

## ASSESSMENT STATUS REPORT

Name of the School: School of Statistics

Year of Report: 2011-12

**Part A: The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year.**

<p>1. Curricular Aspect</p>	<ul style="list-style-type: none"><li>• Grade-Credit System is followed</li><li>• Orientation of the courses involves practical applications of Statistics to a wide variety of fields. M.Sc. course is oriented towards industrial applications and M.Phil course towards models in industries, business, finance and biology including advanced topics like survival analysis and data mining data mining.</li><li>• The M.Sc. course of School of Statistics is job-oriented .</li><li>• The M.Sc. syllabus includes two Six Month projects for each individual student. The M.Phil course has a paper on live data analysis . ICT is an integral part of these , rendering the process as blended learning( Traditional + e learning)</li><li>• The curriculum is updated from time to time. Last updated in 2011</li><li>• Curriculum development process is participatory involving all the regular faculty members and various stake holders</li><li>• Curriculum update based on the current needs of the industries and Research and advances in knowledge.</li><li>• The curriculum designing of the course is balanced and broad based for its applicability to other disciplines which require Statistics background.</li><li>• Formal feedback is obtained from the students. Obtained feedback is utilized for updating the courses</li><li>• Informal feedback from ex-students and field professionals is taken into consideration.</li><li>• <b>Feedbacks from peers were formally</b> taken in the year 2011-2012 after showing them the syllabi. Faculty members from NAAC A grade universities and others who were invited for delivering talks at the National Seminar (on “Statistics and its Applications ” organized by School of Statistics, DAVV on 16th March 2012 ) were shown the entire syllabus and apprised about the activities of the department. Feedback regarding the</li></ul>
-----------------------------	--

	<p>standard of the syllabus was taken from them.</p> <ul style="list-style-type: none"> <li>• PG and M. Phil Students are admitted through qualifying examination and interviews ( Through CET etc. in 2011-2012). Admission to Ph.D. courses will now be on the basis of Entrance exam and Interview</li> <li>• State governments norms are followed in admission process for reserved categories and women</li> </ul>
<p>2. Teaching – learning and Evaluation</p>	<ul style="list-style-type: none"> <li>• One classroom is equipped with multimedia projector. Another LCD projector is available, which is portable and can be used in the other class room as well as in laboratory.</li> <li>• Lectures are supplemented by assignments and student seminars</li> <li>• Students have used SPSS and Excel for their M.Sc./ M.Phil projects</li> <li>• Exposure to research and innovation skills through Students Projects is practiced at M.Sc. as well as M.Phil levels</li> <li>• Teacher student ratio is 1:20</li> <li>• School of Statistics has a small team of regular faculty which is qualified, dedicated and research oriented (02 Professors). One UGC visiting professor was appointed for six months in 2011-2012 session</li> <li>• Teachers are motivated for attending seminars, workshops etc.</li> <li>• Ph.D. qualified regular faculty as on date is 100%</li> <li>• Vacancies in regular faculty positions are being met by guest faculty</li> <li>• 1 -UGC NET (L) is available for assisting in teaching as guest faculty.</li> <li>• Continuous and comprehensive evaluation process is followed with three tests in each semester along with end semester exam in each course. Assignments and classroom questions form an integral part of the evaluation process</li> <li>• Transparency and Openness is hallmark of the evaluation system</li> <li>• Grade-credit based evaluation system is followed.</li> <li>• Strict adherence to examination schedule, timely evaluation of answer sheets and declaration of results.</li> </ul>

	<ul style="list-style-type: none"> <li>• Students are given feedback on their performance and answer sheets are shown to them</li> <li>• Result processing is computerized.</li> <li>• Teaching learning process incorporates ICT component</li> <li>• External audit in the form of Comprehensive viva is a special feature of evaluation</li> <li>• Innovative Evaluative practices like peer evaluation, MCQ based tests – especially in entrance tests, Teacher Evaluation by Students are followed.</li> </ul> <p>Career Guidance and Counseling are provided informally by each teacher.</p> <ul style="list-style-type: none"> <li>• Lecture was organised on 2 May 2012 by Prof. Rajeeva L. Karandikar, Director, Chennai Mathematical Institute, Chennai on "" Career opportunities in Statistics and mathematics""</li> <li>• Applied statistics and SPSS are components at PG level</li> <li>• Invited lectures and Subject Related Workshops are organized.</li> <li>• Co-curricular and extra curricular activities are encouraged.</li> <li>• In order tom to gain insights into the role of Official statistics <ul style="list-style-type: none"> <li>(i) Selected students were sent to National Academy of statistical administration(NASA) a part of CSO(Central Statistical Organisation) to gain insights into the role of Official statistics</li> <li>(ii) Students were sent for summer training with NSSO( National Sample Surveys Office) and DES(Department of Economics and Statistics) MP Govt.</li> </ul> </li> </ul>
<p>3. Research, consultancy and Extension</p>	<ul style="list-style-type: none"> <li>• National Seminar( UGC Supported) on “Statistics and its Applications” was organized on March 16, 2012. : UGC supported National Seminar on “Statistics and its Applications ” was conducted on 16 March . There were registered participants with abstracts from M.P., Maharashtra, U.P., Gujarat, Orissa, Punjab.</li> <li>• Lectures by MOSPI ( Ministry of Statistics and Program Implementation) Officials organized on 17 August 2011 : DDG(Mr. Praveen Shrivastava ) and DD (Mr. Sammarwal) Ministry of Statistics and Program Implementation” on “Demystifying Statistics” and “Careers in ISS”</li> <li>• Collaborative research activities were promoted. Research collaboration with Greek Mathematician S. Papachristos</li> </ul>

	<p>continued.</p> <ul style="list-style-type: none"> <li>• Faculty members were invited to deliver talks at National Conference at Jalgaon( Maharashtra) on 5 March 2012 and State level Statistics day celebrations at Bhopal on 29 June 2012</li> <li>• Faculty members are reviewers of theses, research papers in international journals.</li> </ul>
4. Infrastructure and Learning Resources	<ul style="list-style-type: none"> <li>• Optimal utilization of equipments and computer resources</li> <li>• Dissemination of e-contents has been planned</li> <li>• Department has a good library with about 1000 books</li> <li>• ICT networking through IT centre and LCD facility is available</li> <li>• All labs are well equipped</li> <li>• Vitrified tiles have been paved, providing a cleaner look to the old mosaic flooring.</li> <li>• Old wooden tables were renovated.</li> <li>• Split AC's were installed in lab, library and room of HOD. This will provide a more conducive environment for study, computing and entertaining guests officially visiting the department, especially during summers.</li> </ul>
5. Student Support and Progression	<ul style="list-style-type: none"> <li>• Good students get jobs in multinational companies after Post graduation. Some go in for college teaching.</li> <li>• Some students continued their studies having taken admission in M. Phil course/Ph.D.</li> <li>• Alumni association actively supports co- curricular activities and placement.</li> <li>• Placement interview was organized by Alumnus holding high position in multinational company. One student was selected, joining at initial package of about Rs. 2.5 Lakhs</li> <li>• Students avail of Hostel, Internet and Health facilities of the University</li> <li>• Informal grievances redressal mechanism exists and counseling is provided to students.</li> </ul>
6. Governance & leadership	<ul style="list-style-type: none"> <li>• Full academic autonomy</li> <li>• Sizable faculty representation on various committees of Apex</li> </ul>

	<p>bodies in the Universities</p> <ul style="list-style-type: none"> <li>• Faculty involved in Selection, Examination and Professional Development activities of the Universities</li> <li>• Support to colleges in conducting Selections of faculty</li> <li>• Academic Calendar is strictly followed. Teaching schedule is adhered to and syllabus is covered on time</li> <li>• Strong emphasis on classroom teaching</li> <li>• Results declared on time</li> <li>• Assessment of students is undertaken through regular and continuous evaluation and end semester examination</li> <li>• Student feedback system is followed for continuous improvement</li> </ul>
<p>7. Innovative practices</p>	<ul style="list-style-type: none"> <li>• Project presentations and seminars through Powerpoint presentation and promotion of intensive use of statistical software for M.Sc. and M Phil project work. This brings enables active use of ICT, personality development, exposure to real life applications of the subject.</li> <li>• Interaction with MOSPI       <ul style="list-style-type: none"> <li>(a) ( Ministry of Statistics and Program Implementation)</li> <li>(b) Students:In order tom to gain insights into the role of Official statistics           <ul style="list-style-type: none"> <li>(i) Selected students were sent to National Academy of statistical administration(NASA) a part of CSO(Central Statistical Organisation) to gain insights into the role of Official statistics</li> <li>(ii) Students were sent for summer training with NSSO( National Sample Surveys Office) and DES(Department of Economics and Statistics) MP Govt.</li> </ul> </li> <li>(c) Lectures by officials of MOSPI.</li> <li>(d) Department of Economics and Statistics, M.P. Govt. has decided to conduct courses for their officers , where training will be imparted by teachers of the School of Statistics and some guest faculty</li> </ul> </li> <li>• ICT based teaching</li> <li>• Students feedback system in vogue</li> <li>• Students are provided with Internet facility</li> </ul>

	<ul style="list-style-type: none"> <li>• Publication of College magazine “Invictus”</li> <li>• Use of problem solving approach self learning Material for teaching learning process.</li> </ul>
--	---

-----

**Part B: ACTIONS UNDERTAKEN DURING THE YEAR**

01	Activities reflecting the goals and objectives of the institution	<p><b>Regular teaching with teaching aids</b></p> <p><b>Syllabus coverage in details.</b></p> <p><b>Project presentations and seminars through Ppt and promotion of intensive use of statistical software for M.Sc. and M Phil project work.</b></p> <p><b>Promotion of research activities and use of Internet resources for learning</b></p> <p><b>Interaction with MOSPI and DES, the government agencies responsible for application of Statistics. This has opened the doors for the students to visualize and appreciate the practical aspects and utility of the subject.</b></p>
02	New academic program initiated (UG and PG)	<i>NIL</i>
03	Innovations in curricular design and transaction	<p><b>Minor changes in optional paper was considered in order to enable students to attempt the UGC NET examination which is the only NET Statistics exam held in June at Indore</b></p> <p><b>Students were encouraged to collect and analyze real life data for their M.Sc. projects.</b></p> <p><b>Consultancy by Students:</b></p> <p><b>Two M.Phil students were guided by Dr. Snigdha Banerjee to take up a live consultancy for a national level finance company. The students earned a consultancy money of Rs. 15000/ each</b></p>
04	Inter-disciplinary programmes started	<b>Computer programming and numerical analysis and Computer Applications/office automation papers already existed</b>
05	Examination reforms implemented	<b>No new reforms implemented in the year. Semester system is followed and the answer sheets are shown to the students after evaluation</b>
06	Candidates qualified NET/SLET/GATE etc.	<i>NIL</i>
07.	Initiative towards faculty development programme	<i>NIL( Both the regular faculty are Professors)</i>

08	Total number of seminars/workshops conducted	<p><b>1. One UGC supported National Seminar “National Seminar on Statistics and its Applications” was organized on 16 March 2012</b></p> <p><b>2. One Seminar on “Demistifying Statistics” by MOSPI officials on 17 August 2012 in which Lectures on official statistics and career in Indian Statistical Services were given by MOSPI( Ministry of Statistics and Programme Implementation, Govt of India) Officials :</b></p> <p style="padding-left: 40px;"><b>DDG(Mr. Praveen Shrivastava ) presented a talk on “ Demystifying Statistics” and DD (Mr. Manish Sammarwal) talked on career in ISS , interacted with students and encouraged them to join ISS Ministry of Statistics and Program Implementation</b></p> <p><b>3. One Lecture on 2 May 2012 by Prof. Rajeeva L. Karandikar, Director, Chennai Mathematical Institute, Chennai on”” Career opportunities in Statistics and mathematics”</b></p>												
09	Research projects a)Newly implemented b)Completed	<b>NIL</b>												
10.	Patents generated if any	<b>NIL</b>												
11.	New collaborative research program	<b>NIL</b>												
12.	Research grants received from various agencies	<b>NIL</b>												
13	Details of research scholars	<p><b>Mr. Pankaj Chauhan(Awarded Ph. D, Degree in Jan 2011) Guide-Dr, Rajesh Singh Co-Guide Prof. Shakti Banerjee</b></p> <p><b>Two new research scholars joined for Ph.D. in Mgt under co-guidance of Dr. Snigdha Banerjee with research centres at Prestige Inst of Mgt and Vaishnav Inst of Mgt</b></p> <p><b>Ms Nirmala Sawan(Submitted Thesis) Guide- Dr, Rajesh Singh Co-Guide Prof. Shakti Banerjee</b></p> <table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left;"><b>Name of Scholar</b></th> <th style="text-align: left;"><b>Supervisor</b></th> <th style="text-align: left;"><b>Co-Supervisor</b></th> </tr> </thead> <tbody> <tr> <td><b>Mr Ashish Sharma</b></td> <td><b>Dr, Snigdha Banerjee</b></td> <td></td> </tr> <tr> <td><b>Mr. N. Sanjib Meitei</b></td> <td><b>Dr, Snigdha Banerjee</b></td> <td></td> </tr> <tr> <td><b>Ms Swati Agrawal</b></td> <td><b>Dr, Snigdha Banerjee</b></td> <td></td> </tr> </tbody> </table> <p><b>Mrs Vaishali Maheshwari(Registerd in August 2011 under Management Faculty) Dr, Snigdha Banerjee(Co-Supervisor,)</b></p> <p><b>Mr. Jalaj Katare(Registerd in August 2011 under Management Faculty) Dr, Snigdha Banerjee(Co-Supervisor,)</b></p>	<b>Name of Scholar</b>	<b>Supervisor</b>	<b>Co-Supervisor</b>	<b>Mr Ashish Sharma</b>	<b>Dr, Snigdha Banerjee</b>		<b>Mr. N. Sanjib Meitei</b>	<b>Dr, Snigdha Banerjee</b>		<b>Ms Swati Agrawal</b>	<b>Dr, Snigdha Banerjee</b>	
<b>Name of Scholar</b>	<b>Supervisor</b>	<b>Co-Supervisor</b>												
<b>Mr Ashish Sharma</b>	<b>Dr, Snigdha Banerjee</b>													
<b>Mr. N. Sanjib Meitei</b>	<b>Dr, Snigdha Banerjee</b>													
<b>Ms Swati Agrawal</b>	<b>Dr, Snigdha Banerjee</b>													
14.	Citation index of faculty members and impact factor	<p><b>Total Impact Factor till now</b></p> <p><b>Prof. Snigdha Banerjee: 10.54(Approx)</b></p>												

		<b>Prof. Shakti Banerjee: 6.373(Approx)</b>
15	Honors/Awards to the faculty	<b>Dr, Snigdha Banerjee(Prof &amp; Head) was Invited to deliver talks at</b> <b>1. National Conference on Mathematical Sciences</b> <b>North Maharashtra University, Jalgaon, 5th March 2012 Topic</b> <b>“Pricing in Inventory models-- Helping Business Through Quantitative Methods”</b>  <b>2. “ Statistics day celebrations being jointly organized by MOSPI( Ministry of Statistics and Programme Implementation and DES, M.P. Govt</b>
16	Internal resources generated	<b>Registration fees for National seminar Rs 29950/=.</b>
17.	Details of departments getting SAP ,FIST, etc assistance/recognition	<b>NIL( Not Eligible for SAP/FIST since the number of regular faculty members is less than five )</b>
18.	Community services	<b>NIL</b>
19.	Teachers and officers newly recruited	<b>NIL</b>
20.	Teaching-Non-teaching staff ratio	<b>2:5</b>
21.	Improvements in the library services	<b>None</b>
22.	New books/journals subscribed and their Value	<b>Books worth Rs 36000/ have been purchased for the departmental library</b>
23.	Courses in Which Student Assessment of Teachers is introduced and the action taken on student feedback.	<b>M.Sc/M.A., M.Phil courses already have student feedback system</b>
24.	Unit Cost of Education. Unit cost = total annual expenditure budget (Actual) divided by the number of students enrolled.	<b>Rs.82000/= Approx.</b>
25.	Computerization in Administration and the process of Admissions and examination, result issue of certificates.	<b>Major part of typing of outgoing letters and reports is through computers.</b>  <b>Some reports are sent online to the university.</b>  <b>Preparation of Admission list, examination results, Grade sheets, Certificates is computerized, but not on line</b>
26.	Increase in the infrastructural facilities.	<b>Pavement of vitrified tiles was initiated and completed for all of the department rooms.</b> <b>5 Split Ac’s were installed using UGC XI<sup>th</sup> plan grant</b>
27.	Technology up gradation.	<b>8 computers were installed in June 2012 using UGC XI<sup>th</sup> plan grant</b>
28	Computer and Internet access and training to teacher and students.	<b>Students have access to computers and Internet at the department computer lab and also at IT centre of the university</b>



29.	Financial aid to students.	<p><b>1. Students of M.Sc. Semester II were selected by NSSO and DES for 2 month summer internship programmes and paid Rs 5000/per month by them.</b></p> <p><b>2. Govt. aid is provided to SC/ST candidates</b></p>
30.	Activities and support from the Alumni Association.	<b>Alumni Help in conduct of National seminar, invited talks and other events</b>
31.	Activities and support from the parent Teacher Association.	<b>No significant contribution</b>
32.	Health Services.	<b>Health centre and facilities are available in the campus</b>
33.	Performance in sports activities.	<b>NIL</b>
34.	Incentives to outstanding sports persons.	<b>NA(There was no such person in the department during the year 2011-2012)</b>
35.	Students Achievements and awards.	<p><b>Two students were selected for training in Official Statistics conducted by MOSPI(Ministry of Statistics and Programme Implementation)</b></p> <p><b>Three students of M.Sc. Semester II were selected for two month Summer projects by NSSO . They would be paid Rs. 5000/ per month during the project.</b></p>
36.	Activities of the Guidance and Counseling Units.	<p><b>HOD obtained question papers of earlier ISS exams(Which were not available on Internet and students were unable to get them) on personal request and distributed to the students and encouraged them to appear for ISS(Indian Statistical services) exams</b></p> <p><b>Regular career guidance at informal level is provided.</b></p>
37.	Placements services provided to student.	<b>One placement interview by PREMIER BIOSOFT (India) was conducted on 11 March 2012.,Students were apprised about job opportunities and asked to apply if the company details suited their requirements</b>
38.	Development programmes for Non- teaching staff.	<b>In the UGC XII<sup>th</sup> plan, MS Word and Excel course has been proposed by the department, which may enable better office assistance to the department and administration/</b>
39.	Healthy practices of the institution.	<p>≡ <b>Regular and quality teaching</b></p> <p>≡ <b>Active participation in research activities</b></p> <p>≡ <b>Departmental harmony in working</b></p> <p>≡ <b>For quality assurance, self analysis and feedback from students was practiced.</b></p> <p><b>* Attached Annexure sheets “Best Practices IQAC ”</b></p>
40.	Linkages developed with National/ International, Academic/Research bodies.	<p><b>1.NSSO(Ministry of Statistics and Program Implementation)</b></p> <p><b>2. Department pf Econimics and Statistics,,M.P. Govt.</b></p>
41.	Any other relevant information the institution wishes to add	<b>Department pf Economics and Statistics, M.P. Govt. has decided to conduct courses for their officers , where training will be imparted by teachers of the School of Statistics and some guest faculty</b>

**Part C: Detail the plans of the institution for 2012-13:**

- Course for Department of Economics and Statistics, M.P. Govt officers trained in Statistics at the department.(This course will provide a good interaction between theory and real life applications of Statistics and will remain the main focus for this year)
- Organization of Summer Programs for UG students.
- Organization of Seminars,/Conferences / Workshops specially on statistical software
- Ecological enhancement of the campus by plantation and maintenance of the plants by the students of the department

**Name & Signature of the Coordinator IQAC**

**Name of Signature of the HEAD, UTD**

## Annexure

### School of Statistics

#### Best Practices

##### 1. Curricular Aspects

The syllabus is a modification of the UGC Unified syllabus, modified slightly to cater to the local admission criteria and the requirements for the current job opportunities.

Peer Feedback was taken from speakers invited at the National Seminar conducted by SOST. The feedbacks mainly suggested that more statistical software should be used and more journals should be subscribed in the library.

##### 2. Teaching-Learning and Evaluation :

###### Teaching, Learning

(A) Assignments are given to students in each paper: This allow students to search the web for study material related to the topics, especially in M.Phil course

B) Projects: M.Sc. Student have to take up 2 projects - One in Semester III and one in Semester IV.

The project is presented **through PowerPoint presentation** before external examiner and the presentation is open to all students and teachers of the department. This leads to **personality development**, as the student learns to present his/her work in front of a group of persons.

Further, the students:

(a) Apply Excel, SPSS, topics learnt in theory courses to real data, This makes it easier for them to get jobs.

(b) Sometimes learn topics which are not in the syllabus.

(C) Evaluation: **Modification of Examination attendance sheet:**

In order to have better accountability of answer sheets and less hassles in case cheating is suspected, when getting the signatures of the students on attendance sheet, the student is asked to enter the copy number of the main/ supplementary answer sheet that he/she is taking.

##### 3. Research, Consultancy and Extension :

(A) Papers have been presented/published by faculty members/ their students at national and international conferences. Faculty members have also presented invited talk and chairing sessions at national conferences.

(B) UGC schemes were utilized for

(a) **Appointment of UGC visiting professor**

(b) **Organization of UGC supported National Seminar.**

(C) Some other workshops were also organized: ( SPSS, SYSTAT, Risk Management and Statistical Software)

**(D) Invited Talks Organised:**

Many invited talks are organized by experts and award winners in various fields of Statistics. Lectures were also organized by officers of the level of DDG and ADG of NSSO(MOSPI) .

Two of the lectures concentrated on career opportunities in Statistics and ISS.

This has enabled students to have a wider view on the subject as well as the variety of job prospects of good jobs for those with PG in Statistics

**(E) Students:**

**(i) Placement Interview organized.**

**(ii) Students were selected for**

**(a)** " Exposure Program for PG students on Official Statistics"

**(b) Summer Internship with National Sample Surveys Office( Field Operations Division)(NSSO(FOD))(MOSPI):** for two month internship program by NSSO. They will be getting a stipend of Rs 5000/month during their internship

**Apart from giving exposure to various practical applications of Statistics and mingling with students of other universities, the students have earned some stipend .**

**(iii) Consultancy by M. Phil students:**

Two M.Phil students consultancy to Shriram Finance company ( Indore Branch) under the guidance of Prof. Snigdha Banerjee

**4. Infrastructure and Learning Resources :**

**Infrastructure:**

Endeavours have been made to improve the ambience of the existing department infrastructure using the UGC grants and other grant by the university. Vitrified tiles were paved over the old mosaic. Old wooden tables were renovated. This gave a cleaner look to the department.

**Boards displaying names of toppers and award winners have been prepared.** This would encourage the students to compete for their names to be displayed .

**Learning Resources:**

Use of LCD projectors is made for some of the papers and for project presentations, Seminars.

The department has ample number of books. Orders have been placed for more books.

## **5. Student Support and Progression**

Students were encouraged to apply for and prepare for Indian Statistical services (ISS) examinations, Question papers of nine years of ISS exams ( Which the students were not able to get and which are not available on net) were given to the students on teachers' day by Dr. Snigdha Banerjee.

## **6. Governance and Leadership:**

All the major decisions in the department are taken by consensus of the teaching faculty, sometimes with suggestions from visiting/guest faculty. At times, especially for infrastructure development, suggestions are also taken from non teaching staff and students.

Non teaching staff members form part of Anti Ragging committee, as the librarian and Technician are familiar with the students and can keep a vigil over them outside the classroom.

Students are part of the library committee and their suggestions are also taken while preparing list of books to be purchased for the departmental library.

## **7. Innovative practices**

Closer ties were developed with the Ministry of Statistics and Program implementation. As a result, the Department of Economics and Statistics has shown interest in conducting training programs in Statistics for their officers through the department.