Science Update: A Training Workshop on Scientific Methods and Writing—A Report

A week-long Training Workshop on Scientific Methods and Writing was held at Central Institute of Fisheries Nautical Engineering and Training (CIFNET), Kochi, during 5-10 July 2010. The workshop was organized by Fishery Survey of India, Mumbai as part of the all-round capacity building programme of the institute. Dr E G Silas, former Vice-Chancellor of Kerala Agricultural University inaugurated the workshop on the evening of 4 July 2010 at the conference hall of CIFNET, Kochi. Dr K Vijayakumaran, Director General, Fishery Survey of India (FSI) chaired the function attended by several researchers, experts, the trainees and officials.

In his welcome address, Dr Vijayakumaran mentioned that this Science Update Workshop was conceived to ensure quality scientific output from the young generation of scientists of FSI and other sister organizations. With a fleet of 12 survey vessels, FSI has the strongest marine presence among the marine research organizations in India and plays a significant role in the fisheries development of the country. The Institute has adopted a pro-active approach to tap the immense potential in marine research by building partnership with other organizations. The capacity building programmes are designed for making the scientists and other personnel to improve their quality of performance and enable them to deliver the best services to the public. The following are the objectives of the Training Workshop on Scientific Methods and Writing:

- Provide an overview of the basic philosophy and methods of science
- Familiarize with the design of experiments, sampling and formulating hypothesis
- Introduce to the tools of data analysis, statistical testing and interpretation of the results
- Review the language, grammar and style of communication in science writing
- Impart basic skills for editing and proof-correction of manuscripts
- Experience sharing by experts with real examples of publication
- Interaction with editors of scientific journals on what they expect from authors

In his inaugural address, Dr Silas lauded the timely initiative taken by FSI in enhancing the capability of the young scientists in scientific methods and writing. Reviewing the state of affairs when he started his career, he suggested that the youngsters must take advantage of the various technological advancements that are available at their disposal. He stressed on the need for following ethical practices in science and scientific writing and publishing and suggested that the training should also consider this as a topic.

Twenty-four experts from Central Marine Fisheries Research Institute (CMFRI), Central Institute of Fisheries Technology (CIFT), Cochin University of Science and Technology (CUSAT), College of Fisheries, Panangad, National Institute of Oceanography (NIO), Indian Institute of Spices Research (IISR) and National Institute of Science Communication and Information Resources (NISCAIR) formed the core faculty.

Topics were arranged under nine modules. Module-1 dealt with Philosophy and Methods of Science in which Dr K K Vijayan and Dr C Ramachandran provided an overview of the structure of scientific thought, paradigms, and philosophy. Module-2 entitled Tools Kits of Science Shop was designed to enhance the understanding of the statistical tools of design of experiment, sampling, data analysis and interpretation. Dr T V Sathianandan, Dr J Jayasankar and Dr Somy Kuriakose were the faculty for this module.
Dr K Vijayakumaran made a quick review of the basic grammar, style, and punctuation of English for writing scientific articles under Module-3 on *Brushing up Language Skills*. Under the 4th Module on *Editing and Proof Correction*, Dr A Ramachandran provided the basic techniques, notations and terminology of editing and proof correction.

Under Module-5 on *Essentials of Scientific Writing*, Dr Rajasekharan and Dr Harikrishnan explored the structure, composition, citation, bibliography etc of writing scientific articles. Module-6 on *Tips on Computer Software* explored the various facilities available with software packages for data analysis and preparation of manuscript. Dr Jayasankar, Dr Santhosh J Eapen, Shri Edwin Joseph and Ms T Silaja were the faculty for the module.

Entitled *Writers Shop-Sharing Experience*, Module-7 was the special attraction of the programme in which experts shared their experience on writing and publishing. Dr Sunil Mohamed, Dr V Kripa, Dr Mohamed Hatha, Dr K K Vijayan and Dr M K Mukundan narrated their interesting cases starting with the draft manuscript and ending with the final publication, by tracing the progress over reviewer’s comments and revisions till it reached the final shape.

The eighth Module, captioned *Editors Speak*, is a unique feature of the programme where editors interact with participants on the publishing policies of the journals and what they expected from the authors. The participants had the opportunity to interact with Senior Editors Dr Sundaresan Pillai (*Indian Journal of Marine Sciences*), Dr Saly N Thomas (*Fishery Technology*), Dr Vivekanandan (*Journal of Marine Biological Association of India*) and Dr Dinesh Kumar (*Journal of Coastal Research*). Under Module-9 on *Reports and Review Articles*, Dr M R Bhoopendranath, Dr V N Sanjeevan, Dr Leela Edwin, and Dr K Vijayakumaran unravelled the state-of-the-art techniques of writing scientific reports, project proposals and review articles, book reviews etc.

About 22 researchers (15 participants from six Base Offices and Headquarters of FSI and five others from other sister organizations as well as DAHDF, Ministry of Agriculture and two research fellows) participated in the training workshop. All the participants appreciated the efforts taken by FSI in organizing a much needed training programme to update the knowledge of the young generation in scientific methods and writing. Some of the participants worked on their draft manuscript, making improvements during the workshop and felt confident to communicate them to standard journals.

Speaking at the valedictory function, Dr K Vijayakumaran, Director General, FSI and the Course Director congratulated the participants for successfully completing the programme and requested them to apply their knowledge in their research and writing career. He assured that FSI will organize similar programmes on various subjects to enhance the human capacity of the organization.

Speaking on the occasion, Dr Madhusoodana Kurup, Director, School of Industrial Fisheries, CUSAT lauded the efforts taken by FSI in organizing the training workshop and said that the participants are privileged to have attended the well structured training workshop with the best faculty. He suggested that outcome of the workshop must reflect in the scientific output of the organization in the coming years. Dr Leela Edwin, Shri Benjamin C Varghese and Shri D M Ali spoke on the occasion. The Chief Guest of the function Dr Madhusoodana Kurup gave away the certificates to the participants.

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