

Dual-use Research as related to Sri Lanka

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What is dual-use research ?

Research: Experimental or theoretical work undertaken to acquire / enhance knowledge

Dual-use: Multiple use of knowledge

(eg. For commercial application / military application / as a threat [ransom])

Dual-use can be for peaceful uses or non-peaceful uses (destructive)

Can be legitimate research but a threat to the public or civilian life



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Dual-use research could involve:

Facilities / Equipment: Buildings and equipment / reagents - misused

Knowledge: Misapplied – Research conducted with genuine intentions but could lead to detrimental applications



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Criteria that should be taken into account:

- Research plans - review for ethical considerations / biosecurity
- Biosafety issues – risk minimization
- Public health - harmful to humans
- Modification of genetic make up – development of species that could be a threat to the ecosystem
- Development of resistance
- Toxicity
- Current necessity

[Refer to Kathryn Nixdorf]



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Benefits of dual-use research

Benefits:

Need to understand mechanisms/functions/basic principles



Need to develop therapeutics / prophylactics



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Challenges / Risks / Implications

INSTITUTIONS

Awareness of potential risks

Licensing the facility

Periodic inspection by a competent authority

Finding the right balance in research – Review of project proposals



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Challenges / Risks / Implications

INDIVIDUALS

Security assessment at recruitment of staff and at retirement

Decision making and control mechanisms

Review of results prior to publication – unforeseen results

Universality of science and freedom to pursuit science vs Scientific responsibility



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Dual-use Research

situation in Sri Lanka

Presently low level of activity:

- Fermentation techniques
- Tissue culture
- Plant/animal breeding (traditional techniques)
- DNA finger printing
- A National Biosafety policy in place
- Biotechnology policy being developed



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Dual-use Research

situation in Sri Lanka

A major concern would be the introduction of genetic material alien to Sri Lanka and misuse of technology

In Agriculture:

eg. Importation of weed seeds along with grass seeds

In ICT: robotics, mobile phones



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Thank you



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