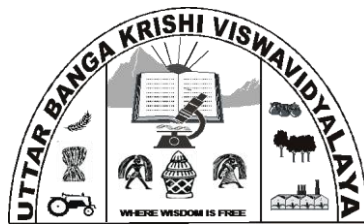


DEPARTMENT  
OF  
AGRICULTURAL STATISTICS



**Annual Report  
2017-18**

Uttar Banga KrishiViswa Vidyalaya  
Pundibari, Cooch Behar,  
West Bengal-736165

**A. Background:**

The Department of Agricultural Statistics has been established as a separate and independent Department in Uttar Banga Krishi Viswavidyalaya since the inception of the Viswavidyalaya on 1st February, 2001 with a view to giving agricultural – cum – horticultural – cum – social science students and the future researchers of our University a statistical background so that they can correctly choose and apply themselves independently the most appropriate statistical technique to setting up their own research programmes and the subsequent analysis as well as drawing valid inferences of the research data to be accrued there-from in future in a much more meaningfully and pertinently correct way.

**B. Functions:**

The main functions of the Department are as follows:

- To teach different courses on Agricultural Statistics to UG and PG students (within and from the outside Departments) of the Viswavidyalaya
- To carry on research works in different branches of Statistics
- To guide efficiently the students of advance courses offered by the Department for ICAR-conducted All India JRF entrance examination for admission to M.Sc in Agricultural Statistics course each year at IASRI, an Institute of international repute since the creation of the Department in the year 2003
- To act as Chairman of the Advisory Committee of M.Sc students and Ph.D students of the Department
- To act as Member of the Advisory Committee of M.Sc students and Ph.D students of the Department as well as the outside Departments of the Viswavidyalaya
- To assist M.Sc students/ PhD scholars, research Fellows and teachers of various Departments in setting up their own research programmes, subsequent analysis as well as in the inferential interpretation of the research data to be accrued therefrom in future from the statistical point of view .
- To carry on with the 5- year duration DST-FIST Infrastructural Development Project (DST-FIST, Govt. Of India sponsored) having been run by the Department from the year 2003 onwards as well as to submit the Annual Reports along with Fund Utilization Certificate to the Department of Science & Technology, Govt. of India.

- To take part actively in the implementation of the Student Programme of the Viswavidyalaya every year.
- To take part actively in various developmental programmes of the University.

**C. Teaching:PG Level:**

Ph.D teaching and research programmes have been going on in the Department from the academic session 2012-13 and the Department has started Master's teaching and research programmes from the academic session 2014-15.

a) Field of specialization for M.Sc. and Ph.D.:

- i) Sample Survey
- ii) Forecasting and Statistical Modelling
- iii) Design of Experiments
- iv) Remote sensing
- v) Econometrics

b) **Post- graduate courses:**

(i) For the students of M. Sc.(Ag.) in Agricultural Statistics only			
Course No.	Course-Title	Credit Hour	Remarks
STAT 551	MATHEMATICAL METHODS-I	3+0	
STAT 552	MATHEMATICAL METHODS-II	2+0	
STAT 560	PROBABILITY THEORY	2+0	
STAT 561	STATISTICAL METHODS	2+1	
STAT 562	STATISTICAL INFERENCE	2+1	
STAT 563	MULTIVARIATE ANALYSIS	2+1	
STAT 564	DESIGN OF EXPERIMENTS	2+1	
STAT 565	SAMPLING TECHNIQUES	2+1	
STAT 566	STATISTICAL GENETICS	2+1	
STAT 567	REGRESSION ANALYSIS	1+1	
STAT 568	STATISTICAL COMPUTING	1+1	
STAT 569	TIME SERIES ANALYSIS	1+1	
STAT 572	ECONOMETRICS	2+0	
STAT 575	DEMOGRAPHY	2+0	
STAT 591	MASTER'S SEMINAR	1+0	
STAT 599	MASTER'S RESEARCH	20+0	

<b>ii) For the students of M. Sc. and Ph.D programmes of other disciplines under Faculty of Agriculture and Faculty of Horticulture both</b>			
<b>Course No.</b>	<b>Course-Title</b>	<b>Credit Hour</b>	<b>Remarks</b>
STAT 501	STATISTICAL METHODS FOR RESEARCH WORKERS	2+1	
FOR-513	GENERAL STATISTICAL METHODS AND RESEARCH METHODOLOGY	1+1	Offered by Department of Forestry
FOR-511	COMPUTER APPLICATION AND INFORMATION TECHNOLOGY	0+1	Offered by Department of Forestry
<b>iii) For the students of Doctoral Degree programmes in Agricultural Statistics only</b>			
<b>Course No.</b>	<b>Course-Title</b>	<b>Credit Hour</b>	<b>Remarks</b>
STAT 601	ADVANCED STATISTICAL COMPUTING	2+1	
STAT 602	SIMULATION TECHNIQUES	1+1	
STAT 611	ADVANCED STATISTICAL METHODS	2+0	
STAT 612	ADVANCED STATISTICAL INFERENCE	3+0	
STAT 613	ADVANCED DESIGN OF EXPERIMENTS	2+0	
STAT 614	ADVANCED SAMPLING TECHNIQUES	2+0	
STAT 615	ADVANCED STATISTICAL GENETICS	2+0	
STAT 616	STATISTICAL MODELING	1+1	
STAT 617	ADVANCED TIME SERIES ANALYSIS	2+0	
STAT 618	STOCHASTIC PROCESSES	2+0	
STAT 621	ADVANCED ECONOMETRICS	2+0	
STAT 691	DOCTORAL SEMINAR I	1+0	
STAT 692	DOCTORAL SEMINAR II	1+0	
STAT 699	DOCTORAL RESEARCH	45+0	

c) **UG Level:** The different UG Courses as per IV<sup>th</sup> and V<sup>th</sup> Deans' committee recommendation are listed below:

<b>(i) Compulsory courses</b>			
<b>Course No.</b>	<b>Title</b>	<b>Credit Hours</b>	<b>Semester</b>
AST-151	Fundamentals of Statistics-I	1+1	2 <sup>nd</sup>
AST-152	Elements of Computer Application	1+1	2 <sup>nd</sup>
AST-201	Fundamentals of Statistics-II	1+1	3 <sup>rd</sup>
<b>(ii) Elective Courses: Social Science Module</b>			
AST-401	Mathematics	2+0	7 <sup>th</sup>
AST-403	Designing Field Experiments	2+1	7 <sup>th</sup>
AST-404	Sample Survey Techniques in Agriculture	2+1	7 <sup>th</sup>
<b>(iii) UG course as per V<sup>th</sup> Deans' committee recommendation</b>			
AST-101	Elementary Statistics	1+1	1 <sup>st</sup>
AST-102	Elementary Mathematics	2+0	1 <sup>st</sup>
AST-201	Agri-Informatics and Computer Application.	1+1	3 <sup>rd</sup>
AST-202	Fundamentals of Statistical Methods.	2+1	3 <sup>rd</sup>

#### **D. Research Activity:**

- a) **Areas of research:** Applied fields of Econometrics, Statistical Modeling and Forecasting, sample survey, remote sensing and GIS, Design of Experiment.
- b) On-going research projects

<b>Sl.No</b>	<b>Name of the Project</b>	<b>Faculty associated</b>	<b>Capacity</b>
1.	Time Series Analysis of Data on Area, Production & Productivity of Cereal & Pulse Crops of Terai Agroclimatic Zone of West Bengal	Dr. S. Basak	PI
2.	Sustainable Resilient Farming System Intensification in Eastern IGP.	Dr.A. Ghosh	Co-PI
3.	Development of innovative agri-entrepreneurship roles for young agri-	Dr.A. Ghosh	Co-PI

	professionals in West Bengal.		
4.	Enhancing Pulses Production for Food and Nutritional Security, Improved Livelihoods and Sustainable Agriculture in West Bengal.	Dr.A. Ghosh	Co-PI
5.	Long term time series analysis of data on area, production and productivity of oil seed crops and meteorological parameters (Temperature, Rainfall and Sunshine hour) of Terai Agro-climatic zones of West Bengal	Dr.A. Ghosh	PI
6.	“Image IDGP-Image based identification of individual, breed and diseases of pigs and goat” funded by Ag & Food Division of Information Technology Research Academy (ITRA) under Ministry of Communication and Information Technology, Govt. of India	Dr. M. K. Debnath	Co-PI

#### **E. Extension activities:**

a) Teachers are attached with several multidisciplinary research and extension mode projects running in the University and funded by different sponsoring agencies. Under the mandate of those projects teachers are extensively involved in farmer’s training, on farm trial, data collection, Socio Economic Survey, Focus Group Discussion (FGD), Farmer’s Training/Meeting and statistical analysis and interpretation of the data acquired from the village level farmers’ fields.

#### **F. Infrastructural and Support Facilities available:**

- a) PG Computer Lab and LAN connectivity in the Department (DST-FIST sponsored)
- b) For advanced level statistical data analysis to benefit the teachers and scientists within and outside the Department of Agril. Statistics at UBKV, Statistical Software like SAS,SPSS and R have been installed in the computers housed in the PG computer laboratory.
- c) UG computer Lab

d) Seminar –cum-PG classroom

e) UG Class room

**G. Faculty and staffs:**

a) Head of the Department: Dr. DEB SANKAR GUPTA

b) Faculty

Sl. No	Name	Specialisation	Contact address
1	<b>Dr. Deb Sankar Gupta</b> (Professor and Head)	Design and Sample survey, Reliability and Survival function Analysis.	Mob.09434685759 <b>Email:</b> dsguptaubkv@gmail.com
2	<b>Dr. Manoj Kanti Debnath</b> (Assistant Professor)	Probability Theory, Design of experiment and Remote Sensing and GIS, Biometrics.	Mob.08670937121 <b>Email:</b> mkanti1984@gmail.com
3	<b>Dr. Sankalpa Ojha</b> (Assistant Professor)	Design of Experiments, Statistical Modeling	Mob:9662107466 <b>Email:</b> sankalpa.stat@gmail.com
4	<b>Dr. Satyananda Basak</b> (Professor )	Design of Experiments	Mob.09474572393 <b>Email:</b> satyabasak@rediffmail.com
5	<b>Dr. Arunava Ghosh</b> (Professor )	Forecasting and Modelling	Mob.09433318102 <b>Email:</b> arunava_ubkv@yahoo.co.in

c) Staffs

Sl.No	Name	Designation	Contact address
1	Sri MrinalKantiSen	Superintendent(Tech.)	Mob. 09434102954
2	Sri RatanSarkar	Cash Sarkar	Mob. 09734136212
3	MoumitaSaha	Jr. Peon	Mob. 09735007954

## H. Publications :

Sl. No	Title	Author's Name	Journal	NAAS Rating/ impact factor
1.	Estimation of Optimum Time of Spray for Controlling Rice Leaf Folder Infestation on Boro Rice in Terai Region of West Bengal Using Best Fitted Linear and Nonlinear Growth Model.	Soumitra Sankar Das, <b>Manoj Kanti Debnath</b> , <b>Satyananda Basak</b> , Joydeb Ghosh and Aparajita Das	Int.J.Curr.Microbiol.App.Sci(2017) 6(6): 2300-2309	5.38
2.	Anthropogenic impacts on forest land use and land cover change: Modelling future possibilities in the Himalayan Terai.	Shovik Deb, <b>Manoj K. Debnath</b> , Somsubhra Chakraborty, David C. Weindorf, Deo Kumar, Dibyendu Deb, Ashok Choudhury	Anthropocene, (2018), 21:32–41	-
3.	Different methods for judging the normality assumption for univariate and bivariate data and its remedial measure.	S. S.das, A. K. Das, A. Mazumder and <b>M. K. Debnath</b>	Journal of Crop and Weed, (2017).13(1): 07-16	5.28
4.	Modeling and Forecasting in Rainfall in Jabalpur Madhya Pradesh Using ARIMA Model	Preeti Tiwari, P. Mishra and <b>M. K. Debnath</b>	Trends in Biosciences, (2017).10 (23):5046	3.94
5.	Economic Threshold Level of	<b>Satyananda</b>	International	ISSN:



	Aphid on Mustard crop at Pundibari (A part of Coochbehar district): It's determination by application of probability and statistics	<b>Basak</b> , Soumitra Sankar Das, Satyabrata Pal	Journal of Zoology Studies	2455-7269; Impact Factor: RJIF 5.14
6.	An alternative approach for estimating above ground biomass using Resourcesat-2 satellite data and artificial neural network in Bundelkhand region of India	Deb, D., Singh, J.P., Deb, S., Dutta, D., <b>Ghosh, A.</b> , and Chaurasia, R.S.	Environmental Monitoring and Assessment. 189:576	7.69
7.	Lemon cv. Assam lemon ( <i>Citrus limon</i> Burm.) quality and soil-leaf nutrient availability affected by different pruning intensities and nutrient management	Ghosh, A., Dey, K., Bhowmik, N., Ghosh, S.K., Bandyopadhyay, S., Medda, P.S. and <b>Ghosh, A.</b>	Current Science. 112(10): 2051-2065	6.84
8.	Identification of prediction model on population buildup of <i>Dactynotuscarthemi</i> HRL on safflower ( <i>Carthamustinctorius</i> L.) for timely intervention	Chaudhuri, N., Banerjee, D., <b>Ghosh, A.</b> and Senapati, S.K	Journal of Entomology and Zoology Studies. 5(4): 1775-1779	5.53
9.	Growth Behavior of Pineapple cv. Mauritius under Integrated Nutrient Management in Northern part of West Bengal, India	Bhowmik, N., Munsi, P.S., Ghosh, S.K., Deb, P. and <b>Ghosh, A</b>	International Journal of Current Microbiology and Applied Sciences.6(9): 2471-2488.	5.38
10.	Effect of integrated nutrient management on flowering and	Bhowmik, N., Ghosh, S.K.,	Journal of Crop and	5.28

	fruiting characteristics of pineapple cv. Mauritius	Munsi, P.S., Deb, P. and <b>Ghosh, A</b>	Weed. 13(2): 144-156	
11.	Effect of Potassium-Boron Content of Leaf on Copra Yield of Coconut ( <i>Cocosnucifera</i> L.) in <i>Terai</i> Region of West Bengal, India	SathiBabu, N., Medda, P.S. Sinha, K. and <b>Ghosh, A</b>	International Journal of Current Microbiology and Applied Sciences.7(2): 398-410	5.38
12.	Impact of Potassium-Boron Interaction on Leaf Nutrient Content and Nut Setting of Coconut	SathiBabu, N., Sinha, A. K., Medda, P.S. and <b>Ghosh, A</b>	International Journal of Current Microbiology and Applied Sciences. 6(12): 4025-4037	5.38

**I.National/International symposium/Training/Seminar attended and organized:**

Sl.No.	Seminar, Symposium, Conference, Training and Winter/ Summer/ Refresher course/ short course	Faculty associated	Date	Venue	Attended/ Organized
1.	CAFT on Recent advances in sample surveys and survey data analysis using statistical software	Dr. Manoj Kanti Debnath	1 <sup>st</sup> Dec- 21 <sup>st</sup> Dec, 2017	Indian Agricultural Statistics Research Institute (IASRI), New Delhi	Attended

**J. Master Degree thesis completed**

Sl.No.	Title	Year	Author	Chairman Name
1	Study on Feasibility of Zero Tillage as a	2017	Sangeeth	Prof. D. S.

	Substitute of Conventional Tillage with reference to <i>Rabi</i> Maize in CoochBehar District of West Bengal.		Surendran (Regd. No. A-2015-25-M)	Gupta
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**K. Member of different academic societies:**

**(a) Dr. D.S. Gupta**

- i) Life time member of “Indian Society of Agricultural Statistics” IASRI, Pusa, NewDelhi.
- ii) Life time member of “Crop and Weed Science Society” B.C.K.V. Mohanpur, Nadia, West Bengal.
- iii) Life time member of “COBACAS, UBKV, Pundibari, West Bengal.
- iv) Founder Member of Society for Application of Statistics in Agriculture and Allied Sciences (SASAA).

**(b) Dr. ManojKantiDebnath**

- i) Life Member of Indian society of Remote Sensing, Dehradun.
- ii) Founder Member of Society for Application of Statistics in Agriculture and Allied Sciences (SASAA).

**(c) Dr. ArunavaGhosh**

- i) Life time member of “Crop and Weed Science Society” B.C.K.V., Mohanpur, Nadia, West Bengal.
- ii) Founder Member of Society for Application of Statistics in Agriculture and Allied Sciences (SASAA).

**L. Any other activities:**

**(i) Activities of Dr. D.S. Gupta**

- a) Member of Administrative body: Have been acting as Member of Faculty Council (F/Ag) and Member of Academic Council, UBKV
- b) Member of Advisory Committee for both at PG and PhD level students: Have been acting as member of Advisory Committee for both at PG and PhD level students of different departments
- c) Acted as Resource person:

- Acted as a Resource Person in the 7-day workshop on ‘Research Methodology Using Statistical Tools, Techniques and Packages’ during March 16-22, 2018 at Visva-Bharati, Santiniketan.
- Acted as a Resource Person in the HRD training on "Persuasive communication and soft skill development" for KVK staffs (Scientific and Technical) held on March, 08-09, 2018.

**(ii) Activities of Dr. M.K. Debnath**

a) Member of Administrative body:

- Member of Faculty Council (F/Ag)
- Nodal officer for all purpose of scholarship
- Member of JRF Coaching committee
- Member of UG/PG admission committee

b) Member of Advisory Committee for both at PG and PhD level students: Have been acting as member of Advisory Committee for both at PG and PhD level students of different departments.

c) Acted as Resource person:

- Acted as a Resource Person in the 7-day workshop on ‘Research Methodology Using Statistical Tools, Techniques and Packages’ during March 16-22, 2018 at Visva-Bharati, Santiniketan.
- Acted as a Resource Person in the HRD training on "Persuasive communication and soft skill development" for KVK staffs (Scientific and Technical) held on March, 08-09, 2018.

d) Acted as Central Level Coordinator, Student Ready Programme.

**(iii) Activities of Dr. S.Ojha**

a) Member of Administrative body:

- Convenor, CNMC, UBKV
- Member, Online Admission Committee
- Member, Class Room Maintenance Committee, UBKV

b) Any other (Achievement) Published a Manual on Fundamentals of Statistical Methods for 3<sup>rd</sup> Term, B.Sc. (Hons.) Agriculture Students

**iv)Activities of Dr. Arunava Ghosh**

a) Member of Advisory Committee for both at PG and PhD level students: Have been acting as member of Advisory Committee for both at PG and PhD level students of different departments.

**v) Activities of Dr. S. Basak**

a) Member of Administrative body:

- Chairman, Computer Network Management Committee, UBKV
- Member of Tender & Purchase Committee, UBKV

b) Research reports submitted: Modelling Area, Production and Productivity of Rice at Cooch Behar District.

**Celebration of 11<sup>th</sup> National Statistics Day**

In 2007 Government of India, has designated 29<sup>th</sup> June as the “Statistics Day” in the category of Special Days to be celebrated every year at the National level in recognition of the notable contributions made by Late Professor Prasanta Chandra Mahalanobis in the fields of statistics, statistical system and economic planning. The objective of celebration of this Day is to create public awareness about the importance of statistics in socio-economic planning and policy formulation, to acknowledge the contribution of Prof. Mahalanobis. Every year Ministry of Statistics & Programme Implementation (MoSPI) and Indian Statistical Institute selects particular theme for the day based on current national importance for focused discussions and efforts throughout year to bring about improvements in selected area. The theme selected for the Statistics Day for the year 2017 was “Administrative Statistics”. Statistics Day was also celebrated throughout the country by the field offices of National Sample Survey Office, State Governments and Universities/Departments by organizing Seminars, Conferences, Debates, Quiz Programmes, Lectures, Essay Competitions, etc. The department of Agricultural Statistics, UBKV, Pundibari was taken initiative to celebrate national statistics day on the eve of Late Professor Prasanta Chandra Mahalanobis 125<sup>th</sup> birth anniversary on 29<sup>th</sup> June, 2017.

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