Progress Report for R&D Projects [Year2011-2016]*

Section-A: Project Details

A1. Project Title:
"Studies on Genetic and Epigenetic Alterations in Head and Neck Cancer Prevalent in the North Eastern Region of India"

A2. DBT Sanction Order No. & Date:
Dy No: 102/I.F.D/SAN/8060/2010-2011 Dated 25/03/2011 Serial No: 887

A3. Name of Principal Investigator:
Prof. Anand Ramteke
Professor
Department of Molecular Biology and Biotechnology
Tezpur University
Tezpur, Assam

Name of Co-PI/Co-Investigator:

1. **Dr AC Kataki**
   Director
   Dr. B Borooah Cancer Institute
   Gopinath Nagar, Guwahati

2. **Dr. Rajjyoti Das**
   Consultant(Head and Neck Oncosurgeon)
   Dr. B Borooah Cancer Institute
   Gopinath Nagar, Guwahati

3. **Dr. Avdhesh Rai**
   Research Scientist
   DBT Centre for Molecular Biology and Cancer Research
   Dr. B Borooah Cancer Institute
   Gopinath Nagar, Guwahati

A4. Institute: Tezpur University

A5. Address with Contact Nos. (Landline & Mobile) & Email:
Department of Molecular Biology and Biotechnology
Tezpur University
P.O.- Napaam, Tezpur, Assam-784028
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A6. Total Cost:

Tezpur University: Rupees (in Lakhs) 40.16/- (Forty Lakhs and Sixteen Thousand only)

ICPO, Noida: Rupees (in Lakhs) 7.05/- (Seven Lakhs and Five Thousand Only)

Total: Rupees (in Lakhs) 47.21/- (Forty Seven Lakhs and Twenty One Thousand Only)

A7. Duration: Three years

A8. Approved Objectives of the Project:

- To study the differentially methylated genes in cancer and control tissues and identifying the genes that are methylated by AP-PCR.
- Methylation analysis by candidate gene approach by methylation specific PCR.
- To study the Polymorphism in genes involving in xenobiotics and alcohol metabolism etc by PCR.
- Analysis of expression of methylated genes by immune-histochemistry.
- To correlate the methylation, polymorphism and gene expression levels with different clinic-pathological stages of head and neck cancers.

A9. Specific Recommendations made by the Task Force (if any):

Section-B: Scientific and Technical Progress

B1. Progress made against the Approved Objectives, Targets & Timelines during the Reporting Period (1000-1500 words for interim reports; 2500-3500 words for final report; data must be included in the form of up to 3 figures and/or tables for interim reports; up to 7 figures and/or tables for final reports):

Cancer has emerged as a second leading cause of disease related death worldwide accounting 8.2 million deaths and 14.1 million new cases in 2012. Despite of huge stride made in diagnostic and therapeutic, the incidence, prevalence and mortality associates with cancer has been increasing day by day. Report estimated that, in India head and neck cancers (HNC) account for 30-40% of total body malignancy (TBM) [2] with ~0.15 million newly diagnosed cases, ~0.11 million death and 0.24 million prevalence in 2012. In North East part of India, the prevalence of head and neck cancers are very high particularly oropharynx carcinoma is higher among the other HNC. The prevalence is found to be significantly high at 54.48%, affecting males more than females in the age group of 40–69 years.

Many factors are implicated in development of this pathological state including smoking habits, tobacco use, chewing of betel nut/areca nut, alcohol consumption, dietary habit etc. Some of these habits are associated with the socio-cultural aspects of the region. Allelic variations in individual or in population also can have profound effect on predisposition of particular disease. Recently, work on individual variation and its relevance as a predisposition factor for cancer have been gaining importance. Genetic polymorphisms in genes controlling carcinogen metabolism, DNA repair etc. cause individualistic variations in cancer risk and provide genetic severity to the disease pathology. In addition to genetic factors, the Human papilloma virus (HPV) also reported to have profound role in development of HNC. As the population of this region represents unique ethnicity, distinctive life style and food habits etc. which might play important role in the complex interplay of environmental and genetic factors that may be associated with high incidence of HNC in this region. Therefore, in the present study, we have tried to identify the susceptible genetic predisposition that could have played role in causation of head and neck cancers in the population of Northeastern region of India.

In this case-control study, a total of 205 newly diagnosed and histologically confirmed patients (Mean age 53.65 ± 12.15) and 210 matched healthy controls (Mean age 52.10 ± 12.32) (who were not diagnosed with cancer) and for the HPV analysis of a total of 106 primary HNC tumor biopsy specimens were collected. These samples were analyzed for hr-HPV DNA (13 HPV types) using hybrid capture 2 (HC2) assay and genotyping was done by E6 nested multiplex PCR (NMPCR). The HPV cases were confirmed by immunohistochemistry (IHC) analysis of p16 gene were enrolled from the Dr. Bhubaneswar Borooah Cancer Institute (BBCI), Guwahati, India during 2011-2015. The study was approved by the Institutional Ethical Committee of Dr. Bhubaneswar Borooah Cancer Institute (BBCI), Guwahati, India. All the genotyping of xenobiotic, alcohol metabolism and DNA repair genes were determined by polymerase chain reaction-

restriction fragment length polymorphism (PCR-RFLP) or polymerase chain reaction-confronting two-pair primers (PCR-CTPP). Genetic polymorphism, HPV status and their association with occurrence of HNC in presence of risk factors were analyzed by calculating odd ratios (ORs), 95% cqnfidence intervals (95% CI) and corresponding P-values using SPSS software version 20.0 and Epi-info Version 6 software.

The CYP1A1 and CYP2E1 genes are involved in activation of major pro-carcinogens. We observed that association between CYP1A1 and CYP2E1 homozygous having 3.41 and 6.59 fold increased risk among betel nut chewers. Whereas CYP1A1 homozygous having 5.09 increased fold in tobacco chewers and CYP2E1 exhibited 10.23 fold risk in tobacco chewers. Among GSTs, GSTT1 null showed 1.73 fold increased risk in betel nut chewers, 2.86 fold in tobacco chewers and 2.39 fold in smokers. A notable finding of the study is the risk for HNC has been increased by the synergetic effect of betel nut, tobacco chewing and smoking habits in CYPE1 variants (OR^a, 10.43, CI 95% 2.74-39.66), when compared with betel nut and tobacco chewing alone.

We have also investigated the effect of genetic polymorphism of genes mainly involved in metabolism of polycyclic aromatic hydrocarbons (PAHs), N-nitrosamine, aromatic amines and ethanol such as EPHX1, NAT1 and NAT2 genes polymorphism in HNC. We found that the EPHX113 (CC) genotype has increased risk for HNC with exposure of betel nut (3.37 fold), tobacco (3.85 fold) and betel nut-tobacco (3.45 fold) and, EPHX139 (AG) genotype was found to have increased risk with betel nut (3.42 fold), smoking (3.12 fold) and betel nut-tobacco-smoking, (5.22 fold). The TC and CC genotype of EPHX113 and AG genotype of EPHX139 increased the risk for HNC in betel nut alone and in combination with betel nut-tobacco chewing (both doses) cases. The NAT2 C481T genotypic variation (CT and TT) was found to be associated with HNC risk exposure with only betel nut. The NAT2 G590A (GA) genotype with betel nut chewing and (AA) genotype with smoking habit exhibited increased risk for HNC. However, NAT2 G857A genotype did not have any impact on HNC risk in the population of North-East India. All the doses of betel nut and tobacco with NAT2 C481T genotype and higher doses with NAT2 G590A showed strong impact on HNC risk.

The risk alleles of ADH2, ADH3 and ALDH2 genotypes plays important role in the development of several cancers however, their influence with alcohol drinking status in BN and tobacco associated HNC have not been investigated. Our case-control study demonstrated that higher consumption of alcohol increased the risk for HNC in the BN (4.40 fold) and BN–tobacco (4.40 fold) cases, but lower doses were found to be protective. The risk alleles of ADH2 and ADH3 have strong impact and in combination exhibited synergistic effect on the HNC in the NE subjects. Our study further demonstrated that the ADH2*1/*2 allele increases the risk for HNC in BN (3.49 fold) and BN-tobacco ((3.49 fold) fold) case. The allele ALDH2*1/*2 or ALDH2*/*2 did not have impact on the risk for HNC, but interaction of this allele with BN, tobacco and alcohol drinking status exhibited 5.35 fold increased risk in BN-tobacco cases synergistically with higher intake of alcohol. Our study is the first report that identified the risk of higher

consumption of alcohol with risk alleles of ADH2 and ALDH2 on the risk for BN and BN - tobacco associated HNC in the NE population of India.

DNA in most cells is regularly damaged by endogenous and exogenous mutagens. Unrepaired damage can result in apoptosis or may lead to unregulated cell growth and cancer. Therefore we studied the effect of these confounding factors on genetic damage. In this present study, the XRCC1 Arg194Trp with heterozygous CT (1.68 fold) and mutant TT (3.58); XPD with heterozygous CA (1.70 fold) and mutant AA (3.56 fold) genotypes exhibited increased risk for HNC. However, MGMT (Trp65Cys and Leu84Phe) gene did not show any risk of HNC in the population of North East India. The CT and TT genotype of XRCC1 was associated with the risk for HNC in cases with both doses (lower and higher) of betel nut alone and in combination with tobacco and alcohol. Similarly, the CA, AA genotype of XPD exhibited increases risk for HNC with both doses (lower and higher) of betel nut and in combination with tobacco and alcohol.

Human papilloma virus (HPV) associated HNCs have generated significant amount of research interest in recent times. Due to high incidence of HNCs and lack of sufficient data on high-risk HPV (hr-HPV) infection from North-East region of India, this study was conceived to investigate hr-HPV infection, its types and its association with life style habits such as tobacco, alcohol consumption etc. It was observed that the hr-HPV was present in 31.13% (n = 33) of the HNC cases as examined by nested multiplex PCR (NMPCR) and HC2 assay respectively. Among hr-HPV positive cases, only two prevalent genotypes, HPV- 16 (81.81%), HPV-18 (18.18%) were found. Significant association was observed between hr-HPV infection with alcohol consumption ($p < 0.001$) and tobacco chewing ($p = 0.02$) in HNC cases. Compared to HPV-18 infection the HPV-16 was found to be significantly associated with tobacco chewing ($p = 0.02$) habit. Our study demonstrated that tobacco chewing and alcohol consumption may act as risk factors for hr-HPV infection in HNCs from the North-East region of India.

The findings of the present study clearly demonstrated that genetic polymorphism in xenobiotic metabolism, DNA repair, alcohol metabolism acts synergistically with the dietary habits and hr-HPV infection is found to be associated with alcohol and tobacco consumption in the process of HNC development in North-Eastern Region of India. The findings of the present study would help in assessing the severity of disease, or could act as prognostic or predisposition markers and help in the development of personalized effective therapeutic regimens based on pharmacogenomics principle for better management of disease severity and treatment.

Next we have also examined the role of epigenetics in head and neck carcinogenesis, particularly role of DNA methylation in selected genes. We have selected genes which were reported in most of cancer as altered genes , and genes involving in cell cycle regulation (p16,p15,p14), and DNA repair process(MGMT,hMLH1) and metastasis other cellular process related (RARb ,E cadherin) genes.

To identify the methylation pattern of p16,p14 ,p15 and MGMT, HMLH1 and E cadherin genes, we performed Methylation specific PCR in bisulphite modified DNA of non cancerous adjacent control tissues as well Cancer Tissue samples. The samples were screened for allelic methylation status and in most of the cases we observed (nearly 90% samples) bi-allelic methylation, particularly in p16, p14 and to lesser extent p15, MGMT methylation. We found most of cases represented heterozygous status, ie. One allele of gene methylated and another as unmethylated, proving methylation do have allelic gene silencing role. Except hMLH1 and MGMT other genes do show higher level methylation patterns. Representative results were shown in fig 1 and methylation status in table no 1.

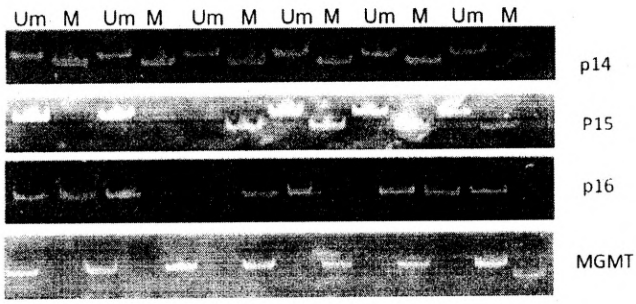

Fig1. Representative results of DNA methylation status of selected genes in cases and controls. Um-Unmethylated, M -Methylated

Table No 1. Methylation status and its frequency in Head and Neck cancer patients.

p14 (50)		p15		p16		MGMT		hMLH1		E cadherin	
Um	M	Um	M	Um	M	Um	M	Um	M	Um	M
82%	78%	94.4%	91.1%	86.6%	88.8%	97.6%	69.7%	100%	52%	73%	88.64%

The associated gene expression of P16,p15,E cadherin genes were explored by Immuno histochemistry, the p16 gene found to have variation in gene expression when compared to Controls, where as other genes represented more or less same pattern of Immuno staining in cancer cases and controls. P16 immuno histochemistry found to be 41.3% as Moderately stained, 18.4 as low staining and 24% of cases as High expression compare to control. The observed P16 high expression may be indication of cases where HPV infection is possible factor, which needs to be probed further.

The important observation from our study was the field cancerization was observed in most of cancer and control cases. Oral surface is exposed to risk factors like Tobacco

and alcohol and multifocal molecular alteration in oral mucous is possible when exposed to tobacco and histologically normally appearing mucosa may be molecularly altered and our study was one of the best proof that methylation status in control region was more or less similar to the cancer cases.

B2. Summary and Conclusions of the Progress made so far (minimum 100 words, maximum 200 words):

Understanding the genetic and epigenetic alterations in patients from particular population would help in better understanding of the disease prognosis and will be useful in predicting the severity of the disease. These polymorphic status of the genes and HPV status might serve as possible predictive biomarkers for early detection of HNC. Furthermore, gene-gene and gene-environment interaction between the genetic polymorphism and prospective life style risk factor in particular population would be instrumental in determining the preventable life style factors in order to reduce the burden of HNC.

The percentage frequency of Methylation status in all samples were found to be P14-78%, p15-91%,p16- 88.8% MGMT-69.7%, hMLH1-52%, E Cad-88.6%. The P16, p14, p15 methylation were high and were also found in precancerous samples and were heterozygous in methylation status. The methylations were also found in normally appearing adjacent mucosa implying that possibility of field cancerization in oral cancer. The expression pattern through immuno histochemistry does not have much correlation as most of cancers appeared to be heterozygous in terms of methylation pattern and complementary allele could compensate the loss of gene expression imposed by DNA methylation mediated gene silencing. This shows Methylation inhibitors in combination with normal chemotherapy regimens can be administered to revoke the TSG gene expression.

Furthermore, the polymorphic and DNA methylation status of particular genes in specific population will provide insight into the development of personalized effective therapeutic regimens based on pharmacogenomics principle for better management of disease severity and treatment.

B3. Details of New Leads Obtained, if any:
NIL

B4. Details of Publications, technology developed & Patents, if any emanated from the project:

1. Kumar R, Rai AK, Das D, Das RJ, Kumar RS, Sarma A, Sharma S, Kataki AC, Ramteke A (2015) Alcohol and Tobacco Increases Risk of High Risk HPV Infection in Head and Neck Cancer Patients: Study from North-East Region of India. PLoseONE, 10(10): e0140700 (2015)
2. One PhD degree awarded

B5. Benefits gained through Twinning:

- Scientific & Technical expertise gained through twinning in NER:
  Project has led to the establishment of basic facility for cancer genetic research in NER institute (Tezpur University)

- No. of NER manpower (including PI & staffs) trained in the Non-NER Institute: **05**

- No. of visits by Non-NER Researchers to NER Institutes and vise-versa:

  There were several visits of PI and project staffs of NER region to ICPO Noida for learning basic techniques as well as for Data analysis

- Training in any new techniques, if any:

Section-C: Details of Grant Utilization#

C1. Equipment Acquired or Placed Order with Actual Cost: Enclosed

C2. Manpower Staffing and Expenditure Details: Enclosed

C3. Details of Recurring Expenditure: Enclosed

C4. Financial Requirements for the Next Year with Justifications: Enclosed

#Grant utilization details (UC&SE, Assets Certificate & manpower details) also required to be submitted separately as per the prescribed format

[Signature(s) of the Investigator(s)]

Instructions:

(i) All the information needs to be provided; otherwise the Progress Report will be treated as incomplete. In case of 'Nil' / 'Not Applicable' information, the same may be indicated.

(ii) In case of multicentre project, a combined Progress Report should be submitted incorporating the progress of all components. The Project Co-coordinator/ PI will be responsible for this.

*(iii) *Please indicate the reporting period [i.e. Year 1/2/3/4/5].*

(iv) Submission of Progress Report by the end of the 11th month of grant sanction is linked with further continuation of the project and timely release of funds for the next year.

FINALCONSOLIDATED STATEMENT OF EXPENDITURE
(FOR FINAL SETTLEMENT OF ACCOUNTS)

1. Title of the Project	: "Studies on genetic and epigenetic alteration in head and neck cancer prevalent in the north eastern region of India".
2. Sanctioned Project Cost	: 47.21/- (₹ in Lakhs Tezpur University 40.16/-, ICPO- 7.05/-)
3. Revised cost, if any	: NA
4. Duration of the project	: Three years
5. Sanction Order No. & Date	: BT/CP/04.NE/TBP/2010
6. Date of commencement of Project	: 28/03/2011
7. Extension, if any	: Yes,
8. Date of completion of project	: 27/11/2016

9. Unspent balance refunded vide D/D No: 048699 at 17/02/2017, ₹ 0.24518 (in Lakhs)

Statement of Expenditure referred to in para 9 of the Utilization Certificate **Appendix -C**

Showing grants received the department of Biotechnology and the expenditure incurred for the entire project period -2011-2016

Heads	Sanctioned Cost (₹ in Lakhs)	Year –wise release made (₹ in Lakhs)			Interest earned (₹ in Lakhs)	Total (₹ in Lakhs)	Year –wise expenditure (₹ in Lakhs)						Total expenditure (₹ in Lakhs)	Balance (₹ in Lakhs)
		1st year (2011 - 2012)	2nd year (2012-2013)	3rd year (2013 - 2014)			1st year (2011 - 2012)	2nd year (2012-2013)	3rd year (2013-2014)	4th year (2014-2015)	5th year (2015 - 2016	6th year 1st April, 2016 to 27th November, 2016		
A. Non-recurring														
(i) Equipments	12.96	12.96	0.00	0.00			4.65479	7.24195	-	-	-	-	11.89674	(-) 0.29508
B. Recurring														
(i) Manpower	13.20	4.22	3.24	4.66			1.66838	2.53161	3.16103	0.14000	3.58301	0.46754	11.55157	0.56843
(ii) Consumables	9.00	3.00	3.00	3.00			3.04958	Nil	2.94959	0.64097	2.43210	Nil	9.07224	(-) 0.07224
(iii) Travel	2.10	0.70	0.14*	0.68			0.48181	0.21040	0.68661	0.09158	0.44778	0.12390	2.04208	0.03792
(iv) Contingency	0.90	0.30	0.00*	0.30			0.29734	Nil	0.30015	0.00	0.25579	Nil	0.85328	0.04672
(v) Overhead	2.00	1.00	0.00*	0.08*			1.00	Nil	0.49635	0.00	0.54508	Nil	2.04143	(-) 0.03891
Total	**40.16**	**22.18**	**6.38**	**8.72**	0.42252	37.70252	**11.1519**	**9.98396**	**7.59373**	**0.87255**	**7.26376**	**0.59144**	**37.45734**	**0.24518**
Grand Total (A+B)	**40.16**	**22.18**	**6.38**	**8.72**	0.42252	37.70252	**11.1519**	**9.98396**	**7.59373**	**0.87255**	**7.26376**	**0.59144**	**37.45734**	**0.24518**

*2nd year As per UC submitted earlier from 1st April, 2012, to November, 2012 the balance under Non- Recurring head (i.e Rs. 1.35834 Lakhs) was re-appropriating to the travel head (0.56 Lakhs), Contingency head (Rs. 0.30 Lakhs) and overhead (Rs. 0.50 Lakhs). But as per UC period 1st April, 2012 to 31st March, 2013 balance is Rs. 1.06326

*3rd year the interest earned Rs. 0.42 Lakhs has been re-appropriate to overhead charges

* Unspent balance refunded vide D.D No. **048699 at 17/02/2017, ₹ 0.24518 (in Lakhs)**

(PROJECT INVETIGATOR)

(HEAD OF THE INSTITUTE)
Registrar
Tezpur University

27.6.17
(FINANCE OFFICER)
Finance Officer
Tezpur University

Appendix-B

Utilisation Certificate

(for the financial year ending**1st April, 2016 to 27th November, 2016.)**

(Rs. in Lakhs)

1.	Title of the Project/Scheme:	**Studies on Genetic and Epigenetic Alteration In Head and Neck Cancers Prevalent in the North Eastern Region of India**
2.	Name of the Organisation:	**Tezpur University, Tezpur**
3.	Principal Investigator:	**Dr. Anand M Ramteke**
4.	Deptt. of Biotechnology sanction order No. & date of sanctioning the project:	**BT/CP/04/NE/TBP/2010 Dated 28/3/2011**
5.	Amount brought forward from the Previous financial year quoting DBT letter No. & date in which the authority to carry forward the said amount was given:	**0.83662 balance was not used period from 1st April, 2015 to 31st March, 2016**
6.	Amount received from DBT during the financial year (*please give No. and dates of sanction orders showing the amounts paid)*:	**NIL**
7.	Other receipts/interest earned, if any, on the DBT grants:	**NIL**
8.	Total amount that was available for expenditure during the financial year (Sl. Nos. 5, 6 and 7):	**0.83662**
9.	Actual expenditure (excluding commitments) Incurred during the period **1st April 2016-27th November, 2016** (Statement of expenditure is enclosed):	**0.59144**
10.	Unspent balance refunded, if any *(Please give details of cheque No. etc.):*	**0.24518**
11.	Balance amount available at the end Of the **27th November, 2016** Financial year:	**0.24518**
12.	Amount allowed to be carried forward to the next financial year vide letter No. & date:	**NIL**

Finance Officer
Tezpur University

Certified that the amount of ₹ **0.59144** (**In Lakhs) (Fifty Nine Thousand One Hundred Forty Four Only)** mentioned against col. 9 has been utilized from **1st April, 2016 to 27th November, 2016** on the project/scheme for the purpose for which it was sanctioned and that the balance of ₹ (**In Lakhs) 0.24518 (Twenty Four Thousand Five Hundred Eighteen Only)** remaining unutilized at the end of the year has been surrendered to Govt. (vide No. 048699 ..... dated... 17/02/2017 .....) / ~~will be adjusted towards the grants-in aid payable during the next year~~.

2. Certified that I have satisfied myself that the conditions on which the grants-in-aid was sanctioned have been duly fulfilled/are being fulfilled and that I have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercised:

1. (Cash Book)
2. (Ledgers)
3. (Vouchers)
4. (Bank Statements)
5.

(PROJECT INVESTIGATOR)

17/2/17

(FINANCE OFFICER)

Finance Officer
Tezpur University

(HEAD OF THE INSTITUTE)

Registrar
Tezpur University

(To be countersigned by the DBT Officer-in-charge

Statement of Expenditure referred to in para 9 of the Utilisation Certificate

Showing grants received the Department of Biotechnology and the expenditure incurred during the period from **1st April, 2016 to 27th November, 2016**

(Rs. in lakhs)

Item	Expenditure (excluding commitments) incurred from 3rd year, 1st April, 2015 to 31st March, 2016	Unspent balance carried forward from Previous Year (1st April, 2015, 31st March, 2016)	Expenditure (excluding commitments) incurred from 3rd year, 1st April, 2016 to 27th November, 2016	Balance (2-4)	Remarks
1	2	3	4	5	6
1. Non-Recurring					
(i) Equipment	NIL	(-) 0.29674	-	(-) 0.29674	
2. Recurring					
(i) Manpower	3.58301	1.03597	0.46754	0.56843	
(ii) Consumables	2.43210	(-) 0.07224	-	(-) 0.07224	
(iii) Travel	0.44778	0.16182	0.12390	0.03792	
(iv) Contingency	0.25579	0.04672	-	0.04672	
(v) Overhead (if applicable)	0.54508	(-) 0.03891	-	(-) 0.03891	
Total	**7.26376**	**0.83662**	**0.59144**	**0.24518**	

(PROJECT INVESTIGATOR)

01/02/17

(FINANCE OFFICER)

Finance Officer
Tezpur University

(HEAD OF THE INSTITUTE)

Registrar
Tezpur University

Annexure B

Manpower Expenditure Details (In financial year wise manner)*:
1st April, 2016 to 27th November, 2016

(Rs. In Lakhs)

SANCTIONED POSTS	*NUMBER*	SCALE OF PAY	ANNUAL OUTLAY (Rs. In Lakhs)	OUTLAY FOR THE ENTIRE PERIOD	REVISED SCALE, IF ANY	REVISED ANNUAL OUTLAY	REVISED PROJECT OUTLAY	ACTUAL RELASES BY DBT (2014-2015) (Rs. In Lakhs)	ACTUAL EXPENDITURE (2015-2016) (Rs. In Lakhs)	BALANCE (Rs. In Lakhs)
JRF	1	Rs. 12000/-	4.66	13.10	NIL	NIL	NIL	4.66	4.05055	0.60945

(Signature of Principal Investigator)

(Signature of Accounts Officer)
Finance Officer
Tezpur University

(SIGNATURE OF HEAD OF THE INSTITUTE)
Registrar
Tezpur University

* Details of manpower salary/ fellowship revision along with due- drawn statement and arrears requested should be given separately, if applicable.

Due- Drawn Statement 1st April, 2016 to 27th November, 2016

Name of the Project Staff	Month and Year	Due	Drawn	Difference
RUPESH KUMAR	NIL	NIL	NIL	NIL
NAINA SULTANA CHOUDHURY	NIL	NIL	NIL	NIL
NARENDRA KUMAR	NIL	NIL	NIL	NIL

(Signature of Principal Investigator)

(Signature of Accounts Officer)

Finance Officer
Tezpur University

(SIGNATURE OF HEAD OF THE INSTITUTE)

Registrar
Tezpur University