

**PROGRESS REPORT
INSTITUTIONAL LEVEL BIOTECH HUB**



Period under report: 2015- 2016

1. Name & address of the institution: Science College, Kokrajhar
P.O & Dist. - Kokrajhar-783 370
2. Name & designation of the Coordinator: Dr. Mohesh Gogoi
Assistant Professor
Department of Botany
Science College, Kokrajhar
3. Telephone, Mobile, Fax and Email of the Coordinator: Phone: 03661276208
Mobile: 098593-04850
E-mail: mohesh.gogoi@rediffmail.com
4. Level of the Biotech Hub: Institutional
5. Year of sanction with DBT's sanction no.: September 19, 2013
Sanction No. BT/32/NE/2012

6. A brief write up about your organization/institution:

The Science College, Kokrajhar was established in 1995 with a vision to become a centre of excellence in science education. The institute offers B. Sc. programme (affiliated to Gauhati University) to generate high quality graduate by providing optimum laboratory facilities both in the field of Basic and Applied branches of science. This single streamed degree college provides major course in Mathematics, Physics, Chemistry, Botany and Zoology along with core subjects of Computer Science, Information Technology (IT) and English. The college has also provision to offer 10 + 2 course in science. This higher education institute has gained importance not only in the lower Assam region but also in neighboring country-Nepal and Bhutan particularly for science learning. Besides these the institute has well equipped laboratories, computer laboratory and computerized central library with more than 12,000 books, journals and magazines with encouraging atmosphere for higher study. Moreover, the three members constituted NAAC peer team visited to the college on 28-30th May, 2016 and they have expressed satisfactory remark on the activities of DBT sponsored Biotech Hub, Science College, Kokrajhar.

7. Total funding received so far (Rupees in lakhs):

Financial year	2013-14 (1 st year)	2014-15 (2 nd year)	2015-16 (3 rd year)	Total	Balance on 31/03/2016
Amount Received	Rs 26.50 Lakh	Rs. 4.96 Lakh	Rs. 4.85 Lakh	Rs. 36.31 Lakh	Rs.4,86,936.00

8. Infrastructure created:

(a) List of equipment procured:

(Major equipments)

Sl. No.	Name of the equipment	Model No. & Brand Name	Cost in Indian Rupees	Date of Purchase	No. of researchers/ students utilized Equipments

1	Generator & Installation	20 KVA DG Set, JAYCEE	4, 94, 650.00	15/03/2014	Whole campus
2	Desk Top Computer set with printer	Lenovo	32, 500.00	15/03/2014	30
3	Binocular compound microscope	Lx 300 LABOMED	75, 420.00	15/03/2014	35
4	Digital Trinocular microscope with Microphotography attachment	Lx 400 LABOMED	1, 99, 900.00	15/03/2014	35
5	Electronic balance	Chopra & co.	29, 500.00	15/03/2014	30
6	Analytical balance	Chopra & co	88, 600.00	15/03/2014	30
7	Laminar air flow cabinet	Chopra & co.	1, 99, 100.00	15/03/2014	17
8	Bacteriological Incubator	ALMICRO	50, 000.00	19/03/2015	01
9	Deep freezer	BLUE STAR, CHF150C	52, 000.00	19/03/2015	12
10	Digital Spectrophotometer	Chopra & co.	45, 000.00	15/03/2014	06
11	Hot air oven	ALMICRO	45, 000.00	19/03/2015	15
12	Thermal cycler	Model No. 2720 & Thermo fisher Scientific	3, 07, 910.00	17/05/2016	16
	Total cost		16, 04, 580.00		

9. Detail of hands on training programmes/workshops organized during the period of report:
(a) Hands on trainings conducted:

Serial No.	Topic	Duration and Date	No. of participants	Level of participants
1	Cell and its microscopic observation	1 day 15/ 09/ 2015	50	Class- IX & X Students
2	DNA fingerprinting and DNA Sequencing	5days 22 nd to 26 th February 2016	24	B.Sc. Level (Final Semester)

- (b) Overall score of the training programmes according to participants as per feedback taken in the prescribed format:

Total No. of participants	No. & percentage of participants assigning score of				
	5	4	3	2	1
74	12 (8.88%)	28 (20.72%)	20 (14.8%)	14 (10.36%)	Nil

(c) Workshop/seminars/awareness programmes conducted: (In House for B.Sc. 6th Semester)

Serial No.	Topic	Duration and Date	No. of participants
1	Study of genetic engineering techniques- DNA finger printing.	1 Hour 22/ 02/ 2016	24
2	DNA Sequencing and gene gun	1 Hour 24/ 02/ 2016	24

(d) No. of students doing project works using biotech hub facility:

UG: 17 PG: 02 Ph.D.: 03

(e) Courses/Study programmes supported (by biotech hub infrastructure & facilities):

Sl. No.	Level (UG/PG/PhD)	Name of the Course/Study programme	Nature of support
1	UG	B.Sc. (Botany & Zoology Hons)	Laboratory Facility
2	UG	B.E. Chemical Engineering	Laboratory Support
2	UG	Environmental Studies Project	Teaching and Laboratory support
3	Ph.D.	Research work & writing research article	Laboratory assistance and guidance

(f) Outreach programmes conducted:

Serial No.	Topic	Name of the institution where conducted	Duration and Date	Level of participants
1	Deforestation is the root cause of Climate Change	Basugaon Secondary School, Dist. Chirang	1 Hour 05/06/15	H.S. students
2	Cell, Chromosome and DNA	Little flower English Medium School, Kokrajhar	1 Day 15/ 09/15	Class IX & X students

(g) Invited lectures/hands-on trainings offered at other institutions:

Sl. No.	Name of the resource person	Topic	Organised by	Duration & Date
1	Dr. L. M. Barkolita, Dept of Microbiology, College of Veterinary Science, Guwahati	Isolation, fragmentation and sequencing of bacterial DNA	Biotech Hub Science College, Kokrajhar	1: 30 Hour 28/ 12/ 2015

2	Dr. S. Das, Dept of Biotechnology, Bodoland University	Animal Biotechnology	Biotech Hub Science College, Kokrajhar	1: 30 Hour 30/ 12/ 2015
3	Yashu Pradhan, Dept of IT, Science College, Kokrajhar	Computer application in biological science with reference to construction of Phylogenetic tree using UPGMA	Biotech Hub Science College, Kokrajhar	1: 30 Hour 31/ 12/ 2015

10. Research activities:

(a) Type of work carried out:

Sl. No.	Title of the research	Persons involved	Status (Ongoing/completed)
1	A traditional alcoholic beverage Jou: prepared by Bodo community of Assam, India	Miniswring Basumatary & Dr. Mohesh Gogoi	Completed & Published in Journal
2	Waste recycling and Management system.	Dr. Mohesh Gogoi	Completed & Published in News paper
3	<i>In Vitro</i> study on dermal lesion disease of <i>Puntius</i> spp. of Tarang river: A tributary of Champabati.	Miniswring Basumatary & Dr. Mohesh Gogoi	Completed & Published in Journal
4	Enhancing the medicinal value of traditionally prepared rice beer of Assam by certain plant species mixed with it in uniform ratio.	Dr. Mohesh Gogoi & Miniswring Basumatary	Completed & Published in Book
5	Uses of wild edible macro fungi by Bodo community of Kokrajhar district	Miniswring Basumatary & Dr. Mohesh Gogoi	Completed & Published in Journal
6	Molecular Characterization and Identification of wild edible macro-fungi of Kokrajhar district.	Miniswring Basumatary and Mohesh Gogoi	Ongoing
7	Biodiversity rich Chakrashila Wildlife Sanctuary: Its prospect and problem, a case study	Miniswring Basumatary & Dr. Mohesh Gogoi	Completed & Published in Magazine
8	Ecological studies on freshwater macrophytes of Kokrajhar district, Assam, India in reference to molecular phylogeny	Miniswring Basumatary	Proposed
9	Production of Biodiesel from waste vegetable oil.	Aniruddha Das & Arup Kakati (Last Semester Project for partial fulfillment of Bachelor of Chemical engineering)	Ongoing

(b) No. of papers published/presented with impact factor:

1. Gogoi, M. and Bhansali, R., Scientific Waste Management System, *The Assam Tribune*, 07/12/13.
2. Gogoi, M. and Bhansali, R., Needs to protect BTAD forest coverage from anthropogenic pressure, *Souvenir* (Platinum Jubilee Celebration-2014-15), pp. 160-163.
3. Basumatary, M. and Gogoi, M., 2014. A traditional alcoholic beverage Jou: prepared by Bodo community of Assam, India. *International Journal of Multidisciplinary Research & Development*, 1(7): 307- 313. RJIF: 5.2
4. Basumatary, M. and Gogoi, M. and Chakravarty, S., 2015. *In Vitro* study on dermal lesion disease of *Puntius* spp. of Tarang River: A tributary of Champabati. *International Journal of Applied Research*, 1(7): 65- 68. RJIF: 5.2
5. Gogoi, M. and Basumatary, M., 2015. Enhancing the medicinal value of traditionally prepared rice beer of Assam by certain plant species mixed with it in uniform ratio. *Molecular Biology and Biotechnology Research in North East, India*. (Editor: D. Konwar & P. Kalita), Pub Kamrup College, Baihata Chariali, Assam, December 2015 (1st Eds), pp. 71–93.
6. Basumatary, M. and Gogoi, M. 2016. Uses of wild edible macro fungi by Bodo community of Kokrajhar district. *Journal of Tropical Plant Research*, 3(1): 176–181.
7. Basumatary, M. and Gogoi, M. 2016. Biodiversity rich Chakrashila Wildlife Sanctuary: Its prospect and problem. *Blazon: A college magazine*, Science College, Kokrajhar, pp. 22–25.

(c) Collaboration with other departments/institutions:

Sl. No.	Dept./Institution collaborated	Nature of collaboration	Duration
1	State Biotech Hub, Department of Microbiology and Animal Biotechnology	Training and Guidance	--
2	Department of Biotechnology, GU & BU	Ph. D. research	--
3	Department of Ecology and Environmental Science, Assam University, Silchar	Ph. D. research	--

11. Major achievements of the Biotech Hub during the year:

Laboratory infrastructure has been strengthened and organized. Conducted four workshops/ hands on training programs three for B.Sc. students and one Class- IX & X students for creating awareness among the pupils of the region and encourage them to choose Biotechnology for higher studies. And two outreach programme was conducted during the period of report. The hub also supports the UG students of the college to do their practical & project work under the Hub besides Ph.D. work of JRF. Apart from the college students the Hub also provide support to the Students of BB Engineering College, Kokrajhar to carry out their project work.

12. Manpower Recruitment Details:

Sl. No.	Name	Designation	Specialization	Period of engagement
1	Rani Bhansali	JRF (left)	M. Sc.	Join on 01/11/13 & resign on 14/09/14
2	Miniswring Basumatary	JRF (working)	M. Sc	Join on 15/09/14
3	Prodip Brahma	Project Assistant (part time, working)	B. A.	Join on 01/11/13
4	Ajit Goyari	Lab. Attendant (working)	HSLC	Join on 28/04/14

13. Service provided:

(a) No. of students/workers utilizing the facilities: **274 No.**
24 (Direct use) **250** (Indirect use)

(b) Services provided to other Biotech Hubs/Sr secondary schools: Mentoring service is being extended to the newly sanctioned Biotech laboratory of senior secondary school, Kokrajhar district under BLISS programme.

1. Shakti Ashram H.S. & Voc. School
2. Ramfalbil H.S. School

14. Future activities and proposed action plan:

- a) Preparing model kit for imparting knowledge to School/College/University students.
- b) Organize the Biotech hub for supporting UG & PG courses.
- c) Upgrade the Biotech Hub laboratory into a cell and molecular biology laboratory by incorporating advanced research facilities.
- d) Ph. D. work to be continued by the existing JRF, in collaboration with Dept. of Ecology and Environmental Sciences, Assam University, Silchar.
- e) Publish research articles/papers/book in reputed magazines and journals.
- f) Conducting workshop and hands on training by inviting learned resource persons of other College/ Universities for imparting knowledge on various aspects of biotechnology.
- g) Outreach programme is to be conducted in Senior Higher Secondary School where Biotech Laboratory has been established under BLISS programme.
- h) Mentoring service is to be extended to selected H.S. school of the region.

15. Additional Details

Name of the Co-coordinator : Dr. (Mrs.) Sharmistha Chakravarty
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(Mohesh Gogoi)
(Name & Signature of Coordinator)

Coordinator
Biotech Hub, Science College,
Kokrajhar


(Name & Signature of the Principal)
Principal
Science College, Kokrajhar