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Sustained Engagement of Early-Career Women in STEM: Strengthening Indonesia's Commitment to CTBTO Initiatives

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INTRODUCTION AND MAIN RESULTS

The CTBTO Youth Group and Gender Focal Point mentoring program, launched in 2022, aims to strengthen the role of early-career women in STEM from underrepresented regions. Indonesia has actively contributed. A KPI-based survey revealed strong positive impacts: participants reported improved technical and soft skills, greater knowledge of CTBTO, expanded professional networks, and enhanced motivation to engage in CTBT-related work. Career outcomes such as scholarships, publications, and leadership opportunities were also noted. At the same time, challenges remain, including cultural barriers and limited institutional support, highlighting the need for stronger local mentoring structures and more hands-on engagement.

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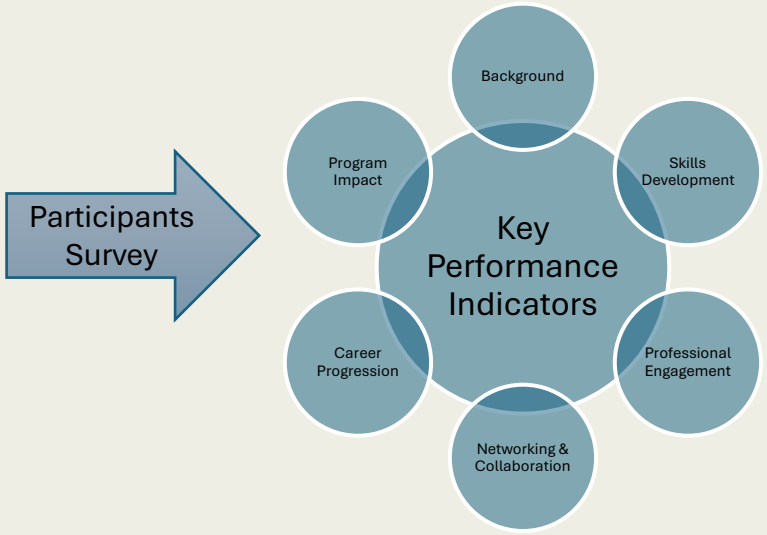
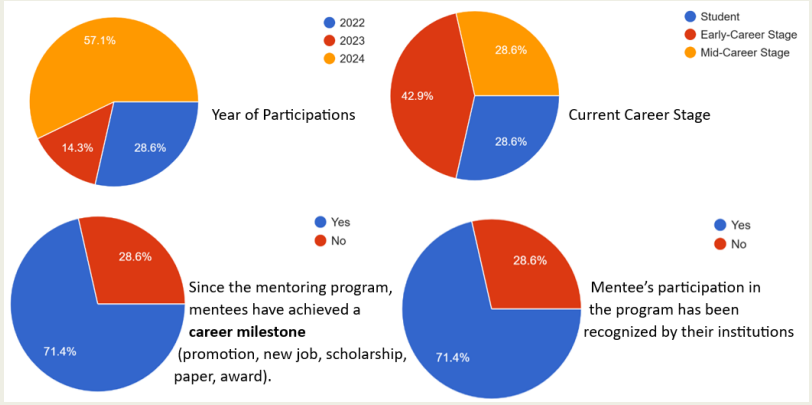
Background

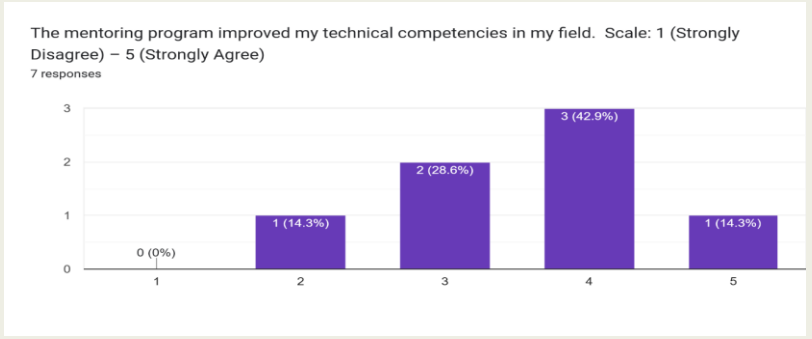
The Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) has emphasized the importance of inclusive capacity-building initiatives to strengthen global scientific cooperation and technical expertise. Indonesia has been an active contributor to this initiative, reflecting its national commitment to advancing both gender equity and technical excellence. This study underscores how sustained engagement of young women in STEM not only promotes gender equity but also strengthens Indonesia's active role and leadership within the CTBTO framework.

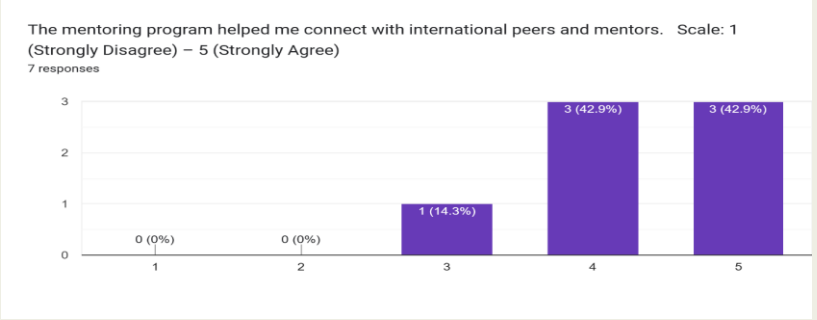
Methodology



Results







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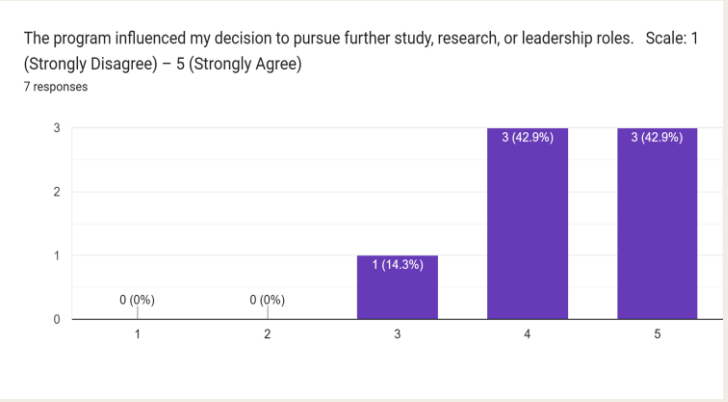

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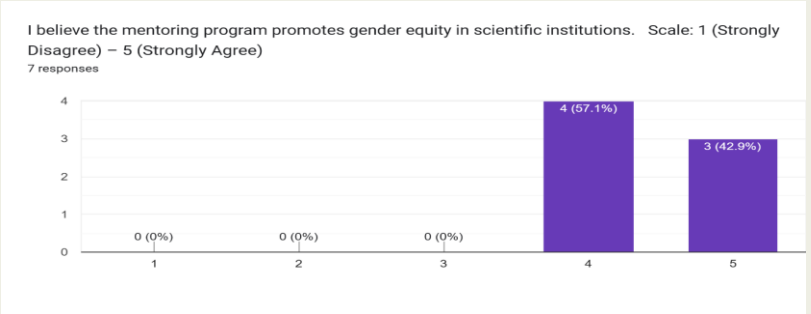

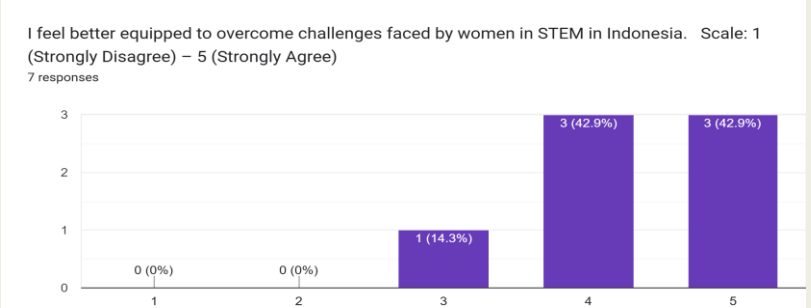

Results

Skills Development: Improved technical competencies and soft skills (avg. 3.7–4.7/5).
Application: Participants applied new knowledge in research, teaching, and regulatory tasks.
Motivation: Boosted confidence to engage in CTBT-related work and international forums.
Networking: Expanded professional and international networks; many maintain active contact.
Career: Some achieved promotions, scholarships, or publications; stronger leadership confidence.
Challenges: Cultural barriers, limited institutional support, need for more hands-on activities.
Suggestions: Local mentorship networks, offline/hybrid sessions, clear career pathways.

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Conclusion

The mentoring program has significantly strengthened participants' skills, confidence, and understanding of CTBTO-related science, while reinforcing Indonesia's active role in CTBT initiatives. It has expanded professional networks, supported career advancement, and empowered women to take on leadership roles in STEM. At the same time, challenges such as cultural barriers, limited institutional recognition, and the need for sustained engagement remain evident. To maximize impact, future efforts should expand mentoring opportunities, build stronger local support systems, and provide more hands-on CTBT-related experiences.

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