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**"Exploring Women Workers' Knowledge, Attitudes, and Practices Regarding ESD Legislation in Educational Settings: A KAP Study" with special reference to Higher Secondary Schools, Namsai District, Arunachal Pradesh.**

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**Abstract**

This study investigates the perspectives of women workers on Education for Sustainable Development (ESD) legislation in Higher Secondary Schools of Namsai District, Arunachal Pradesh. Utilizing a structured questionnaire based on a 5-point Likert scale (SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree), the research aims to assess the participants' knowledge and attitudes towards ESD legislation. A total of 288 women workers participated in the survey. The primary objectives were to evaluate their level of knowledge regarding ESD legislation and to understand their attitudes towards its implementation in educational institutions. The findings reveal a generally high level of awareness among respondents about the specific goals and objectives of ESD legislation. However, there was variability in detailed familiarity with the key components and principles of ESD legislation. Perceptions regarding the adequacy of training on ESD legislation were mixed, indicating potential areas for improvement in educational initiatives and professional development programs. Despite these variations, the study identifies strong positive attitudes towards the importance of ESD legislation and motivation among women workers to integrate its principles into daily educational practices. Conversely, perceptions of institutional support for ESD implementation varied, suggesting a need for institutions to enhance support mechanisms aligned with the aspirations of staff. These findings underscore the importance of targeted educational interventions and improved institutional support to strengthen the implementation of ESD legislation in Higher Secondary Schools of Namsai District. Future research should focus on evaluating the effectiveness of enhanced educational initiatives in fostering sustainability practices within educational settings.

**Keywords:** *Education for Sustainable Development, ESD legislation, women workers, knowledge, attitudes, practices, Namsai District.*

**Introduction**

Sustainable Development (SD) is widely understood as ‘*a form of development which meets the needs of the present without compromising the ability of future generations to meet their own needs*’ (Brundtland, 1987). Education for Sustainable Development (ESD) is concerned with equipping individuals, communities, and governments to live and act sustainably and understand environmental, social, and economic aspects of sustainable development. It focuses on improving the quality of the environment, quality of life, and a more equitable economic growth for sustainability (Anyolo et al., 2018).

The transition to sustainability requires major behavioral changes. This necessitates a complete rethinking of ecosystems and their interconnections, reassessing environmental issues, and fostering behavior change. Understanding how sustainability Knowledge, Attitudes, and Practices (KAP) evolve is essential, as they shape human behavior (Engdahl & Rabušicová, 2011). Knowledge is not the only factor influencing students’ ability to act sustainably; affective factors also impact their daily behavioral decisions. Attitudes can help individuals adapt to the environment faster and may change over time. Since susceptibility to attitude change is greater during adolescence, education can play a significant role in cultivating these attitudes. Changing or forming supportive attitudes is a critical component of ESD (Chen et al., 2022). The positive impact of attitudes and knowledge on sustainability practices highlighted in this research is consistent with the argument that knowledge about environmental issues is crucial for

developing positive attitudes, which then act as a catalyst for sustainable practices (Engdahl & Rabušicová, 2011).

The Sustainable Development Goals (SDGs) aim for sustainable and inclusive development, prioritizing gender equality and the empowerment of girls and women. The SDGs continue the global development agenda by identifying new priorities and intensifying attention toward the outstanding gaps from the MDGs era. For instance, SDG 5 identifies harmful practices such as child marriage, female genital mutilation, gender violence, and the continued unpaid work burden for women as persistent challenges that need to be eradicated (UN, 2017). The question of whether female socioeconomic empowerment enhances the environment has not received considerable attention in scholarly literature. However, the quest for gender equality and the need for a clean and safe environment have recently sparked research interest in understanding the relationship between women's empowerment and environmental conservation.

The United Nations 2005 World Summit Outcome document refers to the 'interdependent and mutually reinforcing pillars' of sustainable development: social development, economic development, and environmental protection. These three pillars are intertwined in ESD, and none can be neglected (Agenda 21, 1992, chapter 25:12). Thus, women's empowerment and environmental sustainability are among the major contemporary challenges faced by governments worldwide. Women's empowerment generally involves promoting women's social, economic, and political status in society (Achuo et al., 2022). By understanding the KAP of women workers in higher secondary schools in Namsai District, Arunachal Pradesh, regarding ESD legislation, this study aims to assess their knowledge and attitudes towards ESD legislation. The findings will provide insights into how effectively these concepts are being integrated into educational settings and what improvements may be necessary to better support sustainable development goals. Despite the global recognition of ESD's importance, there remains a critical gap in understanding the specific knowledge levels, attitudes, and practices of women workers towards ESD legislation, particularly in the context of Higher Secondary Schools in Namsai District, Arunachal Pradesh. This gap impedes the effective implementation of ESD initiatives and limits the potential impact on sustainable development goals at both local and global scales. Addressing this gap through empirical research is essential for developing targeted interventions and strategies that can enhance ESD awareness, foster positive attitudes, and promote sustainable practices among women workers in educational settings. This study aims to fill this gap by examining and analyzing the perspectives of women workers towards ESD legislation in the specified educational context, ultimately contributing to broader efforts in advancing sustainability in education.

### **Statement of the Problem**

Despite the recognized importance of ESD legislation, there is a gap in understanding the knowledge, attitudes, and practices of women workers towards its implementation in educational settings, particularly in Higher Secondary Schools of Namsai District, Arunachal Pradesh. This gap hinders effective integration and sustainability outcomes within these institutions. Understanding these factors is vital for developing targeted strategies to enhance ESD awareness, promote positive attitudes, and improve practices among women workers, thereby contributing to sustainable development goals at the local and global levels. This study aims to address this gap by examining the specific knowledge levels, attitudes, and practices of women workers regarding ESD legislation in the specified educational context.

**Objectives:**

1. To assess the level of knowledge among women workers in educational settings about ESD legislation.
2. To understand the attitudes of women workers towards the implementation of ESD legislation in their respective educational institutions.

**Research Questions:**

1. What is the extent of knowledge that women workers in educational settings have about ESD legislation?
2. What are the prevailing attitudes of women workers towards the implementation and impact of ESD legislation in educational settings?

**Research Methodology**

**Study Design**

This study employs a descriptive cross-sectional research design to investigate women workers' knowledge, attitudes, and practices regarding Education for Sustainable Development (ESD) legislation in Higher Secondary Schools of Namsai District, Arunachal Pradesh. A descriptive cross-sectional design is chosen as it allows for the collection of data at a single point in time to capture a snapshot of the current status of ESD understanding and attitudes among the target population.

**Population and Sampling**

The population of interest includes women workers employed in Higher Secondary Schools within Namsai District. This includes teachers, administrators, and support staff who play pivotal roles in educational practices and policy implementation related to sustainability.

**Sampling Technique**

The study utilizes purposive sampling to select participants who meet the specific criteria of being women workers in Higher Secondary Schools. Purposive sampling ensures that participants have relevant knowledge and experience related to ESD legislation, thereby providing insights into targeted groups most affected by such policies.

**Sample Size**

A total of 288 participants were selected based on the accessibility and availability of women workers within the targeted educational institutions. This sample size is deemed sufficient to achieve a representative sample of the population, ensuring adequate statistical power for analysis and generalizability of findings within the study context.

**Data Collection**

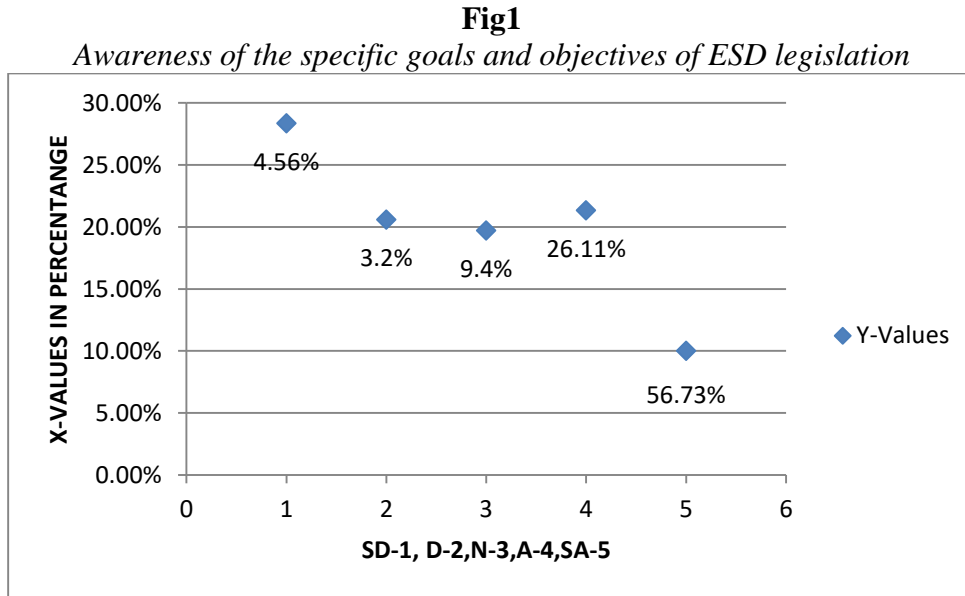
Data is collected using a structured questionnaire developed based on a 5-point Likert scale (SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree). The questionnaire includes items assessing participants' awareness of ESD legislation, familiarity with its principles, perceptions of training adequacy, beliefs in its importance, motivations to integrate ESD principles, and perceptions of institutional support for ESD implementation.

**Data Analysis**

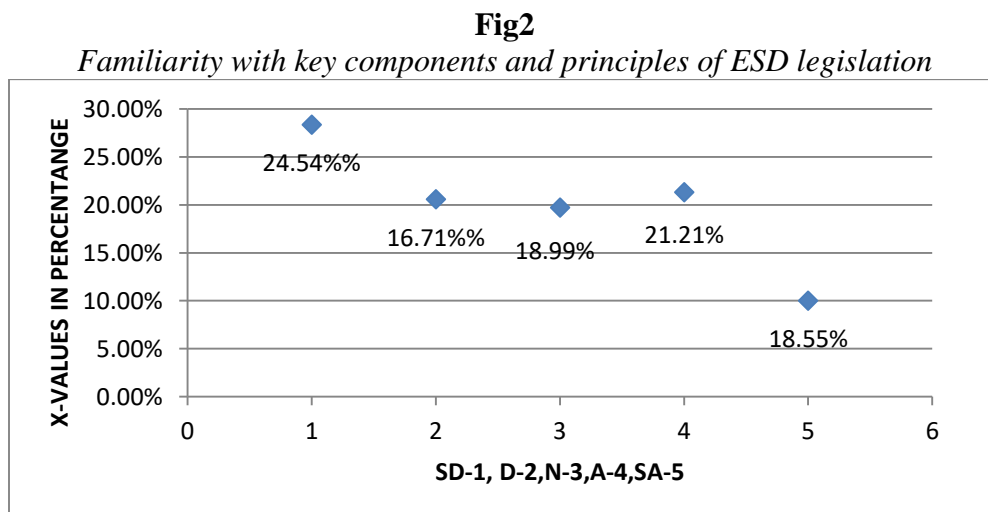
Quantitative data obtained from the questionnaire responses will be analyzed using descriptive statistics to summarize and interpret participants' responses regarding knowledge levels, attitudes, and practices related to ESD legislation. This analysis aims to provide insights into the current status and gaps in ESD understanding among women workers in Higher Secondary Schools of Namsai District.

By employing these research methodologies, this study seeks to contribute valuable insights into enhancing ESD awareness and fostering sustainable practices among women workers within educational settings, thereby supporting broader sustainability initiatives at local and global levels.

**Objective 1: To assess the level of knowledge among women workers in educational settings about ESD legislation.**

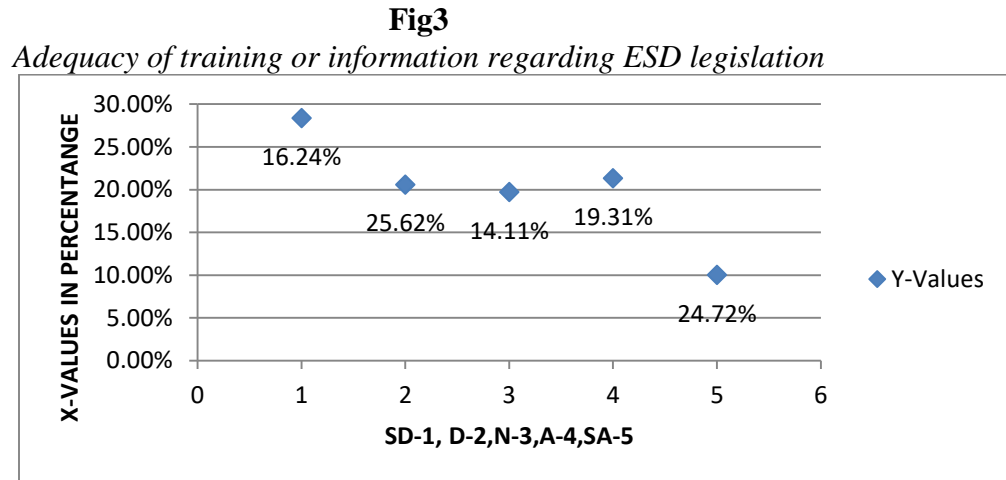


The data from *Fig 1* reveals a high level of awareness among women workers about the specific goals and objectives of ESD legislation, with a combined 82.84% (26.11% Agree, 56.73% Strongly Agree) indicating positive awareness. Only a small percentage (7.76%) express disagreement (4.56% Strongly Disagree, 3.2% Disagree), and 9.4% remain neutral. This suggests that most women workers are well-informed about ESD goals, which is crucial for effective implementation.



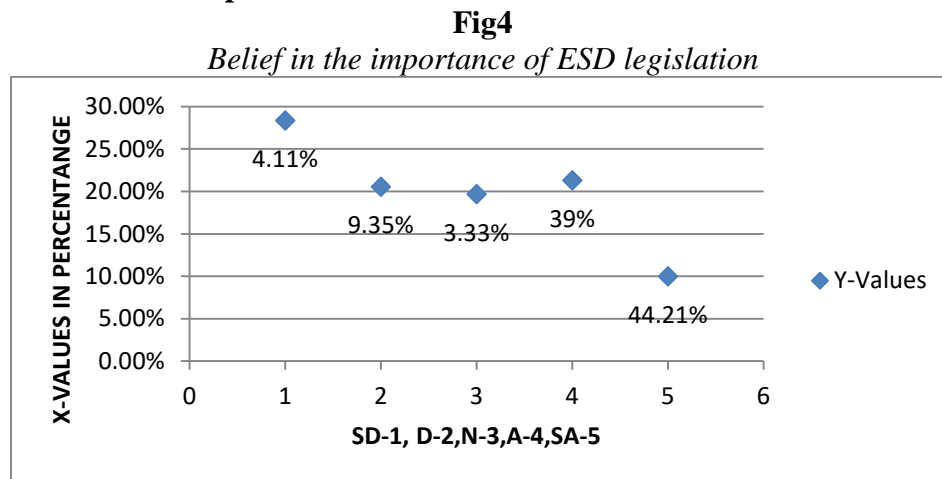
The data from *Fig 2* shows a more varied response regarding familiarity with the key components and principles of ESD legislation. Only 39.76% (21.21% Agree, 18.55% Strongly

Agree) report familiarity, while 41.25% (24.54% Strongly Disagree, 16.71% Disagree) indicate a lack of familiarity. Additionally, 18.99% are neutral. This suggests that while there is some awareness, there is a significant gap in detailed understanding that needs to be addressed through targeted education and training initiatives.

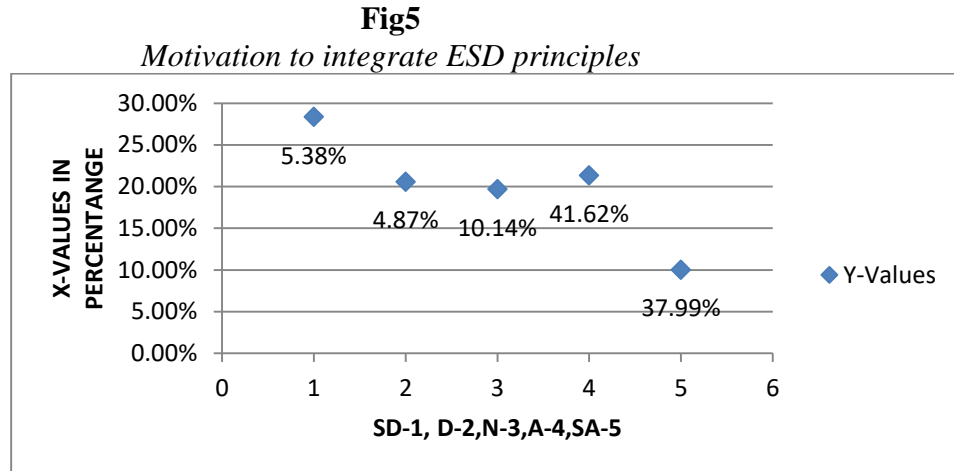


The data from Fig 3 indicates mixed perceptions about the adequacy of training or information received regarding ESD legislation. Only 44.03% (19.31% Agree, 24.72% Strongly Agree) feel they have received adequate training, while a substantial 41.86% (16.24% Strongly Disagree, 25.62% Disagree) disagree. The remaining 14.11% are neutral. This points to a need for improved and more comprehensive training programs to ensure all women workers are well-prepared to implement ESD principles effectively.

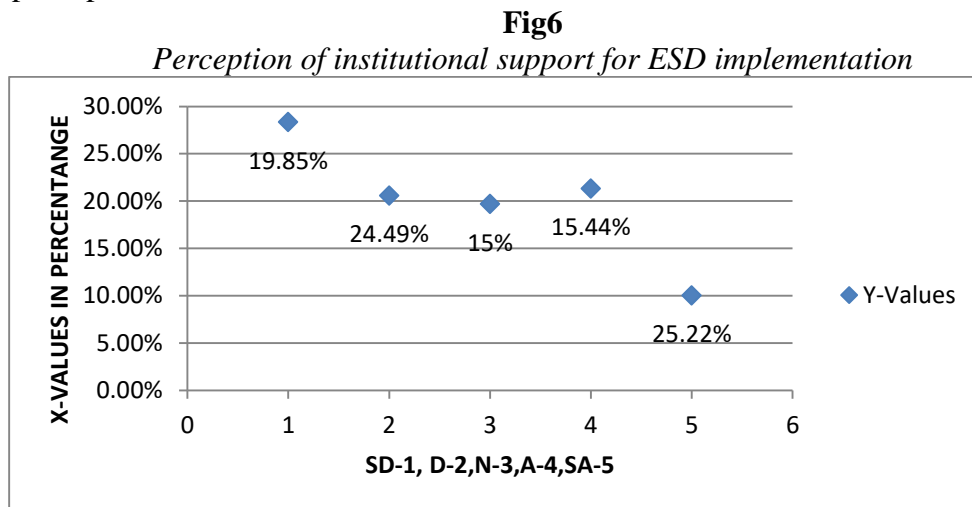
**Objective 2: To understand the attitudes of women workers towards the implementation of ESD legislation in their respective educational institutions.**



The data from Fig 4 shows a strong positive attitude towards the importance of ESD legislation, with 83.21% (39% Agree, 44.21% Strongly Agree) acknowledging its crucial role in promoting sustainability. Only a small fraction, 13.46% (4.11% Strongly Disagree, 9.35% Disagree), do not see its importance, and 3.33% are neutral. This high level of positive attitude suggests that women workers recognize and value the significance of ESD legislation in their educational settings.



The data from Fig 5 reflects a high level of motivation among women workers to integrate ESD principles into their daily activities, with 79.61% (41.62% Agree, 37.99% Strongly Agree) indicating positive motivation. A small percentage, 10.25% (5.38% Strongly Disagree, 4.87% Disagree), are not motivated, and 10.14% remain neutral. This indicates a generally strong willingness to adopt sustainable practices, which is encouraging for the effective implementation of ESD principles.



The data from Fig 6 reveals mixed perceptions regarding institutional support for ESD implementation. Only 40.66% (15.44% Agree, 25.22% Strongly Agree) believe there is sufficient support, while a significant 44.34% (19.85% Strongly Disagree, 24.49% Disagree) do not. Additionally, 15% are neutral. This indicates a need for institutions to enhance their support mechanisms and resources to better facilitate the effective implementation of ESD legislation.

## Results and Discussion

### Results

The study aimed to assess the knowledge and attitudes of women workers in educational settings regarding Education for Sustainable Development (ESD) legislation. The findings indicate a generally high level of awareness among respondents regarding the specific goals and objectives of ESD legislation (Fig 1). A significant majority (83.84%) reported being aware (26.11% Agree, 56.73% Strongly Agree), suggesting a solid foundation in understanding the legislative framework aimed at promoting sustainability within educational institutions. However, while

awareness is high, detailed familiarity with the key components and principles of ESD legislation was more varied (Fig 2). Only 39.76% expressed familiarity (21.21% Agree, 18.55% Strongly Agree), indicating a need for deeper understanding among a substantial portion of respondents. Moreover, perceptions of training adequacy regarding ESD legislation were mixed (Fig 3), with 44.03% feeling adequately informed (19.31% Agree, 24.72% Strongly Agree) and a significant 41.86% (16.24% Strongly Disagree, 25.62% Disagree) expressing dissatisfaction or uncertainty. In terms of attitudes towards ESD legislation, the majority of respondents displayed positive beliefs (Fig 4) and motivation (Fig 5) towards its importance and integration into daily work activities. Specifically, 83.21% (39% Agree, 44.21% Strongly Agree) recognized the crucial role of ESD legislation in promoting sustainability, while 79.61% (41.62% Agree, 37.99% Strongly Agree) expressed motivation to integrate ESD principles into their work. However, perceptions of institutional support for ESD implementation were more divided (Fig 6), with only 40.66% (15.44% Agree, 25.22% Strongly Agree) believing their institution provides sufficient support.

## Discussion

The results highlight both strengths and areas for improvement in the implementation of ESD legislation within educational settings, particularly concerning women workers' knowledge and attitudes. The high awareness levels regarding ESD goals are encouraging, indicating a foundational understanding that can support sustainability initiatives. However, the lower familiarity with specific components and principles of ESD legislation suggests a need for targeted educational programs to deepen understanding among educators and staff.

The mixed perceptions regarding training adequacy underscore the importance of enhancing educational initiatives focused on ESD legislation. Institutions should prioritize comprehensive training programs to ensure all staff members are adequately informed and equipped to integrate sustainable practices into their educational roles effectively.

Positive attitudes towards the importance of ESD legislation and motivation to incorporate ESD principles into daily activities reflect a readiness among women workers to contribute to sustainability efforts. These attitudes can serve as a valuable resource for advancing ESD goals within educational institutions, provided that adequate support and resources are available.

The findings regarding institutional support reveal a significant gap between perceived support and actual needs for implementing ESD legislation. Institutions must address these discrepancies by bolstering support mechanisms and allocating resources effectively to empower staff in advancing sustainability agendas.

In conclusion, while the study identifies areas for improvement, such as enhancing familiarity with ESD principles and ensuring adequate institutional support, it also underscores the positive attitudes and potential contributions of women workers towards sustainable development in educational settings. Addressing these findings through targeted interventions can enhance the overall effectiveness of ESD legislation implementation and foster a culture of sustainability within educational institutions.

## Conclusion

This study aimed to assess the knowledge and attitudes of women workers in educational settings regarding Education for Sustainable Development (ESD) legislation. The findings reveal a solid foundation of awareness among respondents regarding the specific goals and objectives of ESD legislation, with a significant majority indicating awareness. However, there exists a notable gap



in the detailed familiarity with key components and principles of ESD legislation, highlighting the need for targeted educational initiatives to deepen understanding among educators and staff. While positive attitudes towards the importance of ESD legislation and motivation to integrate its principles into daily activities were prevalent among respondents, perceptions of institutional support for ESD implementation were more varied. This suggests that while there is enthusiasm and readiness among women workers to contribute to sustainability efforts, there is a crucial need for institutions to enhance support mechanisms and allocate resources effectively. In conclusion, the study underscores the importance of continuous education and training to strengthen knowledge about ESD legislation among women workers in educational settings. By addressing these knowledge gaps and aligning institutional support with the aspirations of staff, educational institutions can effectively promote sustainability and contribute meaningfully to global efforts towards a more sustainable future. Future research should focus on evaluating the impact of enhanced educational initiatives and support systems on the implementation and outcomes of ESD legislation within educational settings.

### **Suggestions**

1. **Develop Targeted Training Programs:** Implement specialized training programs on ESD legislation tailored for women workers in Higher Secondary Schools. These programs should focus on enhancing knowledge about ESD principles, legal frameworks, and practical implementation strategies.
2. **Promote Awareness Campaigns:** Launch comprehensive awareness campaigns within educational institutions to highlight the importance of ESD legislation and its relevance to sustainable development goals. Utilize various media channels and interactive workshops to engage women workers and foster a culture of sustainability.
3. **Facilitate Collaborative Networks:** Establish collaborative networks and platforms for women workers to share best practices, resources, and innovative approaches towards integrating ESD principles into curriculum development and daily educational practices.
4. **Incorporate ESD into Professional Development:** Integrate ESD topics into ongoing professional development programs and staff meetings. Encourage discussions and reflections on how ESD legislation can be effectively integrated into teaching methodologies and administrative practices.
5. **Enhance Institutional Support:** Advocate for increased institutional support and resources dedicated to ESD initiatives. This includes allocating funding for sustainability projects, creating policy frameworks that prioritize ESD goals, and ensuring leadership commitment to sustainability within educational institutions.
6. **Monitor and Evaluate Impact:** Establish mechanisms for monitoring and evaluating the impact of ESD initiatives on women workers' knowledge, attitudes, and practices. Use feedback loops to continually assess the effectiveness of interventions and make informed adjustments to improve outcomes over time.

Implementing these suggestions can empower women workers in Higher Secondary Schools of Namsai District to play proactive roles in advancing sustainable development through effective implementation of ESD legislation. These actions not only benefit educational institutions but also contribute to broader societal goals of environmental stewardship and social responsibility.

### List of References

- Abubakar, I., Aina, Y. A., & Alshuwaikhat, H. M. (2020). Sustainable development at Saudi Arabian universities: An overview of institutional frameworks. *Sustainability*, 12(19), 8008.
- Abubakar, I., Al-Shihri, F., & Ahmed, S. (2016). Students' assessment of campus sustainability at the University of Dammam, Saudi Arabia. *Sustainability*, 8(1), 59.
- Achuo, E., Asongu, S., & S Tchamyu, V. (2022). Women empowerment and environmental sustainability in Africa.
- Agenda 21. 1992. Agenda 21 - Table of Contents. UN Department of Economic and Social Affairs. Division for Sustainable Development.
- Alshuwaikhat, H. M., & Abubakar, I. (2008). An integrated approach to achieving campus sustainability: Assessment of the current campus environmental management practices. *Journal of Cleaner Production*, 16(16), 1777-1785.
- Amador, F., Martinho, A. P., Bacelar-Nicolau, P., Caeiro, S., & Oliveira, C. P. (2015). Education for sustainable development in higher education: Evaluating coherence between theory and praxis. *Assessment & Evaluation in Higher Education*, 40(6), 867-882.
- Anyolo, E. O., Kärkkäinen, S., & Keinonen, T. (2018). Implementing education for sustainable development in Namibia: School Teachers' Perceptions and Teaching Practices.
- Barth, M., & Rieckmann, M. (2012). Academic staff development as a catalyst for curriculum change towards education for sustainable development: An output perspective. *Journal of Cleaner Production*, 26, 28-36.
- Barth, M., & Rieckmann, M. (2016). State of the art in research on higher education for sustainable development. In *Routledge Handbook of Higher Education for Sustainable Development* (pp. 100-113).
- Bashar, M. K. (2022). Attitude and awareness of university teachers towards implementing Sustainable Development Goals in public universities in Malaysia.
- Berglund, T., & Gericke, N. (2022). Diversity in views as a resource for learning? Student perspectives on the interconnectedness of sustainable development dimensions. *Environmental Education Research*, 28(3), 354-381.
- Boca, G. D., & Saraçlı, S. (2019). Environmental education and students' perception for sustainability. *Sustainability*, 11(6), 1553.
- Boeve-de Pauw, J., Gericke, N., Olsson, D., & Berglund, T. (2015). The effectiveness of education for sustainable development. *Sustainability*, 7(11), 15693-15717.
- Bolderston, A. (2008). Writing an effective literature review. *Journal of Medical Imaging and Radiation Sciences*, 39(2), 86-92.
- Bonnett, M. (2002). Education for sustainability as a frame of mind. *Environmental Education Research*, 8(1), 9-20.
- Braßler, M., & Sprenger, S. (2021). Fostering sustainability knowledge, attitudes, and behaviours through a tutor-supported interdisciplinary course in education for sustainable development. *Sustainability*, 13(6), 3494.
- Brundtland, G. H. (1987). UN Brundtland Commission Report. *Our Common Future*. Oxford
- Cebrián, G., & Junyent, M. (2015). Competencies in education for sustainable development: Exploring the student teachers' views. *Sustainability*, 7(3), 2768-2786.
- Cebrián, G., Grace, M., & Humphris, D. (2015). Academic staff engagement in education for sustainable development. *Journal of Cleaner Production*, 106, 79-86.

Chen, C., An, Q., Zheng, L., & Guan, C. (2022). Sustainability literacy: assessment of Engdahl, I., & Rabušicová, M. (2011, July). Education for sustainable Development in Practice. In *A Report for the OMEP World Assembly and Conference on the OMEP WORLD*. knowingness, attitude and behavior regarding sustainable development among students in China. *Sustainability*, 14(9), 4886.

practice of Tehranian women apropos of reducing, reusing, recycling, and recovery of urban solid waste. *Environmental monitoring and assessment*, 192, 1-13. University Press.

Zand, A. D., Heir, A. V., & Tabrizi, A. M. (2020). Investigation of knowledge, attitude, and