



*Report on Consultative Workshop on*

# **Pakistan Biorisk Management Curriculum Development**

**Dubai, UAE, May 21-25, 2016**

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**'Sandia National Laboratories, Albuquerque, NM, USA**

A consultative workshop was held between the experts of Dairy Science Park, Peshawar, Pakistan and Sandia National Laboratories (SNL), Albuquerque, NM, USA. The meeting was held at Dubai, UAE during May 21-25, 2016, focused at development of Pakistan Biorisk Management Curriculum.

The workshop was sponsored by SNL, represented by Dr Melissa Finley, Veterinarian; Iris Shurdhi, Development Expert; and Giulio Mancini (Global Security Expert). Dairy Science Park (DSP) was represented by Prof M Subhan Qureshi, Chief Patron; Prof Sarzamin Khan, Chief Technical Advisor; Engr Irfan ul Haq Qureshi, Chief Executive; Prof Umer Sadique, Advisor One Health; Mr Nasir Shah, Advisor Higher Education; Mr Rashid Aman, Expert Entrepreneurship; Dr Shakoor Ahmad, Expert Quality Control; Ms Sadia Qureshi, Expert Halal Food; and Ms Samina Qureshi, Expert Economics (Guest Participant).

The DSP participants belonged to the University of Agriculture, Peshawar, Higher Education Commission of Pakistan, SMEDA, and the Private Sector.



*DSP-SNL Workshop on Biorisk Management Curriculum Development*



*Technical session of Workshop in progress*

The first day of workshop covered overview of the workshop and objectives, orientation to Biorisk Management, and Biorisk characterization and evaluation. During second day overview of the previous

day's activities was made and Biorisk characterization and evaluation continued. Biorisk Mitigation Strategies were introduced. In addition a presentation was made on overview of Pakistan integrated life sciences/public health higher education system, livestock production and management and experiences in teaching Biorisk Management. The progress made in academics, farming practices, value addition and quality control systems, under the Dairy Science Park was reviewed. A road map was presented for entrepreneurship-based livestock development through establishment of University of Veterinary Innovations and Commercialization, Peshawar and DSP Board Peshawar. The two initiatives would need an extensive support in Biorisk Management through curriculum development and improvement in farming and value-addition practices to achieve self-employment for the youth and hygienic food production for the people of Khyber Pakhtunkhwa and FATA in partnership with the United Nations SDGs as #SDGAction9671.



*Arguments for reaching consensus*



*Prof Qureshi with the resource persons*

On the third day, discussion on Biorisk Mitigation Strategies continued and introduction to effective teaching approaches and methods were introduced. Identification and characterization of audience, context, and objectives for education on Biorisk Management were discussed. On day 4, identification of audience, context, and objectives for education on Biorisk Management were continued. Curriculum development action plans were discussed, followed by a review and wrap-up session.

### **Recommendations**

The participants were of the view that the quality control practices in various laboratories of veterinary, medical, agricultural, and other biological sciences need to be ensured. The livestock and poultry farms are run without efficient biosafety and biosecurity measures. Similarly the meat and dairy processing factories and shops are also lacking appropriate training, capacity, and procedures to prevent health hazards. No exclusive and organized training system is available in the country to take care of these issues.

The participants agreed on the leading role of DSP in Biorisk Management in Pakistan. Regarding the availability of trainers, it was agreed that the present groups may continue their work to develop a curriculum on Biorisk Management. More trainers may be added to the groups from other relevant organizations. The expert panel of DSP has engaged many of such experts for disposing off specialized jobs. More qualified experts on Biorisk Management would be added to this panel.

Dr Melissa informed that Biological Safety Association of Pakistan (BSAP) has been working in this area up to a limited extent in affiliation with Pakistan Society for Microbiology (PSM) focused on research using

microorganisms and recombinant DNA. It was agreed upon that BSAP would be selected as development partner of DSP and their resource persons and expertise would be utilized in achieving the goals of DSP under Biorisk Management.

The curriculum in practice in various universities of Pakistan under the supervision of Higher Education Commission of Pakistan needs to be mapped and reviewed for presence of Biorisk Management contents or availability of a full-fledged teaching program at undergraduate or graduate levels. Keeping in view the importance of the subject, the participants recommended that Biorisk Management may be given appropriate consideration while developing teaching programs at national level.



*Souvenir of Pakistan Monument presented by Prof Qureshi, Chief Patron DSP to Dr Melissa Finley and Mr Robert Otero, SNL*



*Excursion*



*Crisis management exercise at Hotel*

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