

*Report on Consultative Workshop on*

## **Biorisk Management – The Dairy Science Park Approach**

**Bangkok, Thailand, 14-18 November 2016**

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A consultative workshop was held at Bangkok, Thailand, participated by experts of Dairy Science Park (DSP), Peshawar, Pakistan and Sandia National Laboratories, Albuquerque, NM, USA. The meeting was held on 14<sup>th</sup> to 18<sup>th</sup> November 2016. The workshop was focused on the objectives of biorisk management (BRM), identifying courses where Biorisk Management Curriculum can be inserted into existing curricula of Pakistani Universities, development of new courses, and formulating other measures for biorisk management.



*DSP-Sandia Workshop on Biorisk Management Curriculum Development held at Bangkok*

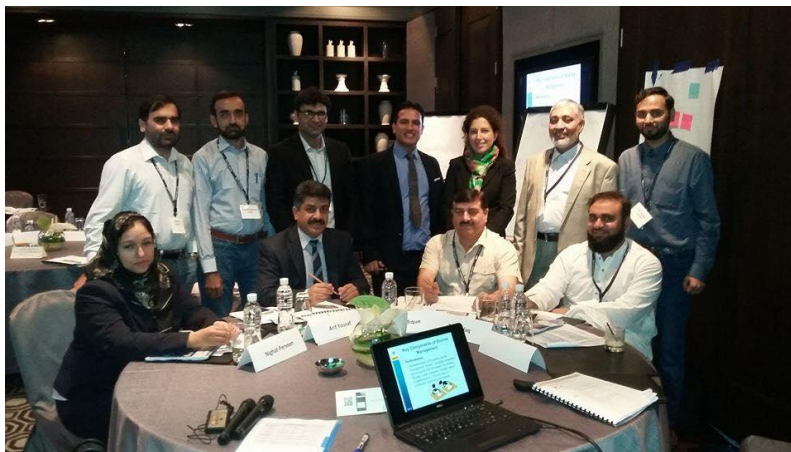
The workshop was a follow-up program for establishing a Center of Excellence for Biorisk Management, proposed during Pakistan Biorisk Management Curriculum Development Workshop held at Dubai in April 2016. It was anticipated that the University of Agriculture Peshawar will be the leader in

the region for developing and integrating biorisk management into existing university courses, creating courses in biorisk management, developing quality standards and protocols, and will subsequently provide guidance to other universities and colleges in the region.

The workshop was sponsored by Sandia National Labs, represented by Ms Iris Shurdhi and Mr Ahmad Waleed Joyan. DSP was represented by

Mr Arif Yousaf (Special Assistant to Chief Minister Khyber Pakhtunkhwa on Law), Prof M Subhan Qureshi (Chief Patron DSP/Dean Faculty of Animal Husbandry and Veterinary Sciences-UAP), Engr Irfan ul Haq Qureshi (President DSP), Mr Nasir Shah (Director QAA-Higher Education Commission of Pakistan), and Dr Zia Ul Haq (Director ORIC-Khyber Medical University).

Prof Umar Sadique, Prof Sarzamin Khan, Dr Syed Muhammad Suhail, Dr Shoaib Sultan Afridi, Dr Sher Bahadar Khan, and Dr Shakoor Ahmad represented the University of Agriculture Peshawar. Ms Sania Qureshi (DVM Internee), Ms Samina Naz Qureshi (Expert DSP Economics), and Ms Nighat Perveen (Dubai) represented the women community.



*First day of the workshop*



*Meeting with Dr Siriwat Wongsiri, Asian Apicultural Association*



On the first day, following registration of the participants, an overview of the workshop and objectives were explained by Iris Shurdhi, and the orientation to biorisk management was presented. The ADDIE curriculum design cycle was introduced, starting with the analyze phase. The first day of the workshop covered the knowledge

and skills to effectively design, implement, and evaluate a curriculum. Also, curriculum development steps and the application of brain-friendly teaching approach with integrated teaching styles were presented.

On the second day, the previous day's work was reviewed and it was continued with the analyze phase of the ADDIE curriculum design cycle. GAP analysis was presented looking at the national curriculum in detail, identifying BRM topics. GAP analysis

of the national curriculum and evaluation of the curriculum guidelines were worked out in detail. Biorisk analysis, mitigation, and performance/implementation strategies were introduced. In addition, a presentation was made on the 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 by Samina Naz and M Subhan Qureshi. A road map was presented for entrepreneurship-based livestock development through the establishment of University of Veterinary Innovations and Commercialization (or University of Biorisk Management), Peshawar and DSP Board Peshawar. The two initiatives would need an extensive support in biorisk management through curriculum development and improvement



*Developing veterinary component of Biorisk Management Curriculum*



*Developing public health component of Biorisk Management Curriculum*

in farming and value-addition practices to achieve self-employment for the youth and hygienic food production for the people of Khyber Pakhtunkhwa and the adjoining areas.

On the third day, discussion on biorisk mitigation strategies continued, along with introduction to design teaching methods. Designing and developing a BRM Lesson Plan was introduced. Exercises were made at the end of session. On the fourth day, the ADDIE cycle was continued, with focus on the development, implement, and evaluation phases. BRM lesson plan was drafted which included effective learning techniques. The last was the evaluation, consideration, and finalization of lesson plan. Then curriculum development action plan of the fourth day was reviewed and discussed, followed by teaching back activities of each group, review and create plan for next steps, and the wrap-up session.



*Developing general component of Biorisk Management Curriculum*



*DSP team visited Center of Excellence in Entomology, Chulalongkorn University*

At the concluding session, Mr Arif Yousaf commended the efforts of DSP and Sandia National Labs in joining hands to respond to the biorisk management challenges which threaten both public and animal health, and income generation of the poor families in the region, especially Khyber Pakhtunkhwa, Pakistan. Mr Yousaf referred to the guidelines provided by the Chairman of the ruling party, Pakistan Tehreek-e-Insaf, Mr Imran Khan, to involve the youth in productive activities and to utilize their educational qualifications and professional skills in promoting economic activities in the region. Legislation has been made regarding access to information, police reforms, and improvement in primary, secondary, and tertiary education and the local government system.

Mr Yousaf invited the development and private sector organizations within the country and abroad, to participate in this sacred mission and collaborate in launching novel initiatives like alternate energy solutions, environment protection, biorisk management, climate change, entrepreneurship development, legislative and policy support, quality control, and Halal certification in the food value chain. He expected a productive interaction at Bangkok to develop a national curriculum for addressing biorisk management issues in the country and the Asia-Pacific Region.

### **Recommendations:**

The following areas were identified for the implementation of biorisk management concepts:

- Animal Health
- Public Health
- Entrepreneurship development and food value chain
- Consumers confidence and ethical concerns
- Sustainable development agenda of the United Nations and local policy framework



*Certificates distributed by Ms Iris Shurdhi on the last day of the workshop*



*Ms Iris Shurdhi of Sandia presented books on biorisk management to DSP delegates*



### Roadmap:

During the wrap-up session, it was agreed upon that:

1. UAP/KMU will prepare the contents of their curricula and add BRM topics into it within a one month period.
2. UAP/KMU will use the BRM materials provided in thumb drives for university curricula.
3. A draft proposal will be submitted for leadership training on BRM through DSP to Sandia Labs.
4. TOT programs will be continued by DSP members at UAP, KMU, and other partner organizations and individuals by Sandia Labs (more courses on BRM).
5. DSP will prepare its initial proposal for the development of funding through Sandia Labs support (matching the non-proliferation scope and US select agent list – infectious diseases).
6. KMU will allocate a special workshop for BRM concepts and DSP concepts in their upcoming 8<sup>th</sup> Annual Health Research Conference scheduled for February 2017. A technical committee would be constituted by KMU for biorisk management to oversee relevant teaching and research programs.
7. DSP will take the leading role in biorisk management in Pakistan and the Region, recommending standardization of practices and quality control protocols at various laboratories of veterinary, medical, agricultural, and other biological sciences. Livestock and poultry farms will be provided biosafety and biosecurity guidelines.

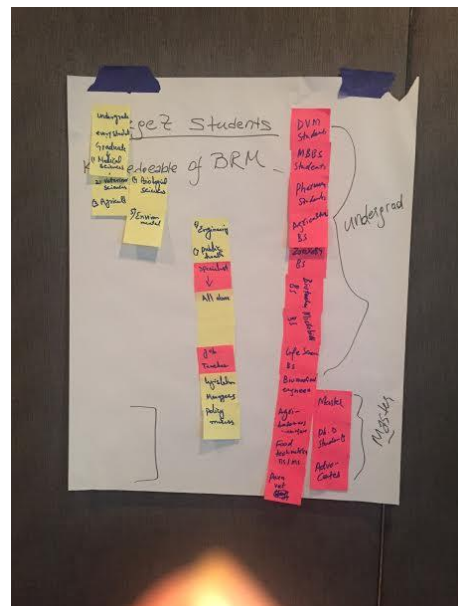


*Mr Arif Yousaf presenting souvenir to Mr Ahmad Waleed Joyan*



*Excursion in the city*

8. Meat and dairy processing factories and shops would be provided appropriate training, capacity development support, and procedures to prevent health hazards.
9. Sandia Labs may continue their work to develop a curriculum on biorisk management as it is significantly important for the people who are engaged in designing courses/contents development on the core issues of BRM.
10. Risk assessment and GAP analysis may be further focused in prioritized areas of DSP related to Veterinary, Public Health, and Community Development.
11. Future linkages may be further strengthened through such collaboration between Sandia Labs, DSP, and its



*Sticky notes prepared during technical session*

development partners like the University of Agriculture Peshawar, Khyber Medical University, and others.

12. DSP will approach the provincial government and Higher Education Commission of Pakistan for constituting a provincial/national committee on Biorisk Management Curriculum. The curriculum in practice in various universities of Pakistan under the supervision of Higher Education Commission of Pakistan needs to be reformed for incorporation of standardized contents and courses related to biorisk management at undergraduate or graduate levels.
13. 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.



*Attending group presentations*

14. DSP in collaboration with Parliamentarians would arrange a meeting/conference for effective legislation in the KP region. It was also focused that proper Bio/Hospital Waste disposal system should be established. The core team should be exposed to a practical workshop at Sandia Labs. Community Farmers should be educated for establishing entrepreneurship using yardstick of BRM.

15. The University of Agriculture Peshawar has already incorporated 2 credit hours course of BRM in their existing setup through the relevant board of studies. So training from Sandia Labs would be extremely significant for concerned persons dealing with running



*Excursion at Bangkok*

the existing courses and those to be incorporated in the future. Sandia Labs is already working on vector borne diseases in different regions in the world. Risk assessment and vector borne diseases would be included in BRM roadmap areas of Veterinary, Public Health, and Community Development. Collaboration of Sandia Labs and DSP may be strengthened further.

16. It was suggested that a Task Force may be constituted by the provincial government to oversee the establishment of the slaughter house approved under ADP; formulate KP-DSP Board Act 2016, submit academic component of Dairy Science Park, and incorporate Biorisk Management Concepts into the provincial SDGs under the chairmanship of Mr Arif Yousaf, Special Assistant to the Chief Minister on Law and Parliamentary Affairs, Government of KP/Chairman Task Force on SDGs for KP.

17. Establishment of University of Biorisk Management at Peshawar was suggested to care of the Animal Health, Public Health, entrepreneurship development, food value chain, consumers' confidence, ethical concerns, bio-waste management, implementation of sustainable development agenda of the United Nations, and local policy framework.

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