

**Department of Natural Resource Management**

**प्राकृतिक संसाधन प्रबंधन विभाग**



**2024**

**College of Forestry**

**Banda University of Agriculture & Technology,  
Banda 210001 Uttar Pradesh**

**Technical Bulletin of**

**Department of Natural Resource Management**

**Year**

**2024**

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**Publication No: BUAT/E/2/2024**

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**Published by:**

**College of Forestry**

**Banda University of Agriculture and Technology**

**Banda -210001 (Uttar Pradesh)**

## **About the University**

Banda University of Agriculture and Technology, Banda was established as the First Agricultural University of Bundelkhand Region on 2nd March 2010 under Uttar Pradesh Agriculture University Act (revised) 1958 Gazette-Adhiniyam 2010 for the development of the agriculture and allied sectors in Uttar Pradesh in general and Bundelkhand region in particular. The University is mandated to (a) human resource generation and development, (b) generation and perfection of technologies, and (c) their dissemination to the farmers, orchardists and dairy farmers particular to small and medium land holders to turn their uneconomic land holdings in to economic in the jurisdiction area as well as the country. Bundelkhand Region comprises of two divisions (Jhansi and Chitrakoot Dham) and seven districts (Banda, Mahoba, Hamirpur, Chitrakoot, Jhansi, Lalitpur, and Jalaun) in Uttar Pradesh. The main campus of the University is located at Banda, between Latitudes 24° 53' and 25° 55' N and Longitudes 80° 07' and 81° 34' E. Banda District is bounded by districts of Fatehpur in the north, Chitrakoot in the east, Hamirpur and Mahoba in the west, and Satna, Panna and Chhatarapur in the south adjoining Madhya Pradesh. Banda is divisional headquarter of Chitrakoot Dham Mandal.

## **About the College of Forestry**

College of Forestry was started during the year of 2017. The first academic session of B.Sc. (Hons) Forestry was started in 2017-18 with a total intake capacity of 62 students. After the establishment of college, the Master of Science (Forestry) Natural Resource Management degree program commenced in the academic year 2022-23 through the U.P. Combined Agriculture & Technology Entrance Test (UPCATET), organized at the state level.

Department of Natural Resource Management started to offer a post-graduate degree programme in the year 2022 with an intake capacity of 4 students per year. In the year 2023, two students were admitted to the programme. The programme was started as per the recommendation of the 19BSMA Committee of ICAR. The forestry degree program in Forest Resource Management has a total of 70 credits which includes 20 credits for major courses, 08 credits for minor courses, 06 credits for supporting courses, 05 credits for common courses, 01 credit for the seminar and 30 credits for Master's thesis research work.

## Vision

- To promote excellence in education, research and extension in the field of forestry to cater for the need of trained manpower for practicing sustainable natural resources and their management.



## Objectives of the degree programme:



- To generate scientific temperament among the students by using modern educational tools.
- To produce technically sound graduate and post-graduate student in the field of Natural Resource Management.
- To carry out basic and applied research in Natural Resource Management.

## Thrust Areas:

- Rainwater harvesting and conjunctive use of surface and groundwater resources and Management of agriculture and forest watersheds
- Improving soil fertility and Management of physical and chemical soil constraints and Nutrient dynamics in agro-forestry system
- Importance of micro flora and fauna under agriculture and forest soils
- Removal of organic and inorganic pollutants from wastewater using nanomaterials and nanocomposites

## Faculty Profile:

S. No.	Name	Designation	Exp. (Year)	Publication	Specialization	Photo
1	Dr. Sharad Kumar Singh	Assoc. Professor & Head	18	Research Papers – 06	Agronomy	
2	Er. Sanjay Kumar	Assistant Professor	17	Research Papers- 21, Popular Articles- 14, Book Chapters- 8 Extension Folders-7, Project Reports- 3,	Agricultural Engineering	

3	Dr Arbind Kumar Gupta	Assistant Professor	07	Research Paper – 20, Book – 05 Popular articles – 12 Book chapters – 04 Technical bulletin – 01 Practical manual – 03 Training manual - 01	Soil Science	
4	Dr Monika Jain	Assistant Professor		Research paper - 05	Environmental Science	

### Courses/ Degree Programme Offered in Forestry

#### **B.Sc. (Hons.) Forestry** (Duration: 8 Sem , No. of Seats: 60)

- **Eligibility:** 10+2 with PCM or PCB or PCMB or Inter Ag.

#### **M.Sc. (Forestry) Forest Resource Management** [Duration: 4 Sem, No. of Seats: 05 through UPCATET]

- **Eligibility:** B.Sc. Forestry/ B.Sc. (Hons) Forestry /B.Sc. Hort./ B.Sc. (Hons.) Hort./ B.Sc. (Hort.) Hons./B.Sc.(Ag.)/B.Sc. Ag. (Hons.)/ B.Sc. (Hons.) Ag. (10+2+4 years Degree)

**B.Sc. (Hons) Forestry degree programme as per V<sup>th</sup> Dean's committee**

**Semester I (12+9=21 Credit Hours including 2 Non-Credit)**

S. No.	Semester	No. of Course	Credit Hours
1	Semester I	11	21(12+9)
2	Semester II	9	22(13+9)
3	Semester III	9	23(14+9)
4	Semester IV	9	23(15+8)
5	Semester V	8	24(12+12)
6	Semester VI	8	22(11+11)
7	Semester VII	2	23(0+23)
8	Semester VIII	6	23(8+15)
<b>Total</b>		<b>62</b>	<b>181 (85+96)</b>

**Semester I (12+9=21 Credit Hours including 2 Non-Credit)**

Sl. No.	Course Code	Course Name	Credit Hours
1	SA1101	Introduction to Forestry	2(2+0)
2	SA1102	Dendrology	3(2+1)
3	NR1101	Introduction to Agronomy and Horticulture	3(2+1)
4	NR1102	Geology & Soils	3(2+1)
5	BS1101	Information and Communication Technology	2(1+1)
6	BS1102	Communication Skills and Personality Development	2(1+1)
7	BS1103	Plant Biochemistry	2(1+1)
8	BS1104	Forest Botany**	2(1+1)
9	BS1105	Basic Mathematics**	2(2+0)
10	BS1106	Physical Education-I	1(0+1)*
11	BS1107	NSS-I /NCC-I	1(0+1)*
<b>Total</b>			<b>21(12+9)</b>
** Choose any one according to stream of 10+2/ Intermediate Science (Agriculture / Biology/Maths). *Non credit courses.			

**Semester II (13+9=22 Credit Hours including 2 Non-Credit)**

Sl. No.	Course Code	Course Name	Credit Hours
1	FB1201	Plant Physiology	3(2+1)
2	FB1202	Plant Cytology and Genetics	2(1+1)
3	SA1203	Theory and Practice of Silviculture	3(2+1)
4	FP1201	Wood Anatomy	3(2+1)
5	WL1201	Wildlife Biology	3(2+1)
6	NR1203	Forest Protection	3(2+1)
7	BS1207	Statistical Methods & Experimental Designs	3(2+1)
8	BS1208	Physical Education-II	1(0+1)*
9	BS1209	NSS-II / NCC-II	1(0+1)*
<b>Total</b>			<b>22(13+9)</b>

**Semester III (14+9=23 Credit Hours including 2 Non-Credit)**

Sl. No.	Course Code	Course Name	Credit Hours
1	NR2104	Environmental Studies and Disaster Management	3(2+1)
2	NR2105	Forest Survey & Engineering	3(2+1)
3	NR2106	Soil Biology & Fertility	3(2+1)
4	NR2107	Forest Ecology & Biodiversity	3(2+1)
5	FB2103	Tree Improvement	3(2+1)
6	SA2104	Principles of Agroforestry	3(2+1)
7	SA2105	Forest Mensuration	3(2+1)
8	BS2110	Physical Education-III	1(0+1)*
9	BS2111	NSS -III / NCC -III	1(0+1)*
<b>Total</b>			<b>23(14+9)</b>

**Semester IV (15+8=23 Credit Hours including 1 Non-Credit)**

Sl. No.	Course Code	Course Name	Credit Hours
1	SA2206	Forest Management	3(2+1)
2	SA2207	Silviculture of Indian Trees	3(2+1)
3	FP2202	Wood Products & Utilization	3(2+1)

4	FP2203	Ethnobotany, Medicinal and Aromatic Plants	3(2+1)
5	WL2202	Ornithology & Herpetology	3(2+1)
6	FB2204	Seed Technology & Nursery Management	3(2+1)
7	NR2208	Rangeland and Livestock Management	2(1+1)
8	BS2206	Forest Tribology & Anthropology	2(2+0)
9	BS2213	Study Tour of State Forest	1(0+1)*
<b>Total</b>			<b>23(15+8)</b>

**Semester V (12+12=24 Credit Hours)**

Sl. No.	Course Code	Course Name	Credit Hours
1	SA3108	Forest Hydrology and Watershed Management	3(2+1)
2	NR3109	Climate Science	3(2+1)
3	FP3104	Wood Science and Technology	3(2+1)
4	FP3105	Logging and Ergonomics	2(1+1)
5	BS3107	Forest Extension & Community Forestry	3(2+1)
6	BS3108	Entrepreneurship Development & Business Management	2(1+1)
7	BS3109	Forest Economics and Marketing	3(2+1)
8	EL-I	Experiential Learning-I	5(0+5)
<b>Total</b>			<b>24(12+12)</b>

**Semester VI (11+11=22 Credit Hours)**

Sl. No.	Course Code	Course Name	Credit Hours
1	SA3209	Plantation Forestry	2+1
2	NR3210	Forest Laws, Legislation and Politics	2+0
3	NR3211	Geomatics	1+2
4	NR3212	Recreation & Urban Forestry	1+1
5	NR3213	Restoration Ecology	1+1
6	FP3206	Non-Timber Forest Products	2+1
7	FP3207	Certification of Forest Products	2+0
8	EL-II	Experiential Learning-II	0+5



		<b>Total</b>	<b>22(11+11)</b>
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**Semester VII (0+23=23 Credit Hours including 3 Non-Credit)**

Sl. No.	Course Code	Course Name	Credit Hours
1	FOWE	Forestry Work Experience	20(0+20)
2	BS4117	All India Study Tour	3(0+3)*
<b>Total</b>			<b>23(0+23)</b>

**Semester VIII (8+15=23 Credit Hours)**

Sl. No.	Course Code	Course Name	Credit Hours
1	NR4214	Forest Inventory and Yield Prediction	2(1+1)
2	FB4205	Forest Biotechnology	3(2+1)
3	SA4210	Agroforestry Systems and Management	3(2+1)
4	WL4203	Wildlife Management	2(1+1)
5	BS4218	Agricultural Informatics	3(2+1)
6	PW	Project Work & Dissertation	10(0+10)
<b>Total</b>			<b>23(8+15)</b>
<b>Grand Total</b>			<b>85+96=181</b>

**PG degree programme in Forestry (Forest Resource Management)  
as per BSMA Committee, 2021**

<b>Courses</b>	<b>Masters' Programme (Credit Hours)</b>
Major Courses	20
Minor Courses	08
Supporting Course (s)	06
Common Compulsory Courses	05
Seminar	01
Thesis/ Research	30
<b>Total</b>	<b>70</b>

<b>Course Code</b>	<b>Course Title</b>	<b>Credit Hours</b>
<b>Major Course (Core Compulsory Courses)</b>		
FRM 501	Forest Biometry and Management	3(2+1)
FRM 503	Remote Sensing and Geographical Information System in Natural Resource Management	2(1+1)
FRM 505	Forest Resource Economics	2 (1+1)
FRM 506	Forest Ecosystem Services and Valuation	3 (2+1)
FRM 508	Forest Policy, law and International Conventions	2 (2+0)
FRM 510	Participatory Approaches in Forest Resource Management	2 (1+1)
<b>Optional Courses</b>		
FRM 502	Ecology and Management of Forest Soils	3(2+1)
FRM 504	Land Use Planning and Watershed Management	3 (2+1)
FRM507	Environmental Impact Assessment and Auditing	2(1+1)
FRM509	Global climate change impact, mitigation and adaptation	2 (2+0)
FRM511	Management of Tree Insect-Pests and diseases	3 (2+1)

FRM 512	Forest Ecology, Biodiversity and Management	3 (2+1)
<b>Seminar &amp; Research</b>		
FRM591	Master's Seminar	1(0+1)
FRM 599	Master's Research	30 (0+30)

### Non-Credit Compulsory Courses for M.Sc.

S. No.	Course Code	Course Name	Credit Hours
1.	PGS 501	Library and Information Services	1(0+1)
2.	PGS 502	Technical Writing and Communications Skills	1(0+1)
3.	PGS 503	Intellectual Property and its Management in Agriculture	1(1+0)
4.	PGS 504	Basic Concepts in Laboratory Techniques	1(0+1)
5.	PGS 505	Agricultural Research, Research Ethics and Rural Development Programmes	1(1+0)

### Research

S. No.	Name of the Project	Funding Agencies	PI/ Scientist	Starting Year	Fund (Lac.)	Status
1	Development of Integrated Model for Promoting Conjunctive and Multiple Use of Surface and Groundwater Resources in Bundelkhand Region	RKVY	Er. Sanjay Kumar, Dr Arbind Kumar Gupta, Dr Sharad Kumar Singh	2021	348.40	Ongoing
2	Development of ground water recharge system for rejuvenating shallow aquifers in Bundelkhand (U.P.)	UPCAR, Lucknow	Er. Sanjay Kumar, Dr Arbind Kumar Gupta, Dr Sharad Kumar Singh	2022	23.95	Ongoing

3	Assessment and management of residues of agrochemicals used in agricultural lands.	Institutional Project (Seed money)	Dr. Monika Jain	2022	9	Ongoing
4	Synthesis of Biopolymer nanocomposites and their utilization in water purification	DST-SERB	Dr. Monika Jain	2019	34.12	Completed

**Publications:**

**Research Paper:**

<b>1. Research Paper</b>	43
<b>2. Book/Edited Book</b>	07
<b>3. Book chapters</b>	07
<b>4. Popular articles</b>	12
<b>5. Technical bulletin/SSR/Reports</b>	02
<b>6. Practical manual/e-manual</b>	03
<b>7. Awards/appreciation letters</b>	06
<b>8. Policy formulation</b>	04

**Facility available in the department:**



*Soil and Water management laboratory*



*GIS and Remote sensing laboratory*



*Environmental Science laboratory*

**Instruments available in the department:**

<b>A</b>	<b>Soil and water management laboratory</b>		
<b>S.N.</b>	<b>Name of the instruments</b>	<b>Number</b>	
1.	pH meter	01	
2	EC meter	01	
3	Flame photometer	01	
4	Nitrogen analyzer (Kel plus)	01	
5	Lab stirrer	01	
6	Electronic balance	01	
7	Water bath	01	
8	Double distillation unit	01	
9	Magnetic stirrer	01	
10	Soil augur	01	
11	Mechanical shaker	01	
12	Refrigerator	01	
13	Core sampler	01	
14	Penetrometer	01	
15	Pycnometer/specific gravity bottle	01	
16	Hydrometer	01	
<b>B.</b>	<b>Environmental Science Laboratory</b>		
1.	UV-visible spectrophotometer	01	
2	Magnetic stirrer	01	
3	Orbital shaker	01	
4	Ultrasonicator	01	
5	Double distillation unit	01	
6	Centrifuge	01	
7	Muffle furnace	01	
8	Filtration assembly	01	
9	Electronic balance	01	
10	Hot air oven	01	
11	pH meter	01	
12	Refrigerator	01	
13	Digital level	01	
14	Water Level loggers	04	
15	Water quality logger	01	
<b>C.</b>	<b>GIS and Remote Sensing Laboratory</b>		
1	ArcGIS	01 (4 Extensions)	
2	ERDAS Imagine Software	01 (2 seats)	
3	Map Printing solution (Plotter)	01	
4	GPS	01	
5	GPS (Android)	01	
6	Desktop computer	15	
7	Ethernet networking	15	
8	Projector	01	

9	Plotter	01	
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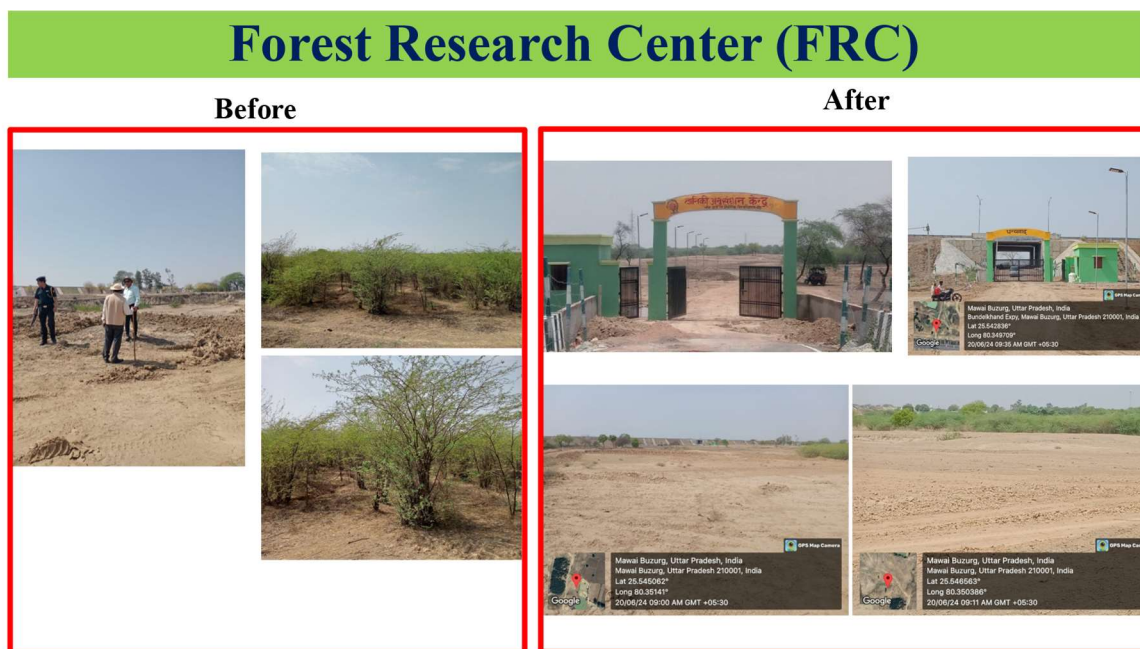
**Consultancy:**

1. Analysis of soil and water samples
2. Analysis of organic and inorganic pollutants in wastewater
3. Mapping of natural resources
4. Spatial analysis of soil and water parameters.

**Forest Research Center (FRC):**

The National Agricultural Research Project (NARP), launched by the Indian Council of Agricultural Research in 1979 with World Bank assistance, aims at conducting need-based, location-specific and production-oriented research with a mission-oriented problem-solving approach.

Initially, NARP, Mawai Buzurg was comes under Chandra Shekhar Azad University of Agriculture & Technology and Kanpur and later on it was transferred to BUAT Banda. Name of NARP farm has been changed into Forest Research Center (FRC) BUAT Banda in the meeting of Board of Management. The total area under FRC is about 20 ha. This center is in development phase where tractor and implement shed, vermicompost unit, NADEP unit, solar light has been established.





## Plantation Activities





# Construction work at FRC



**NADEP compost pit**



**Vermicompost pit**



**Solar lights**



**Tractor and implement shed**



**Student activities**

**Extension activities:**



*Farmer's Training of Vermicompost production*



*Establishment of Vermicompost unit at Tindwari block, Banda*



*Certificate distribution during farmer's training under SC-SP program*



*Kit distribution to the farmers under Vermicompost training*



*Inauguration of GIS and Remote Sensing laboratory*



Other activities:



Celebration of World Ozone Day



Celebration of World Soil Day

Celebration of International Women's Day



Plantation drive at Forest Research Center, BUAT Banda

# News coverage

### नई तकनीक से किसानों को मिलेगा बेहतर रोजगार : कुलपति

किसानों को बेहतर रोजगार देने के लिए नई तकनीक का उपयोग करना आवश्यक है। कुलपति ने कहा कि नई तकनीक का उपयोग करके किसानों को बेहतर रोजगार मिलेगा।



कुलपति ने कहा कि नई तकनीक का उपयोग करके किसानों को बेहतर रोजगार मिलेगा।

### वैज्ञानिकों ने सुझाए वन संसाधनों के आधुनिक उपयोग के नये तरीके

वैज्ञानिकों ने सुझाए वन संसाधनों के आधुनिक उपयोग के नये तरीके।



वैज्ञानिकों ने सुझाए वन संसाधनों के आधुनिक उपयोग के नये तरीके।

### यानगराज/प्रतापगढ़/बन्डेली/लखीमपुर

लखनऊ, रविवार, 24 मार्च 2024

### बौद्धिक संपदा अधिकार कार्यशाला का समापन

जल संरक्षण संरचनाओं और जीवों को संरक्षित करने की गणनीति बनी



बौद्धिक संपदा अधिकार कार्यशाला का समापन।

### मौगिक सूचना प्रणाली के मूल सिद्धांत पर प्रशिक्षण आयोजित

मौगिक सूचना प्रणाली के मूल सिद्धांत पर प्रशिक्षण आयोजित।



मौगिक सूचना प्रणाली के मूल सिद्धांत पर प्रशिक्षण आयोजित।

### बुंदेलखंड में विकास का आधार बनेंगे असेनिया फेटिडा केंचुए

बुंदेलखंड में विकास का आधार बनेंगे असेनिया फेटिडा केंचुए।



बुंदेलखंड में विकास का आधार बनेंगे असेनिया फेटिडा केंचुए।

### बुंदेलखंड में जैविक खेती के लिये केंचुआ खाद पर जोर

बुंदेलखंड में जैविक खेती के लिये केंचुआ खाद पर जोर।



बुंदेलखंड में जैविक खेती के लिये केंचुआ खाद पर जोर।

### किसानों को बांटें केंचुआ खाद और केट

किसानों को बांटें केंचुआ खाद और केट।



किसानों को बांटें केंचुआ खाद और केट।

### बहुदली विद्यालय मुखार असासी को कोट में सुचारुई के लिए ले गई पंजाब पुलिस

बहुदली विद्यालय मुखार असासी को कोट में सुचारुई के लिए ले गई पंजाब पुलिस।



बहुदली विद्यालय मुखार असासी को कोट में सुचारुई के लिए ले गई पंजाब पुलिस।

### बुंदेलखंड में जैविक खेती के लिये केंचुआ खाद पर जोर

बुंदेलखंड में जैविक खेती के लिये केंचुआ खाद पर जोर।



बुंदेलखंड में जैविक खेती के लिये केंचुआ खाद पर जोर।