

What Is Needed to Advance Biosafety / Biosecurity Internationally

Dr Erum Khan
Associate Professor
Aga Khan University Hospital,
Karachi. Pakistan



**Pakistan
Biological
Safety
Association**

Out-line

- Status of Biosafety and Biosecurity in developing countries?
- What is needed?
- Measures to advance Biosafety / Biosecurity

Rapid Pace of Development in Different Fields of Science

Research Laboratories Health / Agriculture



Commercial Clinical and Diagnostic Laboratories



Veterinarian Research Lab



Access to protocols – Internet Connectivity



Bioinformatics



Molecular Technologies



Biotechnology / Genetic Eng. Revolution



Time

Major Challenges

- No federal regulations to monitor Clinical and research Laboratory credentials
- Absence of accreditation bodies at National Level
- Lack of national working guidelines for the laboratories
- Lack of standard protocols / manuals / policies
- No record of Laboratory acquired Infections

Tackling Challenges

- Even if we have well defined problems
- We must have well educated students
 - Our current system does not have capacity

What is needed

- Strives to foster the development of **academic curricula** which recognizes the needs relevant to the country.
- Creates an environment for exchange and dialog among in government, Industry, academia and general population concerning the **need for and utility of Biosafety and Biosecurity security education in developing countries.**

Capacity Building: curriculum development

- Capacity is long lead time
- To ameliorate the lead time problem
 - Elements of Biosafety and Biosecurity should be a component of almost all programs of study.
 - Programs range from **Biological science, engineering, law and political science.**

Capacity Building: curriculum development

- Focuses on education
- Career progression and the profession
- Need to Add
 - Expand
 - Focus on research
 - Mentoring and outreach to faculty and emerging graduates
 - Journal
 - Improved Outreach
 - Improve teaming among academic and other constituencies
 - Session on needs and research clearinghouse

Sharing Resources

- Diverse programs that need Biosafety /Biosecurity components,
- There is a low probability that any of us could develop an entire course
- There is a high probability the one could assemble a course from components developed by other institutions.

Sharing Resources

- “Virtual University”
- Multidisciplinary nature of the education
- Multi-university cooperation **rather than competition**
- Need accelerated curriculum development
 - standards
- Accreditation, recognition and certification

Sharing Resources: Biosafety Consortium Formation

- While Individual Associations of the country are playing active role in advocating Biosafety practices
- With Global economic crises resources for the sustenance of Biosafety Associations are drying out
- Regional Biosafety Consortia is way-forward to tap the limited pool

Summary

- Establish Biosafety / Biosecurity Curricula
- Build Inter-University Resource Sharing
- Encourage both formal and informal consortium formation among academic institutions and Biosafety Associations to meet needs.
- Increase involvement of Biosafety practitioners in pedagogic process

THANK YOU

