



## **G.B. Pant National Institute of Himalayan Environment**

(An Autonomous Institute of Ministry of Environment, Forest & Climate Change, Govt. of India)  
Sikkim Regional Centre, Pangthang, Post Box: 24, P.O. - Gangtok-737 101, Sikkim, India  
Tel: 03592-295130; Email: [headskrc@gmail.com](mailto:headskrc@gmail.com)

### **Training-cum-Workshop on "Statistical Applications in Ecological Research"**

#### **Background**

Ecological data is usually collected with intensive field work and hard work which needs to be scientifically presented, analysed and interpreted to draw intriguing patterns and address the research question. Number of analytical methods have been developed and are available in a variety of statistical software packages for analysing the complex patterns of the data and multivariate relationship among variables. It is customary that the training of researchers in the use of statistics is very important to improve the quality of research and to foster technical and economical development. Empirical sciences, in general, rely heavily on the statistical analysis of data, in particular on inferential statistics. However, since the logic of statistical inference requires analytical ability and good level of subject understanding, its use and interpretation are not always adequate in ecological studies. There are several existing methods of statistical data collection analysis. However, owing to the fact that ecological research is dominated by large and complex variations, data have to be collected through appropriate sampling design based methods with minimal sampling error and most accurate results.

#### **Objectives:**

The specific objectives of this training workshop are to: (i) get familiar with design of experiment for planning and implementation the research, (ii) illustrate sampling methods for improved data collection, which can provide the desired precision of estimates and possess a higher degree of accuracy, (iii) explain methods of field data collection and statistical analyses, and (iv) provided hands-on training on appropriate application of statistical methods for data analysis and interpretation of results.

#### **Training Modules:**

The Lectures, hands-on training and field exercise will be organized on broad topics of statistical application to ecological studies. There are following six modules in the training:

- i. Basic concepts of design of experiment, sampling theory & classification of data
- ii. Vegetation sampling & data collection
- iii. Systematic botany & herbarium cataloguing
- iv. Statistical methods for vegetation analysis
- v. Testing of hypothesis (comparative & relational analysis)
- vi. Multivariate analysis and ordination methods

#### **Expected outcomes**

- i. Enhancing knowledge on data collection in ecological research & herbarium cataloguing
- ii. Capacity building on application of statistical methods for data analysis
- iii. Improved understating on appropriate analyses and interpretation of data

## Organizing Committee

Convener	:	Dr. Rajesh Joshi, Head, GBPNIHE, Sikkim Regional Centre
Co Convener	:	Dr. Kailash S. Gaira
Resource person from SRC	:	Dr. Devendra Kumar, Dr. S. Rawat, Dr. M. Joshi
Technical Support	:	Dr. Y.K. Rai, Mr. J. Dhakal, Mr. P.K. Tamang, Mr. R K Das, Mr. M Rai, Mr. Shaybir, Mr. Bikas
External resource person	:	Subject experts and resource person would be invited from Sikkim and outside the state, as per the need
Probable partners organizations	:	Botanical Survey of India, Sikkim University

**Venue:** G.B. Pant National Institute of Himalayan Environment, Sikkim Regional Centre, Pangthang, Gangtok, Sikkim 737 101, India

**Duration of the course:** 02- 06 March, 2020

**Registration Fee: Rs. 2000.00**

**Last date of receipt of application:** 27 February 2020

### Eligibility:

#### Essential:

- i. Educational qualification: Post graduate in relevant subjects.
- ii. Regular student/ researcher from any Institute/ Organization/ University.
- iii. Application through proper channel and duly forwarded by supervisor/ PI/ head of the department/ head of organization of the applicant.

#### Desirable:

- i. Basic knowledge of Statistics, Mathematics and Computer applications, Vegetation Sampling, Field data collection.
- ii. **All participants to bring their own laptop for Hands-on training.**

### General Information:

- i. The registration fee includes training kit, working lunch, tea & snacks, local transport from Gangtok to the venue during the training programme and boarding lodging arrangements only for the outstation participants.
- ii. **The registration fee can be deposited through a Demand Draft/ Cheque of Rs. 2000.00 in favour of G B Pant Institute of Himalayan Environment and Development, Payable at SBI, Penengla Branch, Sikkim. Fee can also be deposited by cash in unavoidable situations.**
- iii. Maximum 25 participants can be registered for the training. candidates will be screened based on eligibility criteria, experience, and relevance of the training programme for their career. Preference may be given to fresh candidates/those who have never obtained training on this aspects.
- iv. A certificate will be awarded to the participants on successful completion of the training.

**How to apply:** Interested candidates may submit their application on the prescribed format along with registration fee. Advance copy of the duly filled application can be sent by email to the Head, Sikkim Regional Centre (Email: headskrc@gmail.com) and Dr. K.S. Gaira, Co-Convener (Email: kgaira@gmail.com). Hard copy of the same should be submitted at the time of registration.

**Regional Head, GBPNIHE, Sikkim**



**G.B. Pant National Institute of Himalayan Environment**

(An Autonomous Institute of Ministry of Environment, Forest & Climate Change, Govt. of India)  
Sikkim Regional Centre, Pangthang, Post Box: 24, P.O. - Gangtok-737 101, Sikkim, India

**APPLICATION FORM**

**Training Programme on "Statistical Applications in Ecological Research"**

(2- 6 March, 2020)

1. Name of Applicant (in block letter):.....
2. Father's Name:.....
3. Date of Birth:.....
4. Gender: .....
5. Category (Gen/OBC/SC/ST):.....
6. Permanent Address:.....  
.....  
.....
7. Address for Communication: .....
8. Email ID.:
9. Mobile No.:
10. Aadhar number:
11. Education qualification (10<sup>th</sup> onward):

Paste recent  
color Passport  
size Photo

Sl. No.	Examination passed	Board/ University	Year	Subject	% Marks/ Division

Cont...

12. Experience (if any):

13. Statement of Purpose:

(i) Why do you want to attend the training?/ Relevance of the training programme for your career

(ii) Have you ever obtained such training organized by GBPNIE or any other Institute/ Organization? Yes/ No

14. Accommodation require: Yes/ No  
(Please tick)

15. Registration fee for the training programme (Rs. 2000.00) is hereby deposited through Demand Draft/ Cheque No....., Dated.....

I, hereby declare that all the above information provided by me are true to the best of my knowledge and believe.

**(Signature of Applicant)**

**Recommendation by supervisor/ PI/ head of the department/ Organization**

It is certified that Mr./ Ms./Dr. .... is a student/ researcher of .....

I, further, recommend him/ her for the Training Programme on "Statistical Applications in Ecological Research" being organized by Sikkim Regional Centre of the G.B. Pant National Institute of Himalayan Environment during 2-6 March in Pangthang, Sikkim.

**(Signature With date & Seal)**

**Name:**

**Department/ Institute/ Organization:**