| Marital Status | Single                | 139       | 88%        |
|                | Married               | 19        | 12%        |
| Faculty        | Agriculture           | 10        | 3.6%       |
|                | Art                   | 10        | 3.6%       |
|                | Computer Science      | 10        | 3.6%       |
|                | Economics             | 10        | 3.6%       |
|                | Education             | 10        | 3.6%       |
|                | Engineering           | 10        | 3.6%       |
|                | Journalism            | 10        | 3.6%       |
|                | Law                   | 10        | 3.6%       |
|                | Literature            | 10        | 3.6%       |
|                | Pharmacy              | 7         | 4.4%       |
|                | Public Administration | 10        | 3.6%       |
|                | Science               | 10        | 3.6%       |
|                | Theology              | 9         | 5.7%       |
|                | Social Sciences       | 10        | 3.6%       |
|                | Dentistry             | 7         | 4.7%       |
|                | Veterinary Medicine   | 13        | 8.2%       |

According to the descriptive results in **Table 2**, the majority of respondents are employees, with **68%** being between **23 to 30 years old**. The majority of employees, **76%**, have a **Bachelor's degree**. **66%** of the employees are **married**, while **34%** are **single**. The respondents are employees from various departments.

**Table 2 - Frequency and Percentage of Demographic Variables of Employees**

| Variables      | Groups                | Frequency | Percentage |
|----------------|-----------------------|-----------|------------|
| Age            | 23 to 30 years        | 34        | 68%        |
|                | 30 to 37 years        | 10        | 20%        |
|                | 37 to 45 years        | 6         | 12%        |
| Education      | High School Graduate  | 7         | 14%        |
|                | Bachelor's Degree     | 38        | 76%        |
|                | Master's Degree       | 5         | 10%        |
| Marital Status | Single                | 17        | 34%        |
|                | Married               | 33        | 66%        |
| Department     | Afghan Salamat Clinic | 6         | 12%        |
|                | Habibyar Clinic       | 6         | 12%        |

| Variables | Groups                     | Frequency | Percentage |
|-----------|----------------------------|-----------|------------|
|           | Kimia Clinic               | 2         | 4%         |
|           | Ghalib Clinic              | 6         | 12%        |
|           | Sanaei Clinic              | 6         | 12%        |
|           | Herat Education Department | 5         | 10%        |
|           | Herat Regional Hospital    | 6         | 12%        |
|           | Lukman Hakim Hospital      | 6         | 12%        |
|           | Herat Mining Department    | 5         | 10%        |
|           | Herat Transport Department | 2         | 4%         |

## 6.2. Inferential Findings

In the present study, to test hypotheses 1 to 4, statistical indicators and a one-sample t-test were used, and for hypotheses 5 to 7, an independent samples t-test was applied.

To test hypotheses 1 to 4, the statistical indicators and results of the one-sample t-test with a weighted mean of 1 for the main variables of the research are presented in Table 3.

**1: Hypothesis** According to Table 3, the mean of the variable "Awareness and Understanding (Knowledge)" for both students (0.99) and employees (0.92) is at the average value (1). The results of the one-sample t-test indicate that the difference between the mean of the variable "Awareness and Understanding (Knowledge)" and the weighted mean of 1 is not statistically significant ( $\text{sig} > 0.05$ ). Thus, the negative t-values indicate that the mean is lower than the tested value (1). In other words, the awareness and understanding (knowledge) of students and employees regarding environmental issues, laws, and relevant institutions in Afghanistan is below average. Therefore, Hypothesis 1 is confirmed.

**2: Hypothesis** According to Table 3, the mean of the variable "Beliefs, Opinions, and Interest (Attitudes)" for both students (1.17) and employees (1.62) is higher than the average value (1). The results of the one-sample t-test show that the difference between the mean of the variable "Beliefs, Opinions, and Interest (Attitudes)" and the weighted mean of 1 is statistically significant ( $\text{sig} < 0.05$ ). Therefore, the positive t-values indicate that the mean is higher than the tested value (1). In other words, the beliefs, opinions, and interest (attitudes) of students and employees towards environmental protection in Afghanistan are above average. Thus, Hypothesis 2 is confirmed.

**3: Hypothesis** According to Table 3, the mean of the variable "Actions and Practical Behaviors" for students (1.09) is higher than the average value (1). The results of the one-sample t-test show that the difference between the mean of the variable "Actions and Practical Behaviors" and the weighted mean of 1 is statistically significant ( $\text{sig} < 0.05$ ). Therefore, the positive t-values indicate that the mean is higher than the tested value (1). In other words, the opinions of students at Jamia University regarding actions and practical behaviors related to environmental protection in their living area are above average and positive. Therefore, Hypothesis 3 is not confirmed.

**4: Hypothesis** According to Table 3, the mean of the variable "Actions and Practical Behaviors" for employees (1.20) is higher than the average value (1). The results of the one-sample t-test show that the difference between the mean of the variable "Actions and Practical Behaviors" and the weighted mean of 1 is statistically significant ( $\text{sig} < 0.05$ ). Therefore, the positive t-values indicate that the mean is higher than the tested value (1). In other words, the opinions of employees in Herat regarding actions and practical behaviors related to environmental protection at their workplace are above average and positive. Therefore, Hypothesis 4 is not confirmed.

**Table 3 - Statistical Indicators and Results of the One-Sample t-Test for the Variables of Knowledge, Attitude, and Practical Behavior**

| Hypothesis   | Population | N   | Min  | Max  | Mean | Std. Dev. | t Value | Significance (sig) |
|--|------------|-----|------|------|------|-----------|---------|--------------------|
| 1: Hypothesis Knowledge and Awareness                    | Students   | 158 | 0    | 2    | 0.99 | 0.47      | -0.141  | 0.888              |
|  | Employees  | 50  | 0    | 2    | 0.92 | 0.54      | -1.091  | 0.281              |
| 2: Hypothesis Beliefs, Opinions, and Interest (Attitude) | Students   | 158 | 0.20 | 2    | 1.17 | 0.417     | 5.080   | 0.000              |
|  | Employees  | 50  | 0.50 | 2    | 1.62 | 0.379     | 11.574  | 0.000              |
| 3: Hypothesis Practical Actions and Behavior             | Students   | 158 | 0.46 | 1.85 | 1.09 | 0.267     | 4.166   | 0.000              |
| 4: Hypothesis Practical Actions and Behavior             | Employees  | 50  | 0.29 | 1.86 | 1.20 | 0.306     | 4.694   | 0.000              |

For Hypotheses 5 to 7, the statistical indicators and results of the independent samples t-test are presented in Table 4.

**Hypothesis 5:** According to Table 4, the significance of the independent samples t-test ( $\text{sig} < 0.05$ ) indicates no significant difference between the mean levels of knowledge and awareness regarding environmental issues, laws, and institutions related to environmental laws in Afghanistan among students and employees of the departments. In other words, the level of knowledge and awareness of students and employees about environmental issues, laws, and institutions related to environmental laws in Afghanistan is not different from each other. Therefore, Hypothesis 5 is not supported.

**Hypothesis 6:** According to Table 4, the significance of the independent samples t-test ( $\text{sig} < 0.05$ ) indicates a significant difference between the mean levels of beliefs, opinions, and interest (attitude) of students and employees regarding environmental protection in Afghanistan. In other words, the beliefs, opinions, and interest (attitudes) of students and employees towards environmental protection in Afghanistan differ from each other. Therefore, Hypothesis 6 is supported, with employees showing a higher mean level of beliefs, opinions, and interest (attitude) towards environmental protection in Afghanistan than students.

**Hypothesis 7:** According to Table 4, the significance of the independent samples t-test ( $\text{sig} < 0.05$ ) indicates a significant difference between the mean levels of opinions on practical actions and behaviors related to environmental protection in the regions where students and employees live and work. In other words, the opinions of students and employees regarding practical actions and behaviors related to environmental protection in their respective living and working areas differ from each other. Therefore, Hypothesis 7 is supported, with employees having a higher mean level of opinions regarding practical actions and behaviors related to environmental protection in their workplace than students in their living area.

**Table 4 - Statistical Indicators and Results of the Independent Samples t-test**

| Hypothesis   | t Value | Significance (sig) |
|--|---------|--------------------|
| <b>5: Hypothesis Comparison of Awareness and Understanding (Knowledge) between Students and Staff</b>            | 0.987   | 0.325              |
| <b>6: Hypothesis Comparison of Beliefs, Opinions, and Interests (Attitudes) between Students and Staff</b>       | -6.824  | 0.000              |
| <b>7: Hypothesis Comparison of Opinions between Students and Staff Regarding Actions and Practical Behaviors</b> | -2.543  | 0.012              |

## 7. Discussion and Conclusion

The primary objective of this study was to assess and evaluate the alignment of existing environmental laws in Afghanistan in light of the social realities in the city of Herat. In other words, the aim was to move the laws out of their rigid framework and examine their implementation in the context of society, considering the daily realities of citizens' lives. Accordingly, two groups were selected as the statistical population: students, as an educated and intellectual segment, and government employees, as individuals involved in the implementation and monitoring of various laws and regulations. Based on the designed questionnaires, knowledge, attitudes, and practical behaviors related to Afghanistan's environmental law were examined and evaluated.

According to the findings, the awareness and understanding (knowledge) of students and employees regarding environmental issues, laws, and institutions related to environmental regulations in Afghanistan were found to be low. In other words, the law, at the implementation stage, has not succeeded in enhancing individuals' knowledge about environmental issues. The results also showed that the beliefs, opinions, and interests (attitudes) of students and employees regarding environmental protection in Afghanistan were relatively high. In other words, although individuals' knowledge of environmental issues is low, their opinions on the subject are positive, and they have a strong interest in preserving and enforcing environmental laws. The results further indicated that the opinions of students at Herat University and government employees in Herat regarding actions and practical behaviors related to environmental protection in their living and working areas were positive, which was contrary to the study's hypothesis.

In explaining this result, it can be said that the goal of environmental law is the protection of land, water, and air in its various aspects to ensure environmental preservation.<sup>19</sup>

A study conducted by Rahmani et al.<sup>20</sup> (2021) emphasized the importance of public awareness and knowledge in preventing environmental degradation. Similarly, Erhabour and Dan<sup>21</sup> (2016) identified the awareness and knowledge of youth as key solutions for environmental protection. In a recent study, researchers examined public perceptions of the enforcement of environmental laws in the Philippines and revealed significant findings. Participants were asked to evaluate the effectiveness of the enforcement of environmental laws, their trust in the government's ability to enforce these laws, and their understanding of public awareness of environmental laws in the Philippines. According to the findings, respondents gave an average score of 2.94 for the effectiveness of environmental law enforcement, meaning they considered it somewhat effective. Furthermore, respondents expressed an average level of trust with a score of 2.84 regarding the government's ability to enforce environmental laws. However, when considering public awareness of environmental laws, respondents provided a significantly lower average score of 1.54, indicating a lack of awareness. These results revealed that although respondents considered the enforcement of environmental laws somewhat effective and trusted the government's ability to enforce them, they believed the general public lacked sufficient awareness of these laws. Therefore, there appears to be a gap between respondents' understanding of the effectiveness of enforcement and their trust in the government and their evaluation of public awareness of environmental laws. Policymakers and environmental advocates should address this gap in public awareness to enhance the overall effectiveness of environmental law enforcement. By implementing targeted awareness campaigns and educational initiatives, the government can work to improve public understanding and engagement with environmental laws, thereby fostering a more sustainable and environmentally conscious society.

<sup>19</sup>- El-Mallah, R.K.E.-D., & et al. The role of social responsibility in protecting the environment – a case of the petrochemical companies in Alexandria Governorate. *Review of Economics and Political Science*.

<sup>20</sup>- Rahmani, H., & et al. The Importance of Public Awareness in Environmental Protection: A Case Study in Paktika, Afghanistan. *Nature Environment and Pollution Technology*, 20(4), 1621-1626.

<sup>21</sup>- Erhabour & Don

In a study on environmental actions conducted by researchers, it was found that good environmental actions are those aimed at minimizing environmental issues<sup>22</sup>. The study revealed that students and government employees have limited familiarity with environmental laws and specific regulations. This presents a significant gap, as students are the future leaders of the country and will play an important role in environmental protection. To address this gap, it is recommended that environmental law education be incorporated into students' curricula. This could include dedicated courses or modules that provide comprehensive knowledge of environmental laws, penalties, and reporting procedures. Furthermore, workshops, seminars, and awareness campaigns should be organized to increase the awareness of students and government employees and improve their understanding of environmental laws. Academic institutions, government organizations, and environmental organizations should collaborate to develop and implement joint initiatives aimed at raising awareness and knowledge about environmental laws among students. This could include organizing guest lectures, symposiums, and field visits to environmental law enforcement agencies, as well as strengthening partnerships for research and practical educational opportunities related to compliance with environmental laws. Additionally, targeted awareness campaigns should be designed to raise public awareness of environmental laws, their importance, and reporting methods. Finally, this study indicated that in terms of awareness, there has been limited success in aligning existing environmental laws in Afghanistan with the social realities of the city of Herat, but in terms of attitude and practical behavior, the views of students and government employees were considered positive.

## Reference

1. Afroze, Z. & Qadeer Karyab, A. (2007). Guide to Afghanistan's 2007 Environment Law.
2. Bagheri, D., Mohseni, R. A., & Mahdavi, S. M. S. (2018). Determining the attitude and knowledge of citizens' environmental behavior in the city of Gorgan (2017). *Scientific Journal of Golestan University of Medical Sciences*, 20(4), 6-18.
3. Meshkhedi, A. (2014). Collection of environmental laws and regulations in the oil industry (1st ed.). Khoshandi Publications.
4. Niazi, A. S., Amiri, M. J., & Nasrabadi, T. (2022). Examining and evaluating the environmental literacy of stakeholders regarding the preservation and restoration of forests in Afghanistan (Case study: Laghman Province). *Journal of Forest and Rangeland Protection and Conservation Research*, 20(1), 96-116.
5. Bilal Ahmad Bhat, Nazia Fayaz Azad, Iqra Firdous, Sidrat Ul-Muntaha Anees, Samira Khan, Zeenat Islam, Uzma Nazir, Qazi Nusrat, Arshi Rafiq, Mohammad Inam Bhat, & Intizar Ahmad. (2024). An Empirical Study on Environmental Laws Awareness Among College Students of Kashmir Valley. *ENGAGEMENT: Jurnal Pengabdian Masyarakat*, 3(3), 111–125.
6. Buis A. (2019). A Degree of Concern: Why Global Temperatures Matter. <http://www.ipcc.ch/sr15/>.
7. Chu, E.W. & Karr, J.R. (2017). Environmental impact: Concept, consequences, measurement. In Reference Module in Life Sciences. Elsevier.
8. Clarke, B., Otto, F., Stuart-Smith, R., & Harrington, L. (2022). Extreme weather impacts of climate change: an attribution perspective. *Environmental Research: Climate*, 1(1), 012001. <https://doi.org/10.1088/2752-5295/ac6e7d>.
9. El-Mallah, R.K.E.-D., Aref, A. A. el H., & Sherif, S. (2019). The role of social responsibility in protecting the environment – a case of the petrochemical companies in Alexandria Governorate. *Review of Economics and Political Science*. <https://doi.org/10.1108/rep-04-2019-0052>
10. Fallah Shayan, N., Mohabbati-Kalejahi, N., Alavi, S., & Zahed, M. A. (2022). Sustainable Development Goals (SDGs) as a framework for corporate Social Responsibility (CSR). *Sustainability*, 14(3), 1222. <https://doi.org/10.3390/su14031222>.

<sup>22</sup>- Yue, B. & et al. Impact of consumer environmental responsibility on green consumption behavior in China: The role of environmental concern and price sensitivity. *Sustainability*, 12(5), 2074.

11. <https://ofoghandisha.com>
12. Kousar, S., Afzal, M., Ahmed, F., & Bojnec, Š. (2022). Environmental awareness and air quality: The mediating role of environmental protective behaviors. *Sustainability*, 14(6), 3138. <https://doi.org/10.3390/su14063138>
13. Lincoln, S., Andrews, B., Birchenough, S. N. R., Chowdhury, P., Engelhard, G. H., Harrod, O., Pinnegar, J. K., & Townhill, B. L. (2022). Marine litter and climate change: Inextricably connected threats to the world's oceans. *The Science of the Total Environment*, 837(155709), 155709. <https://doi.org/10.1016/j.scitotenv.2022.155709>
14. Rahmani, H., Wafa, W., Mazloun, Y., Fayaz, G. (2021). The Importance of Public Awareness in Environmental Protection: A Case Study in Paktika, Afghanistan. *Nature Environment and Pollution Technology*, 20(4), 1621-1626. <https://doi.org/10.46488/NEPT.2021.v20i04.024>
15. Sivamoorthy M, Nalini R and Kumar CS (2013). Environmental Awareness and Practices among University Students. *International Journal of Humanities and Social Science Invention* 2(8) 11-15 ISSN (Online): 2319–7722, ISSN (Print): 2319–7714.
16. Sorqvist, P., & Langeborg, L. (2019). Why people harm the environment although they try to treat it well: An evolutionary-cognitive perspective on climate compensation. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00348>
17. Stern, N., Stiglitz, J. (2023). Climate change and growth. *Industrial and Corporate Change*, 32(2), 277–303. <https://doi.org/10.1093/icc/dtad008>
18. Yue, B., Sheng, G., She, S., & Xu, J. (2020). Impact of consumer environmental responsibility on green consumption behavior in China: The role of environmental concern and price sensitivity. *Sustainability*, 12(5), 2074. <https://doi.org/10.3390/su12052074>

In light of this, the present study was conducted in the city of Herat, Afghanistan, with the aim of assessing the implementation of environmental laws and other environmental regulations in Afghanistan, in the context of environmental realities among students and staff of government institutions.

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