Diversity, Equity and Inclusion in Global Biosafety & Biosecurity

PRACTICAL INTERVENTIONS & MEASURING PROGRESS - THE IMPLEMENTATION TOOL

ABOUT THIS TOOL

This tool has been developed for all organizations and workplaces handling biological materials, at the laboratory bench level and beyond. It presents a set of policies, practices and cultural interventions which can be practically implemented to directly support Diversity, Equity, & Inclusion (DEI) within a professional biosafety and biosecurity context.

Each intervention is complemented by a set of performance measurement indicators that go beyond simple diversity representation quotas by considering equity and inclusion indicators specific to biosafety and biosecurity professionals. Organizations that create and support an environment of belonging, equity and inclusion among all employees leads to a stronger collective responsibility for reducing biological risks. An important first step is to ensure organizations and workers have a good understanding of the tangible connections between DEI and biosafety and biosecurity in the workplace setting and their relevance to sustainable best practices.

The tool focuses on seven thematic clusters developed by the IFBA's Equity Coordinating Committee, together with a panel of international experts, which describe these tangible connections and embed DEI within a professional biosafety and biosecurity context. Geographic representation was a key consideration in the identification of experts on the panel, with an emphasis on including experts from the global south.

METHODOLOGY USED

The development of the tool utilized the Delphi method, a research technique with iterative structured feedback for distilling and pooling expert opinion through a series of questionnaires and achieving consensus. The method utilizes an anonymized approach with equally weighted expert responses to minimize bias and develop a harmonized global viewpoint without any one opinion influencing or ranking higher than another (i.e., to avoid higher-ranking decisionmakers' opinions being more heavily weighted than frontline laboratory workers, or youth expert opinions being overshadowed by older professionals).

A total of 3 rounds of questionnaires, following the Delphi research methodology, were included beginning with open-ended questions, whose findings were then used to draft a second questionnaire and subsequent third questionnaire with closed-ended questions. Experts were asked to identify and rate each proposed intervention and it's associated progress indicators according to it's suitability and relevance in addressing the following questions:

- What biosafety and biosecurity policies, practices, and cultural interventions could be implemented to support **diversity** in an organization?
- What biosafety and biosecurity policies, practices, and cultural interventions could be implemented to support **equity** in an organization?
- What biosafety and biosecurity policies, practices, and cultural interventions could be implemented to support **inclusion** in an organization?
- What measurements, tools, or strategies could be used to effectively measure progress towards implementation of each intervention?

The questionnaires used a 7-point Likert scale, and scores were analyzed to assess relative consensus (i.e., <30% expert responses scored below 5 points out of 7 possible points to determine need for modification, or in some cases, discarding the intervention or it's associated measurement). Additional feedback steering these modifications included qualitative feedback from the panel, as well as individual correspondence with specific experts.

Compile Expert Pool → Open Answer Survey → Closed Answer Survey → Determine Consensus
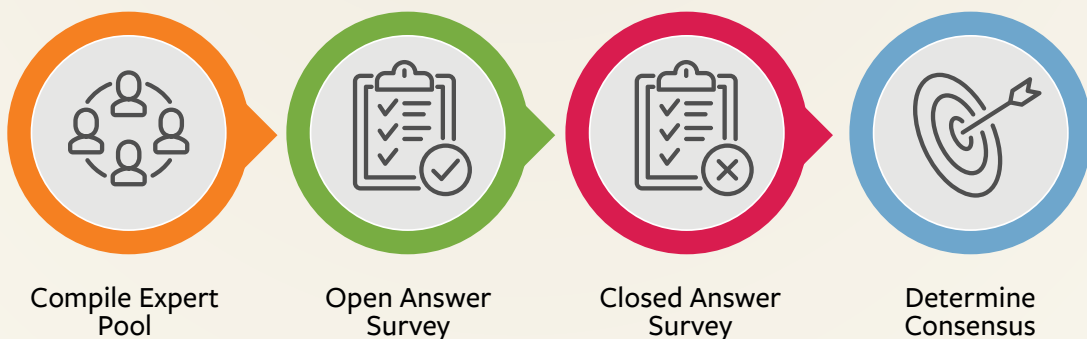
HOW TO USE THE TOOL

The tool provides organizations with the opportunity to identify what biosafety and biosecurity policies, practices and cultural interventions could be implemented within their workplaces that directly support DEI and how to measure their progress. As each workplace is unique, organizations can prioritize, and mix and match the implementation of selected interventions to build a culturally relevant DEI action plan that is relevant to their local context and needs. When discussing and developing an action plan for implementation, organizations are encouraged to include a wide representation of individuals representing all organizational levels and to listen to each diverse voice from within their workforce. It is important for each individual worker, or groups of workers, to see themselves as part of the organization's DEI strategy. Equally important is for leadership to understand each workers unique lived experiences within the organization.

Organizations are encouraged to define concrete actions steps to improve performance in each of the 38 specific recommended interventions within the seven overarching thematic clusters presented in the tool. Each area is accompanied by practical guidance and best practices that clarify unfamiliar concepts and assist organizations with identifying achievable measures of success. Developing a mature and sustainable DEI strategy is a continuous improvement process. As such, the tool should be referred to on an ongoing basis as organizations move towards mainstreaming and successfully integrating diversity, equity and inclusion into the daily biosafety and biosecurity work of the organization.

Helpful Definitions

Diversity asks who is in the room

Equity asks who is trying to get in the room and what do they need to do so

Inclusion asks have everyone's ideas been heard

Meaningful participation and consideration of a diverse workforce and their equitable access to information results in more effective biosafety and biosecurity decision-making and implementation. Considering everyone in these processes avoids implementation gaps which can impede productivity and sustainable adherence to best biosafety and biosecurity practices.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Policies	1.1 Gathering input from a diverse workforce into the inclusion of unique DEI elements within biosafety and biosecurity policies, manuals and operational procedures & practices for handling biological materials results in safer and more secure management of biological risks.	Evaluating DEI elements included in the policies, manuals, and SOPs to accommodate and recognize the entirety of the diverse workforce (e.g., physical abilities, language, ethnicity, religious beliefs, gender, and age). Analyzing the quality and quantity of the unique DEI elements and the opportunity for their amendment as the workforce evolves over time. Analysis of anonymous feedback from the workers on their needs being met in effective and safe use of facility. Conducting a bottleneck analysis that may be causing the workflow to be unsafe (from a policy perspective).	*Refer to **Annex 1** for a fillable action planning form.*

Implementation Tip

Organizations should begin developing their action plan with a self-assessment to determine where they are now (e.g., what they have already implemented) and what actions are needed to achieve the desired level of performance

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Implementation Tip

Cultural interventions can take many different forms and should be adapted to the cultural values, attitudes and norms of each unique workplace.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Policies	1.2 Gathering input from a diverse workforce into the standards, norms and regulations for safe and secure handling of biological materials results in better tailored approaches that can be sustained and effectively implemented over the long term.	Disaggregating contributions to standards, norms and regulations by unique diversity characteristics applicable to the local context (e.g., physical abilities, language, ethnicity, religious beliefs, gender, and age). Analyzing the quality and quantity of the unique DEI elements and their impact on sustainable biosafety and biosecurity implementation.	*Refer to **Annex 1** for a fillable action planning form.*
Practices	1.3 Gathering input from a diverse workforce into the physical design of biocontainment laboratories results in a safer working environment.	Evaluating accommodations made in the laboratory design to meet the unique diversity characteristics of its users (e.g., physical abilities, language, ethnicity, religious beliefs, gender, and age). Analysis of anonymous feedback from the workers on their needs being met in effective and safe use of facility. Conducting a bottleneck analysis that may be causing the workflow to be unsafe (from a design perspective).	

Meaningful participation and consideration of a diverse workforce and their equitable access to information results in more effective biosafety and biosecurity decision-making and implementation. Considering everyone in these processes avoids implementation gaps which can impede productivity and sustainable adherence to best biosafety and biosecurity practices.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Practices	1.4 Including a wide group of individuals from all organizational levels in the implementation of all aspects of the biosafety and biosecurity programming (e.g., risk assessment, risk management, monitoring & evaluation, and program performance) and incorporating unique ways to include them (e.g., rotations in duties) leads to greater adherence throughout the workplace.	Disaggregating participants in programming by organizational level and hierarchy. Review of audits and inspections at all levels in the workplace for adherence to established biosafety and biosecurity programming.	*Refer to **Annex 1** for a fillable action planning form.*
Culture	1.5 The institutional biosafety committee embraces diversity and transparency in its membership, invited observers, and its activities including representation from departments (e.g., scientific, administration, security, management, hygiene) results in a more comprehensive and robust assessment and mitigation of risks.	Disaggregation of departmental representation and invited observers (multi-professional composition). Measurement of inclusion factors in an anonymized survey to observers, measuring transparency of institutional biosafety committee and its members. Collecting and tracking submitted ideas for decision-making in biosafety and biosecurity, including who submitted them and their degree of implementation and value added over time.	

Meaningful participation of a diverse workforce also drives innovation and problem-solving in biosafety and biosecurity, where the addition of different voices provides broader perceptions of risk and a greater variety of strategies or methods to mitigate them.

Example of a Best Practice

Feedback mechanisms should be flexible to suit local contexts (e.g., are adaptive to what individuals across cultures may see as being valued)

Category	Intervention	Performance Measures	Action Plan _Current Status / Desired Future State / Action Steps_
Practices	2.1 Including a wide group of individuals from all organizational levels in meetings discussing biosafety and biosecurity issues offers a broader perception of risk and mitigation strategies.	Disaggregating individuals' meaningful participation in meetings by organizational level and hierarchy. Collecting and tracking ideas and information brought forward by individuals from different levels in the organization.	_Refer to **Annex 1** for a fillable action planning form._
Practices	2.2 Listening to each voice in a diverse workforce leads to more innovative, creative, and relevant risk-based biosafety and biosecurity decisions and problem-solving.	Disaggregating contributions to the development of an institutional biosafety manual (SOP, policy, etc) by gender, age, and other demographics. Analysis of anonymous feedback from participants in biosafety meetings and discussions on their perception of innovative and creative ideas being heard and considered. Collecting and tracking submitted ideas for decision-making in biosafety and biosecurity, including who submitted them and their degree of implementation and value added over time (measuring innovation).	

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Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Practices	2.3 Integrating DEI strategies into research projects leads to greater innovation, safer and more secure handling of biological materials.	Evaluating research projects, biosafety committee reports, and research evaluation board reports on evidence of DEI strategies in research projects, as well as the composition of these committees (e.g., gender, position). Evaluating degree of implementation of DEI strategies and research projects to assess value added over time.	*Refer to **Annex 1** for a fillable action planning form.*
Practices	2.4 Recognizing the competency of young biosafety professionals and supporting their professional growth through mentorship and professional certification brings new paradigms to the workforce and can re-examine familiar biorisk control measures with fresh perspectives.	Disaggregating the workforce by age, experience and their respective participation in mentorship programs and other professional development programming. Collecting and tracking submitted ideas in biosafety and biosecurity, including who submitted them and their degree of implementation and value added over time, including demographic data (e.g., age, experience).	

Meaningful participation of a diverse workforce also drives innovation and problem-solving in biosafety and biosecurity, where the addition of different voices provides broader perceptions of risk and a greater variety of strategies or methods to mitigate them.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Culture	2.5 Valuing the qualities and characteristics that a diverse group of people can bring to their workplace (e.g., personality, thought style, ideologies, education, work & life experiences) empowers individuals to connect and learn new biosafety and biosecurity perspectives from each other.	Analysis of anonymous feedback from the entire organization on how their unique qualities were valued in collaborating/ knowledge sharing with their colleagues.	*Refer to **Annex 1** for a fillable action planning form.*
Culture	2.6 Recognizing, celebrating, and crediting all individuals' innovations, contributions to and achievements in biosafety and biosecurity promotes inclusivity, common respect, and accountability for managing biological risks.	Analysis of mechanisms for recognizing individuals' contributions to biosafety and biosecurity.	

Providing accommodations to workers as needed allows them to fully commit to their scheduled work, and meaningfully participate in shared projects and decision-making. Equitable work environments encourage a sense of belonging, accountability, and common responsibility in workplaces handling biological materials.

Category	Intervention	Performance Measures	Action Plan — Current Status, Desired Future State, Action Steps
Policies	3.1 Providing adequate biosafety and biosecurity policies reflecting working conditions that address the specific needs of women leads to greater productivity and safer work.	Evaluating the organization's creative workplace strategies targeted towards women (e.g., flexibility to accommodate family needs, supporting child and elder care, flexible working hours, specifically tailored PPE design and practices for religious and cultural needs).	*Refer to **Annex 1** for a fillable action planning form.*
Policies	3.2 The occupational health and medical surveillance policy includes specific measures protecting the health of all employees provides equitable care for the diverse workforce who may be exposed to biological materials.	Analysis of occupational health and medical surveillance programs in relation to workforce composition and the biological risks they face.	
Practices	3.3 Accommodating religious and cultural practices within the daily work schedule (e.g., prayer times and rooms) avoids potential conflicts with safe and secure work and maximizes worker productivity.	Number of mechanisms or provisions to accommodate worker needs.	

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Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
⚙️ Practices	3.4 Ensuring work schedules with biological materials are flexible (e.g., hours, days, work leave) and accommodate employee needs (e.g., caregiver responsibilities) and all major holidays facilitates a positive work-life balance, fosters a more accountable and reliable workforce, and maximizes worker productivity.	Quality and quantity of elements of scheduling and leave policies which address relevant DEI factors.	*Refer to **Annex 1** for a fillable action planning form.*
⚙️ Practices	3.5 Ensuring adequate physical and psychological safety and security for employees deployed to the field, working with lab animals, and on the front lines reduces employee turnover and burnout, safeguarding biosafety and biosecurity measures.	Analysis of anonymous feedback, disaggregated by gender and other demographic data, assessing worker experiences, including support felt for their safety and security while working.	

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Example of a Best Practice

The option for hybrid (in-person and online) events can make participation much easier for those who are unable to travel or otherwise attend an event. Virtual participation elements such as live question and answer periods and recording presentations for participants across many time zones to view at a time of their convenience can help to value participant's input and time.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Practices	3.6 Providing alternating meeting venues geographically, provision of interpretation services, dietary and religious requirements, and incorporating virtual participation elements gives opportunity for all stakeholder groups and individuals to participate in biosafety and biosecurity related events.	Quality and quantity of virtual participation elements. Analysis of geographic locations. Analysis of language, religious, and cultural accommodations provided. Analysis of event registration and participation (e.g., geographic disaggregation).	*Refer to **Annex 1** for a fillable action planning form.*
Culture	3.7 Avoiding biosafety and biosecurity training, workshops, institutional committee meetings, and other events on all major holidays gives opportunity for all employees to participate.	Comparison of date overlap between biosafety and biosecurity events with major holiday celebrations.	

Recruitment and retention of diverse leaders in biosafety and biosecurity expedites and enhances the benefits of diverse workforces, where DEI may be more sustainably mainstreamed into policy- and decision-making processes.

Example of a Best Practice

Measures to effectively onboard new leadership can take many forms, including peer mentorship and networking with other biosafety and biosecurity leaders. Consideration should be given to providing such opportunities, particularly for underrepresented leaders or workers, in the organization or region.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Policies	4.1 Ensuring the policy for interviewing, hiring, and promotion of employees, including biosafety and biosecurity positions, is free from biases against or for any individual or group of candidates enables the organization to reach candidates from a broader range of backgrounds and experiences, creating a welcoming inclusive workplace.	Analyzing the quantity and quality of mechanisms targeting diversity in the application, interview, selection, performance review and career development process. Analysis of interview questions posed (e.g., uniformity of questions between candidates).	*Refer to **Annex 1** for a fillable action planning form.*
Culture	4.2 Leveraging collaborative leadership styles as chairs of institutional biosafety committees can result in a greater cooperative dynamic between management and workers.	Analysis of feedback from management and workers on their perceived efficacy of the biosafety committee while chairmanship is rotated between individuals.	

THEMATIC CLUSTER 4

Recruitment and retention of diverse leaders in biosafety and biosecurity expedites and enhances the benefits of diverse workforces, where DEI may be more sustainably mainstreamed into policy- and decision-making processes.

Category	Intervention	Performance Measures	Action Plan *Current Status / Desired Future State / Action Steps*
Culture	4.3 Supporting underrepresented groups in leadership positions, and providing them with the information and tools to succeed at their role, allows for greater ability to relate to employees in the implementation of biosafety best practices.	Disaggregating leadership by diversity (e.g., age, gender, ethnicity, language spoken, education and experience) representative of the workforce, in combination with pulse surveys regarding employee relatability of said leadership. Analyzing measures taken to effectively onboard new leadership.	*Refer to **Annex 1** for a fillable action planning form.*
Culture	4.4 Embracing diversity and valuing each individual in the composition of biosafety committees and governing bodies leads to greater adherence in the workplace of their policies, recommendations, and decisions.	Disaggregating membership by diversity (e.g., age, gender, ethnicity, language spoken, education and experience). Analysis of the committee's strategies to encourage diverse participation from underrepresented groups (e.g., women). Evaluating evidence of adherence at all levels in the workplace to policies, recommendations, and decisions, correlated with composition of committee/governing body.	

Top-down organizational commitment to best practices in DEI not only contributes to effective human resources management, but also provides model values and code of conduct applicable to the safe, secure, and responsible use of biological materials.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Policies	5.1 Policy for performance review including an element of adhering to the organization's DEI policies and practices demonstrates management's commitment to DEI accountability within the organization.	Quantity and quality of points in performance review framework targeting DEI.	*Refer to **Annex 1** for a fillable action planning form.*
Policies	5.2 The policy for conducting personnel reliability and background checks is free from biases against or for any individual or group of candidates.	Analysis of the quality and quantity of mechanisms used to minimize or mitigate bias in conducting personnel reliability and background checks.	
Policies	5.3. Ensuring the organization has an anti-discrimination and anti-harassment policy in place contributes to a working environment that values responsible conduct and accountability with biological materials.	Quantity and quality of points in policy targeting DEI (e.g., protection of marginalized groups).	

Top-down organizational commitment to best practices in DEI not only contributes to effective human resources management, but also provides model values and code of conduct applicable to the safe, secure, and responsible use of biological materials.

Helpful Resources

The IFBA's Equity Coordinating Committee publication "*DEI in Biosafety & Biosecurity – A Need for Leadership*" provides 10 additional recommended action steps for institutional top management to take meaningful action and demonstrate their commitment towards DEI in the workplace.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Practices	5.4 Ensuring the biosafety and biosecurity policy incorporates an assessment of the organizational DEI climate (e.g., a mechanism for workers to give open and non- attributional feedback on policies that they believe unfairly hinder them compared to their coworkers better allows employees to contribute to the policy without fear of repercussions).	Analysis of anonymous feedback on policies individuals believe may unfairly hinder them compared to their coworkers. Utilizing an external DEI specialist to assess the organization's DEI climate, identify blind spots, and make recommendations; evaluate the number of recommendations implemented.	*Refer to **Annex 1** for a fillable action planning form.*
Practices	5.5 Holding dedicated workshops and agenda points during general meetings or events on unconscious bias, DEI, and the organization's commitment to DEI leads to greater psychological safety within the organization's work teams working with biological materials.	Frequency and attendance of DEI sessions combined with using pulse surveys to identify how employees feel about taking risks and speaking up, and how they perceive their own biases and assumptions as they relate to DEI.	

Top-down organizational commitment to best practices in DEI not only contributes to effective human resources management, but also provides model values and code of conduct applicable to the safe, secure, and responsible use of biological materials.

Helpful Definitions

An intersectional approach assumes that not all individuals from the same social group (e.g., women) are the same, where other aspects of their identity (e.g., race, region) combine to define their relationships advantages and disadvantages. Acknowledgment that each unique individual has their own experiences or interest, allows different voices to be fully heard.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Culture	5.6 Embracing an intersectional perspective in the design and delivery of biosafety & biosecurity programs reduces the risk of employees experiencing disadvantage or discrimination because of their intersecting identities.	Collect and analyze the organization's policies, practices and initiatives that recognize multiple social identities and affect how employees experience discrimination. Utilizing an independent external specialist in intersectionality to review and evaluate the organization's approaches, identify blind spots, and make recommendations; evaluate the number of recommendations implemented.	*Refer to **Annex 1** for a fillable action planning form.*
Culture	5.7 Organizations that target biosafety and biosecurity activities towards all employees (e.g., regardless of demographics and organizational level) results in a motivated, passionate, and engaged workforce with a sense of collective accountability.	Evaluating the organization's activities, mechanisms and tools used for evidence of outreach to all employees. Conducting employee surveys to gather information on the organization's employee net promoter score, employee satisfaction index, turnover rate, absenteeism, internal promotion rate, and disaggregating results by gender, age, and other demographic data.	

THEMATIC CLUSTER 6

An organization's marketing materials and communications, whether externally or internally, that are accessible and representative are seen positively by employees and stakeholders alike, encouraging these groups to feel included, accountable, and to participate in knowledge-sharing and promotion of values.

Implementation Tip

Stakeholder groups may vary by gender, age, cultural background and other attributes. When planning DEI interventions that involve external or internal communications, organizations should strive to tailor messages accordingly. Empathy should be a cornerstone of DEI communications.

Category	Intervention	Performance Measures	Action Plan — Current Status, Desired Future State, Action Steps
Practices	6.1. Ensuring fair visibility for everyone in biosafety and biosecurity communications ensures fair visibility of individuals, allowing self- identification prerequisite to fostering a culture of collective responsibility for managing biological risks.	Evaluating an institution's marketing and media for evidence of the diversity of its workforce and surrounding community. Analysis of anonymous feedback from workers on the impact of communication and media campaigns towards their sense of belonging and collective responsibility within the institution.	*Refer to **Annex 1** for a fillable action planning form.*
Practices	6.2 Implementing engaging and accessible biosafety communication strategies and tools (e.g., printed materials, video conferencing, web- based, social networking, employee information sharing sessions) that reach a wide audience, maximizes impact, and gives employees equitable access to information and opportunities.	Gathering anonymous feedback on perceived quality, understanding, and effectiveness of communication approaches. Number and type of communications received by staff.	

An organization's marketing materials and communications, whether externally or internally, that are accessible and representative are seen positively by employees and stakeholders alike, encouraging these groups to feel included, accountable, and to participate in knowledge-sharing and promotion of values.

Category	Intervention	Performance Measures	Action Plan: Current Status / Desired Future State / Action Steps
Culture	6.3 Biosafety and biosecurity associations and other networks which embrace the values of diversity in their membership are better positioned to engage with the full range of local stakeholders relevant to achieving their mission.	Disaggregating association membership (e.g., gender, age, profession, sector, geographic region). Evaluation of stakeholder participation in association activities (e.g., training workshops, conferences, awareness events).	*Refer to **Annex 1** for a fillable action planning form.*
Culture	6.4 Embracing diversity in the selection of individuals to represent the organization in external committees, groups, and events related to biosafety and biosecurity leads to greater visibility of the organization as embracing the values of DEI internally and externally.	Disaggregating participation and roles in external events related to biosafety and biosecurity by diversity (e.g., age, gender, ethnicity, language spoken, education and experience).	
Culture	6.5 Tailoring an organization's policies regarding DEI best practices to local context in the country/region provides a DEI plan that is more implementable and relevant to the local professional community working in biosafety and biosecurity.	Analysis of policies and practices with respect to national and regional social norms and legal frameworks.	

Prioritizing accessible training, professional and career development in biosafety and biosecurity contributes to the cultivation of a diverse future workforce. Professional and career development opportunities that are designed and implemented to suit their diverse audiences are argued to be more impactful or effective in training or preparing professionals to assess and mitigate biological risks.

Example of a Best Practice

Implementing accessible training programs contributes to equity in the workplace whereby everyone is given what they specifically need in order to have the same opportunity to learn and otherwise develop their career.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Practices	7.1 Ensuring biosafety and biosecurity training programs and materials accommodate diverse learning styles (e.g., visual learners, auditory learners, kinesthetic learners, reading/writing learners) maximizes every person's learning potential.	Evaluating an organization's training program for the quantity and quality of various training methods incorporated.	*Refer to **Annex 1** for a fillable action planning form.*
Practices	7.2 Offering internships, biosafety careers, and professional development opportunities for all workers results in a more engaged and highly skilled workforce where employees are more inclined to stay with the organization.	Analyzing the quantity and quality of opportunities provided to employees and identifying whether a particular group is favoured or discriminated against. Conducting employee surveys to gather information on the organization's employee net promoter score, employee satisfaction index, turnover rate, absenteeism, internal promotion rate.	

Prioritizing accessible training, professional and career development in biosafety and biosecurity contributes to the cultivation of a diverse future workforce. Professional and career development opportunities that are designed and implemented to suit their diverse audiences are argued to be more impactful or effective in training or preparing professionals to assess and mitigate biological risks.

Category	Intervention	Performance Measures	Action Plan — Current Status / Desired Future State / Action Steps
Culture	7.3 Embedding DEI into a regular part of biosafety training strategies and materials (e.g., considering language, diverse instructors, avoiding major holiday celebrations, addressing various experience levels of trainees) leads to better more impactful training programs and better trained professionals.	Analysis of DEI strategies incorporated into each training program, session, and materials. Conduct a 'course evaluation' and assessment for training programs and trainees (respectively), and similar to assess trainees' respective experiences and knowledge gained, providing opportunity to voice potential barriers to course comprehension or participation.	*Refer to **Annex 1** for a fillable action planning form.*
Culture	7.4. Valuing the diversity of roles within the biosafety and biosecurity profession, recognizing biosafety and biosecurity as a distinct scientific discipline/professional career and recognizing biosafety professional certifications enables effective implementation and harmonization with related/adjacent disciplines or team members (e.g., researchers, analysts, educators, healthcare workers).	Number of dedicated biosafety officers versus professionals that have appointed biosafety and biosecurity duties in addition to their assigned job's roles and responsibilities. Evaluate the effectiveness of biosafety programs ran by dedicated BSOs as opposed to those who have had biosafety and biosecurity tasks assigned as extra duties. Analyzing the performance of certified professionals in biosafety and biosecurity disciplines in their duties as opposed to non-certified professionals.	

ANNEX 1 - ACTION PLANNING FORMS

The action planning forms in the following pages provides users of the "Diversity, Equity and Inclusion in Global Biosafety & Biosecurity Implementation Tool" with a fillable format that can be used in the preparation of their action plans.

Intervention Number	Current Status	Desired Future State	Action Steps
1.1			
1.2			
1.3			

Intervention Number	Current Status	Desired Future State	Action Steps
1.4			
1.5			

Intervention Number	Current Status	Desired Future State	Action Steps
2.1			
2.2			
2.3			

Intervention Number	Current Status	Desired Future State	Action Steps
2.4			
2.5			
2.6			

Intervention Number	Current Status	Desired Future State	Action Steps
3.1			
3.2			
3.3			

Intervention Number	Current Status	Desired Future State	Action Steps
3.4			
3.5			
3.6			

Intervention Number	Current Status	Desired Future State	Action Steps
3.7			

Intervention Number	Current Status	Desired Future State	Action Steps
4.1			
4.2			
4.3			

Intervention Number	Current Status	Desired Future State	Action Steps
4.4			

Intervention Number	Current Status	Desired Future State	Action Steps
5.1			
5.2			
5.3			

Intervention Number	Current Status	Desired Future State	Action Steps
5.4			
5.5			
5.6			

Intervention Number	Current Status	Desired Future State	Action Steps
5.7			
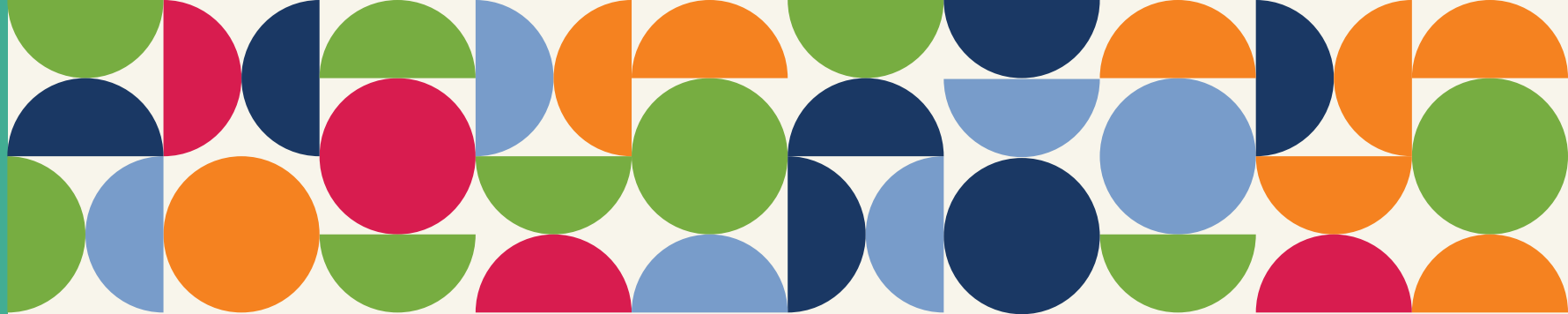
Intervention Number	Current Status	Desired Future State	Action Steps
6.1			
6.2			
6.3			

Intervention Number	Current Status	Desired Future State	Action Steps
6.4			
6.5			

Intervention Number	Current Status	Desired Future State	Action Steps
7.1			
7.2			
7.3			

Intervention Number	Current Status	Desired Future State	Action Steps
7.4			