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# MESSAGE FROM THE DESK OF EDITOR IN CHIEF

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We feel proud to bring the present issue of the online IUT Journal of Advance Research and Development. We consider that the contribution in this multidisciplinary will help in the inclusive and sustainable growth process. Keeping in tune with this dignified idea, the current issue of IUT-JARD has addressed some current issues covering diversified field.

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Dr. Dhananjoy Datta

**(Chief Editor)**

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# Duration of Diaper Use, Gender and Family History as Predisposing Factors of Enuresis

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**Abstract**
This study assessed duration of diaper use, gender and family history as predisposing factors of enuresis, 120 Participants were drawn from different women fellowship groups of Sabon Gari Tudun Wada of Jos North Local Government Area. Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) diagnostic criteria for enuresis were adopted in diagnosing enuresis. Three hypotheses were tested at 0.05 significance level, result of the first hypothesis revealed that the duration of diapers use significantly predict the onset of enuresis. F(1,118) =7.269, p =0.008; with a mean score of 1.745 for long duration of diapers use and those with short duration of diapers use mean score of 1.507. Furthermore, result revealed that gender significantly predicts the onset of enuresis among children above 12 years old. F(1,117) =4.847, p =0.009; with a mean score of 2.000 for males and mean score of 1.400 for female and mean score of 1.573 for those that did not met the diagnostic criteria of enuresis for children above 12 years. Finally, result of the third hypothesis revealed that family history (genetic predisposition) significantly predicts the onset of enuresis among children. F(1,118) =13.006, p =0.0001; with mean score of 1.853 for mothers with history of enuresis and mean score of 1.512 for mothers without history of enuresis. The researchers recommend that mothers should be mindful of the way they use diapers for their children, also health care providers should educate mothers on the appropriate use of diapers during antenatal and postnatal clinics.

**Keywords:** Diaper, Gender, Family history, Enuresis

## Introduction

Enuresis for most children comes as involuntary discharge of urine, even when they try not to bed wet. Some get frustrated about having no control over their bladder; likewise, parents are worried about their children's uncontrolled urination. According to American Psychiatric Association [APA] (2013) elimination disorder is the inappropriate excretion of urine or faeces, first diagnosed in childhood or adolescence. Two types of elimination disorder are *enuresis* (repeated excretion of urine inappropriately), and *encopresis,* (repeated excretion of faeces inappropriately). In this study, the researchers are only interested on enuresis. According to Paredes and Potenciano (2010), the commonest childhood complaint is bedwetting (Paredes & Potenciano, 2010). Frequent bedwetting is considered a clinical problem when the child bed-wets after turning seven years old (Evans & Radunovich, 2008). Based on DSM-5 (APA, 2013) enuresis can be specify as, Nocturnal (passage of urine only during night-time sleep), Diurnal (passage of urine during waking hours) and Nocturnal/diurnal (a combination of nocturnal and diurnal). Nocturnal enuresis is a common problem worldwide (Salih, Ahmed, Omer, Salih, Elnour, Hussien, Lutfi, & Eldouch, 2013); it is a distressing and widespread problem, and upsetting for children and for their families (Wright, 2014). Repeated involuntary excretion of urine during sleep hours at least twice a week for children more than 5 years old is referred to as nocturnal enuresis (APA, 1995). Among individuals old enough to control their bladder, unintended excretion of urine during waking hours is referred to as diurnal enuresis (Robson, 1997). On the other hand, nocturnal-diurnal enuresis is bedwetting during day and night-time (Robson, 2007). Paul, Alikor, and Anochie (2012) found the overall prevalence of enuresis was 23.2%. Enuresis was notably more common in boys and the prevalence rates decreased with increasing age. Of all enuretic children, 92.1% had nocturnal enuresis, 0.9% had diurnal and 7.0% had nocturnal –diurnal enuresis. Among Nigerian children, Anyanwu, Ibekwe, and Orji, (2015) discovered the prevalence of 37.0% for enuresis. Significant association was found between nocturnal enuresis, abnormal behaviour and poor sleep hygiene. Furthermore, in another Nigerian study, Abdulkadir, Abubakar, Tela, Ahmad, Bello and Ahmad (2019) conclude that enuresis is hyper-endemic among children and adolescents.

According to APA (2000) Children who wet their pants are likely to be ridiculed by their school mates. They may also have problems with their parents. Rejecting or ridiculing the child only adds to the child's problems. Many normal children are still wetting their beds at age 12, the causes may be organic. About three quarters of enuretic children have a first degree relative who was also enuretic and the concordance rate is higher in monozygotic twin than in dizygotic twin. Similarly, Backwin (1973) had earlier reported that 0% to 80% of all children with enuresis have affected relatives. The concordance rates are higher among mono than dizygotic twins. The recurrence risk for a child to be affected by enuresis is 40 % if one parent and 70 % if both parents had been enuretic. The Royal Children's Hospital Melbourne (2009) reports that, bedwetting is frequently associated with family history. Backwin (1973) identified family history of nocturnal enuresis in most children. If one parent was a bed wetter the probability of having enuresis in the child is 45%, if both parents were bed wetter's the probability increases to 77%. On the other hand only 15% will be affected if neither parent had enuresis. According to Huang, Wei, Sharma, Bao, Li, Song, Wu, Sun, Li, Liu, Wu and Jiang (2020) the prevalence rate of Nocturnal enuresis decreased with age but increase with duration of diaper use.

Many factors have been attributed as the causative factors of enuresis, Wen, Wang, Chen, Wen, and Liu (2006) in a preliminary study suggested that longer diaper use increases nocturnal enuresis risk. Similarly, Smith (2006) reported that long duration of diaper use may lead to the habit of urinating at any time. Variation in the prevalence of nocturnal enuresis between countries may be explained partly by duration of diaper use. Children diagnosed with nocturnal enuresis used diapers at older age compared to children without nocturnal enuresis. Long use of diapers, family history, and sleep disordered breathing, male gender; constipation and younger age are possible factors for enuresis (Xu, Liu, Jiang, Li, Qiu, Chen, Sun, Lin, & Lin, 2017). Risk of childhood enuresis has been associated with duration of disposable diaper use. (Li, Wen, Shen, Yang, Peng, Wang, Xie, Wu, & Du, 2020).

Salih, et al (2013) found significant associations between family history of enuresis and nocturnal enuresis. Significant association between parental and childhood nocturnal enuresis was found (Von Gontard, Heron & Joinson, 2011). Kanaheswari (2003) found lower prevalence of nocturnal enuresis in females and decreases with age and less prevalent in Asian countries. Among 6 – 7 years old children prevalence of nocturnal

enuresis is 5-10% (Hjälmås, 2002). History of enuresis among parents and siblings were associated with enuresis (Ozden, Ozdal, Altinova, Oguzulgen, Urgancioglu, & Memis, 2007). Genetics, delay in maturing, sleep difficulty, psychological causes and small bladder capacity are identified as possible mechanism for primary nocturnal enuresis (Ray, 2011). Some parents find difficulties in training their children while some children find it difficult when it comes to controlling their bowel while others do not. Parents go to the extent of beating their children whenever they urinate in inappropriate place and or when they wet their clothes. However, unknown to most parents' enuresis is a disorder. Parents that have children suffering from enuresis often feel frustrated and embarrassed; most parents of children suffering from enuresis believe their children actively control their bowel, while bedwetting may be intentional; but in other cases it's an involuntary act beyond the child's control. Right from infancy, parents use diapers in order to control bowel movement among children between 0-3 years in most situations. This implies that the use of diapers is significant in the life of children, considering that the way parent use diapers on their children differs, this constitute statement of the problem in this study. Therefore, this study is aimed at studying duration of diaper use, gender and family history as predisposing factors of enuresis. Thus, it is hypothesized that;

1. Duration of diaper use will significantly predict the onset of enuresis.
2. Gender will significantly predict the onset of enuresis among children above 12 years of age.
3. Family history (Genetic predisposition) of enuresis will significantly predict the onset of enuresis.

## Method

### Research Design and Data Analysis

Ex post facto design was utilized in this study. The design analysed events that have taken place in the past. In this study, it was used to study the duration of diaper use, gender and family history as predisposing factors of enuresis disorder. The independent variables in this study are duration of diapers use, gender and family history while enuresis is the dependent variable. Duration of diaper use is conceptualized into two long duration (3 hours and above) and short duration (less than 3 hours), gender is conceptualized into two male and female while family history is also conceptualized into two, mothers with history of enuresis and mothers without history of enuresis.

Descriptive and inferential statistics utilizing ANOVA in this study were analyzed using Statistical Package for Social Science (SPSSS) version 21 at 0.05 level of significant.

**Participants**

A total of 120 mothers drawn from different Women Fellowship groups in Sabon Gari, Tudun Wada, Mado village of Jos-North Local Government Area of Plateau State Nigeria, participated in the study. Considering the difficulty in getting children to respond to the instrument of data collection, mothers that have children within the age group of interest, were used to report their children's experience in relation to enuresis. Thirty four (28.3%) of the mothers reported that their children bed wetted between ages 5 – 12.

**Instrument**

DSM-5 (APA, 2013) diagnostic criteria of enuresis disorder was adopted and used to generate data for the study. It consist sections A and B. Section A was transcript into questions which participants responded to as it relates to their children, while section B, captures demographic information of participants.

**Procedures**

One of the researchers presented consent letter to leader of respective Women Fellowship groups. On scheduled appointments, the researchers in company of respective leaders, briefed each group that the information gathered shall be used for research purpose only, and shall not be link to them by name. Thereafter, researchers administered questionnaires individually to mothers who consented to participate and have children within the age range of 2 and 25 years old. Each responded to the questionnaire within thirty minutes; they were appreciated for participating and debriefed before the researchers left.

## Result

### Descriptive Statistics

Table 1: Socio- Demographic Characteristics of Participants

| | Frequency | Percent (%) |
|---|---|---|
| **Child's age** | | |
| Mean ± age | 8.51±3.721 | |
| Minimum age | 2 | |
| Maximum age | 21 | |
| **Diagnosis of enuresis based on DSM 5 diagnostic criteria** | | |
| Enuresis | 73 | 60.8 |
| Not applicable | 47 | 39.2 |
| **Classification of Enuresis (specify as)** | | |
| Nocturnal enuresis | 56 | 46.7 |
| Not applicable | 64 | 53.3 |
| Diurnal enuresis | 17 | 14.2 |
| Not applicable | 103 | 85.8 |
| Nocturnal/diurnal enuresis | 39 | 32.5 |
| Not applicable | 81 | 67.5 |
| **Child's Gender** | | |
| Male | 73 | 60.8 |
| Female | 47 | 39.2 |
| **Child's educational status** | | |
| Nursery | 18 | 15.0 |
| Primary | 76 | 63.3 |
| Secondary | 25 | 20.8 |
| Not in school | 1 | 0.8 |
| **How long does your child stay with diaper during the day?** | | |
| Long duration (3 hours and above) | 51 | 42.5 |
| Short duration (less than 3 hours) | 69 | 57.5 |
| **How frequent do you respond by removing your child's diaper when he/she urinates on the diaper?** | | |
| Immediately | 46 | 38.3 |
| Few minutes later | 22 | 18.3 |
| Several minutes later | 26 | 21.7 |
| An hour or more later | 26 | 21.7 |
| **Among your children between 5 – 12 years old who bed wet the most?** | | |
| Male | 49 | 40.8 |
| Female | 24 | 20.0 |
| Not applicable | 47 | 39.2 |
| **Do you have a child above 12 years that bed wet?** | | |
| Yes | 17 | 14.2 |
| No | 103 | 85.8 |
| **What is the gender of your child above 12 years that bed wet?** | | |
| Male | 12 | 10.0 |

| | | |
|---|---|---|
| Female | 5 | 4.2 |
| No applicable | 103 | 85.8 |
| **As a mother when you were between ages 5 – 12 did you bed wet?** | | |
| Yes | 34 | 28.3 |
| No | 86 | 71.7 |

Result of table 1 showed that the minimum age of children as reported by their mothers was 2 years with the maximum age of 21 years, mean age of 8.51 and standard deviation of 3.721. Out of the 120 mothers that participate in this study only children of 73 (60.8) mothers met the DSM 5 diagnostic criteria for enuresis disorder; in relation to types of enuresis majority 56 (46.7%) met the diagnostic criteria of nocturnal enuresis compared to those that met the diagnostic criteria of diurnal and nocturnal/diurnal enuresis. Majority 73 (60.8%) of those that met the diagnostic criteria of enuresis were males. Seventy six (63.3%) as reported by their mothers as at the time of the study were in primary school. Sixty nine (57.5%) mothers indicate that they don't allow diapers on their children 3 hours and above, 46 (38.3%) indicate that they remove their children's diapers immediately when the child urinates on the diaper. Majority 49 (40.8%) of the mothers indicate that among their children between ages 5 - 12 males bed wet the most. In relation to family history (genetic predisposition) only 34 (28.3%) mothers indicate that they bed wet when they were between ages 5 - 12.

**Hypotheses Testing**

**Hypothesis One**

The duration of diapers use will significantly predict the onset of enuresis among children.

Table 2: Mean Values of ANOVA

| Duration of using diapers | Mean score | Std. Error | 95% Confidence interval | |
|---|---|---|---|---|
| | | | Lower Bound | Upper Bound |
| Long duration (3 hours and above) | 1.745 | .067 | 1.613 | 1.878 |
| Short duration (less than 3 hours) | 1.507 | .058 | 1.393 | 1.621 |

Table 2 reveals the mean scores, standard error and the lower and upper bound scores on enuresis across duration of diapers use. The table reveals that participants that used diapers for long duration (3 hours and above) had mean enuresis scores of 1.745, with 95% of participants in the group having scores between 1.613 and 1.878 (lower and upper bound). While participants that used diapers for short duration (less than 3 hours) had mean enuresis score of 1.507, with 95% of participants in the group having scores between 1.393 and 1.621 (lower and upper bound). Participants with long duration of diapers use (3 hours and above) had higher mean score compared to participants with short duration (less than 3 hours).

Table 3: ANOVA Source Table For Duration of Using Diapers

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 1.659[a] | 1 | 1.659 | 7.269 | .008 |
| Intercept | 310.192 | 1 | 310.192 | 1359.045 | .000 |
| Duration of using diapers | 1.659 | 1 | 1.659 | 7.269 | .008 |
| Error | 26.933 | 118 | .228 | | |
| Total | 339.000 | 120 | | | |
| Corrected Total | 28.592 | 119 | | | |

a. R Squared = .058 (Adjusted R Squared = .050)

Result revealed that the duration of diapers use significantly predict the onset of enuresis among children. F (1,118) = 7.269, p = 0.008 (see table 3); with a mean score of 1.745 for long duration use of diapers (3 hours and above) and those with short duration use of diapers (less than 3 hours) mean score of 1.507 (see table 2). The hypothesis was supported.

**Hypothesis Two**

Gender will significantly predict the onset of enuresis among children above 12 years old.

Table 4: ANOVA Mean Values

| Gender of child above 12 years that bed wet | Mean score | Std. Error | 95% Confidence interval | |
|---|---|---|---|---|
| | | | Lower Bound | Upper Bound |
| Male | 2.000 | .137 | 1.728 | 2.272 |
| Female | 1.400 | .212 | .979 | 1.821 |
| Not applicable | 1.573 | .047 | 1.480 | 1.666 |

Table 4 reveals the mean scores, standard error, and the lower and upper bound scores on enuresis across participant's gender. The table reveals that males had mean enuresis score of 2.000, with 95% of participants in the group having scores ranging between 1.728 and 2.272 (lower and upper bound). Participants that are females had mean enuresis mean score of 1.400, with 95% of participants in this group having scores ranging between 0.979 and 1.821 (lower and upper bound). Participants that did not met the diagnostic criteria for enuresis had mean enuresis score of 1.573, with 95% participants in this group having scores ranging between 1.480 and 1.666 (lower and upper bound). Males had higher mean enuresis scores than their female counterparts.

Table 5: ANOVA Source Table For Gender of Children Above 12 Years that Bed Wet

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 2.188[a] | 2 | 1.094 | 4.847 | .009 |
| Intercept | 84.387 | 1 | 84.387 | 373.932 | .000 |
| Gender of child above 12 years that bed wet | 2.188 | 2 | 1.094 | 4.847 | .009 |
| Error | 26.404 | 117 | .226 | | |
| Total | 339.000 | 120 | | | |
| Corrected Total | 28.592 | 119 | | | |

a.R Square = .077 (Adjusted R Square = .061)

Result revealed that gender significantly predicts the onset of enuresis among children above 12 years old. F (1,117) = 4.847, p = 0.009 (see table 5); with a mean score of 2.000 for males and mean score of 1.400 for female and mean score of 1.573 for those that did not met the diagnostic criteria for children above 12 years that bed wet (see table 4). The hypothesis was supported.

**Hypothesis Three**

Family history (genetic predisposition) of enuresis will significantly predict the onset of enuresis among children.

Table 6: ANOVA Mean Values

| Family history (genetic predisposition) | Mean score | Std. Error | 95% Confidence interval | |
|---|---|---|---|---|
| | | | Lower Bound | Upper Bound |
| Mothers with history of enuresis | 1.853 | .080 | 1.694 | 2.012 |
| Mothers without history of enuresis | 1.512 | .050 | 1.412 | 1.611 |

Table 6 reveals the mean, standard error, and the lower and upper bound scores on enuresis across family history (genetic predisposition). The table reveals that mothers with history of enuresis had mean enuresis score of 1.853, with 95% of participants in this group having scores between 1.694 and 2.012 (lower and upper bound). Mothers without history of enuresis had mean enuresis score of 1.512, with 95% of participants in this group having scores between 1.412 and 1.611 (lower and upper bound). Mothers with history of enuresis had higher enuresis mean score compared to those without history of enuresis.

Table 7: ANOVA Source Table for Genetic Predisposition (Family History) of Enuresis

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Corrected Model | 2.839[a] | 1 | 2.839 | 13.006 | .000 |
| Intercept | 275.839 | 1 | 275.839 | 1263.886 | .000 |
| As a mother when you were between ages 5-12 did you bed wet? | 2.839 | 1 | 2.839 | 13.006 | .0005 |
| Error | 25.753 | 118 | .218 | | |
| Total | 339.000 | 120 | | | |
| Corrected Total | 28.592 | 119 | | | |

a. R Squared = .099 (Adjusted R squared = .092)

Results revealed that genetic predisposition (family history of enuresis) significantly predict the onset of enuresis among children. F (1,118) = 13.006, p = 0.0001 (see table 7); with mean score of 1.853 for mothers with history of enuresis and mean score of 1.512 for mothers who do not have history of enuresis (see table 6), the hypothesis was supported.

## Discussion

Three hypotheses were tested in this study titled 'duration of diaper use, gender and family as predisposing factors of enuresis.' Result of the first hypothesis revealed that the duration of diapers use significantly predict the onset of enuresis among children. Long duration use of diapers (3 hours and above) had higher mean score than those with short duration use of diapers (less than 3 hours). Findings of the present study confirmed previous studies by Wen et al (2006) and Smith (2006) who separately reported that longer diaper use increases nocturnal enuresis risk. According to Huang, et. al. (2020) duration of diaper use increases the prevalence of enuresis. In this study result of hypothesis one is significant considering that 42.5% of mothers identified that they use diapers for their children for longer duration while responding to the question, *"How frequent do you respond by removing your child's diaper when he/she urinates on the diaper?"* 18.3%, 21.7% and 21.7% identified that they remove their child's diaper after urinating few minutes later, several minutes later and an hour or more later respectively.

Result of the second hypothesis revealed that gender significantly predicts the onset of enuresis among children above 12 years old. With males having higher mean score than their female counterparts, also there were more males above 12 years old meeting the diagnostic criteria than their female counterparts. This finding also supported earlier

findings by Paul et. al. (2012) who reported that enuresis is common among boys compared to girls. Also findings by Xu et al., (2017) identified among others that male gender as possible factor for enuresis. On the contrary, Mandi (2010) found that among 5-14 years old of Sudanese children, girls had a higher prevalence of enuresis than boys and the prevalence decrease as the age of the child increase. In this present study out of the 17 children that bed wet above 12 years old, 12 were males compared to only 5 females, this could explain why the result is significant, males had higher mean scores compared to their female counterparts.

Finally result of the third hypothesis revealed that family history (genetic predisposition) significantly predicts the onset of enuresis among children. Most of the children that met the diagnostic criteria of enuresis had mothers that bed wet while they were between ages 5 - 12. Mothers with history of bed wetting had higher mean scores compared to those without history of bedwetting. The study findings also confirmed previous reports of Von Gontard, et. al. (2011) who found significant relationship between parental and child nocturnal enuresis. Also, in 2013, Salih, et.al. found a significant associations between nocturnal enuresis and history of enuresis in family. Among parents, Ozden et. al. (2007) and Ray (2011) identified history of enuresis and genetic factors as predisposing factors of enuresis.

## Limitation of Study and Recommendation

This study is limited to only 120 mothers from one locality of Jos North Local government are of Plateau state Nigeria, also, the researchers only depends on mothers responses regarding their children. Therefore, the researchers recommends that further studies in this area, should use more participants and areas most especially comparing urban and rural areas, in order to generalize findings of future study, there is need to increase the sample size. Future studies should not be limited to mothers alone, children should also be used as participants so as to compare each child's response with that of his/her mother.

## Conclusion

Result of this study revealed that duration of diaper use, gender and family history (genetic predisposition) of enuresis significantly predicts the onset of enuresis. 120 mothers participated and volunteered information about their children with regards to enuresis. Study found that long duration of diapers use, male children and family history (mothers with history of enuresis) are predisposing factors of enuresis disorder among

children. The researchers concludes that parents most especially mothers should be mindful of the way they use diapers on their children. Thus the researcher recommends that health care providers should educate mothers on the appropriate use of diapers during antenatal and postnatal clinics.

## References

Abdulkadir, A., Abubakar, B. M., Tela, U. M., Ahmad, M., Bello, A., & Ahmad, M. Y. (2019). Prevalence of Enuresis Among Children And Adolescents: A Systematic Review And Meta-Analysis. *Sahel Medical Journal, 22*(4), 157-163.

American Psychiatric Association (1995). *Diagnostic and Statistical Manual of Mental Disorders; DSM IV,* fourth edition. Washington DC: American Psychiatry Press.

American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders, text revision (DSM-IV-TR).* Washington, DC: American Psychiatric Association.

American Psychiatric Association (2013). Diagnostic and statistical manual of mental disorders, fifth edition. Arlington, VA, American Psychiatric Association.

Anyanwu, O. U., Ibekwe, R. C., & Orji, M. L. (2015). Nocturnal enuresis among Nigerian children and its association with sleep, behaviour and school performance. *Indian Paediatrics, 52*(7*),* 587-589.

Backwin H (1973). *The genetics of enuresis.* In Kolvin I, Mac Keith RCI, Meadow SR (eds). Bladder control an enuresis. London: William Heinemann.

Evans, & Radunovich (2008). Bedwetting. University of Florida IFAS Extension.

Hjälmås, K. (2002). Enuresis in children. *Brazilian Journal of Urology*, *28*(3), 232-249.

Huang, H., Wei, J., Sharma, S., Bao, Y., Li, F., Song, J., Wu, H., Sun, H., Li, Z., Liu, H., Wu, Q., & Jiang, H. (2020). Prevalence and risk factors of nocturnal enuresis among children ages 5-12 years in Xi'an, China: a cross-sectional study. *BMC Paediatrics, 20,* 305.

Kanaheswari, Y. (2003). Epidemiology of childhood nocturnal enuresis in Malaysia. *Journal of Pediatrics and child Health, 39*(2), 118-123.

Li, X., Wen, J. G., Shen, T., Yang, X. Q., Peng, S. X., Wang, X. Z., Xie, H., Wu, X. O., & Du, Y. K. (2020). Disposable diaper overuse is associated with primary enuresis in children. *Scientific Reports, 10*(1*),* 1-9.

Ozden, C., Ozdal, O. L., Altinova, S., Oguzulgen, I., Urgancioglu, G., Memis, A. (2007). Prevalence and associated factors of enuresis in Turkish children. *International Braz J urol*, *33*(2), 216-222.

Paredes, R., & Potenciano, (2010). Case based pediatrics for medical students and residents. Department of Pediatrics, University of Hawii John A. Burns School of Medicine.

Paul, N. I., Alikor, E. A. D., & Anochie, I. C. (2012). Prevalence of enuresis among primary school children in Port Harcourt. *Nigerian Journal of Paediatrics*, *39*(1), 18-21.

Ray, J. (2011). Enuresis. *Al Ameen Journal of Medical Science, 4*(2), 104-112.

Robson, L. M. (1997). Diurnal enuresis. *Pediatrics in Review*, *18*(12), 407-412.

Robson, W. L. M. (2007). Enuresis. Retrieved from http://www.eMedicine.com/ped/Topic 689.HTM. Accessed on November, 2008.

Salih, K. E. M. A., Ahmed, F. E., Omer, Y. I., Salih, A. A., Elnour, W., Hussien, K. E., Lutfi, M. F., Eldouch, W. (2013). Characteristics and aetiological factors of nocturnal enuresis in Sudanese children. *American Journal of Medical and Dental Science, 1*(2), 40-45.

Smith, C. G. (2006). Children and their families: The continuum of care department of Pediatrics.

The Royal Children's Hospital Melbourne (2009). Victorian Auditor-General Report.

Von Gontard, A., Heron, J., & Joinson, C. (2011). Family history of nocturnal enuresis and urinary incontinence: Results from a large epidemiological study. *The Journal of urology*, *185*(6), 2303-2307.

Wen, J. G., Wang, Q. W., Chen, Y., Wen, J. J., & Liu, K. (2006). An epidemiological study of primary nocturnal enuresis in Chinese children and adolescents. *European urology*, *49*(6), 1107-1113.

Wright, A. (2014). Childhood nocturnal enuresis: Assessment and management in primary care. Child Health.

Xu, Y., Liu, Y., Jiang, X., Li, Z., Qiu, Z., Chen, H., Sun, W., Lin, Z., & Lin, A. (2017). High concurrence of nocturnal enuresis and associated factors among south Chinese children. *Annals of Behavioural Science, 3*(1), 1-6.

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# Water: A Boon or Bane – A Study in Kamrup District of Assam

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**Abstract**

Water is required for survival and the continuance of all forms of life. Water as a resource is an essential part of life and the biggest blessing for life on earth. Water resource in the form of rivers, ponds, tanks and reservoirs form a vital ingredient for the growth and development of an economy. The utility of fresh water in day to day life is immense. The state of Assam is blessed with abundant rivers and wetlands. Such water resources are vital ingredients for development. Various economic activities like industry, fishing, agriculture and its allied activities have been possible because of the abundant water resource. But at the same time, they are also considered as the reason for floods and erosion of the state causing destruction to life and property which has negatively impacted the state's economy. Hence, water can also become a reason for damages to life and property. In this backdrop, the researchers have studied the river system of Assam. Further, an analysis has been done showing how the Puthimari river in Kamrup district of Assam has brought prosperity and destruction in that area to highlight water resource as a boon or bane for the economy. The study concludes that water resource needs to be properly managed for the economy to prosper.

**Keywords**: Rivers, Water resource, Floods

## Introduction

Assam has an abundance of a key renewable resource significantly linked to growth and development which is water resource. The state of Assam is blessed with a number of rivers. The Rivers Brahmaputra and Barak with their major tributaries and sub-tributaries are considered the lifeline of the state. The length of River Brahmaputra is 2900 kilometers and the length of River Barak is 900 kilometers. Apart from rivers, various types of wetlands like ponds/lakes (beels), swampy/marshy areas, reservoirs, tanks together comprise of a rich water resource of the state. Some of the important tributaries of the River Brahmaputra are Subansiri, Ranganadi, Buroi, Jia Bhorali, Jia Dhansiri, Puthimari, Pagladia, Manas, Burhi-Dihing, Dikhou, Dhansiri, Kapili, Digaru and Dudhnoi. Some of the important tributaries of River Barak are Longai, Dhaleswari, Sonai, Katakhal, Jiri and Chiri. Important wetlands of the state are Deepor beel, Chandubi, Dighalipukhuri, Jurpukuri, Silpukhuri, Madhav Pukhuri, Naak kata pukhuri, Jungal Bolohu Garh pukhuri, Laokhowa beel, Rudrasagar, Gaurisagar, Sibsagar Pukhuri and Joysagar.

These water resources are on one hand the reason for prosperity of the state including all its districts as this resource provides the scope for various economic activities like fishing, agriculture and its allied activities. But at the same time, they are also considered the reason for floods and erosion of the state causing destruction to life and property. Floods, bank erosion and drainage congestion are major problems faced by the state during the monsoon season. Floods in the state are recurring and almost every year three to four waves of flood ravage the flood prone areas of Assam. The economy of the state has faced a big jolt for such recurring floods.

The study of all the rivers and their tributaries is not possible for this study. Hence, Puthimari river, the north bank tributary of river Brahmaputra has been studied for getting better insights. This river in the Kamrup district of Assam is the lifeline of the people of this area.

## Review of Literature

Debbarma and Deen (2020) have highlighted that in Assam flood is a natural disaster, which occurs every year affecting people, agricultural crops, infrastructure and bio-diversity. Flood occurs due to heavy monsoon, excessive rainfall and human activities like deforestation. The Assam State Disaster Management Authority takes various steps to control floods.

Lahon (2019) points that flood in Assam is characterized by extremely large magnitude, extensive devastation and high frequency. Although floods have been occurring since long time but the damages caused by recent floods have increased. This has significantly affected the state's economy each year.

Roy and Husain (2004) analyses the magnitude and consequences of the floods caused by the Puthimari River. It was found that the highest magnitude of floods was experienced during the years 1988, 1993, 2004 and 2007. The study concludes that the hazardous consequences like damaging cropped land, affecting cattle and human habitation by the flood water of Puthimari river are common every year.

The above literatures relate to the floods in Assam and the floods caused by river Puthimari in Assam. The above studies point out that floods are common and occur every year in Assam that creates devastation. Such a significant problem necessitates research. This forms a pertinent issue for conducting the present study.

## Objectives

The objectives of the study are-

1. To examine the river system of Assam;
2. To analyse water resource as a boon or bane for the economy and give suggestions.

## Methodology

The study is based on both primary and secondary data. The researchers have selected the north bank tributary of the Brahmaputra which is the Puthimari River in Kamrup district of Assam. Hajo, Kamalpur, Baihata Chariali which are the nearest parts of the River Puthimari are considered for this study. A survey has been conducted in these three areas. A sample of 89 locals of these areas have been approached in their homes and interviewed by the researchers. Secondary data sources like government publications, websites, research papers and reports have been used for the present study. The study is limited to the availability of data. Statistical tools like percentage analysis and bar diagram have been used.

The river system of Assam shall now be studied to get an insight into the water resource present in the state. The below analysis is done in consonance with objective 1 of the present study.

## River System of Assam

River Brahmaputra and River Barak are the two major rivers of the state. Brahmaputra is considered as one of the largest river in the world. It originates from Kailash ranges of the Himalayas to the south-east of Manasarowar Lake. The source of this river is among the Chemayungdong glacier, Kupi glacier and Angsi glacier. After flowing through Tibet as Tsangpo, it enters India through Arunachal Pradesh as the Siang. Then this river joins Dibang and Luhit near Sadiya and emerges as the Brahmaputra flowing through the Assam plains. The Brahmaputra then enters Bangladesh before joining the Bay of Bengal. There are many tributaries of the Brahmaputra which are classified as North bank and South bank tributaries.

The second important river of Assam particularly in South Assam is the River Barak. It originates in the southern slopes of the Barail Range near the border of Manipur and Nagaland. It flows through the hilly terrains of the Nagaland-Manipur border and then enters into Assam. It drains southern Assam, which includes the districts of Cachar, Karimganj, Hailakandi and the southern part of Dima Hasao. It then divides into two and enters Bangladesh. The northern branch is known as Surma and the southern branch is known as Kushiyara. These two branches again combine as one which is called Meghna in Bangladesh.

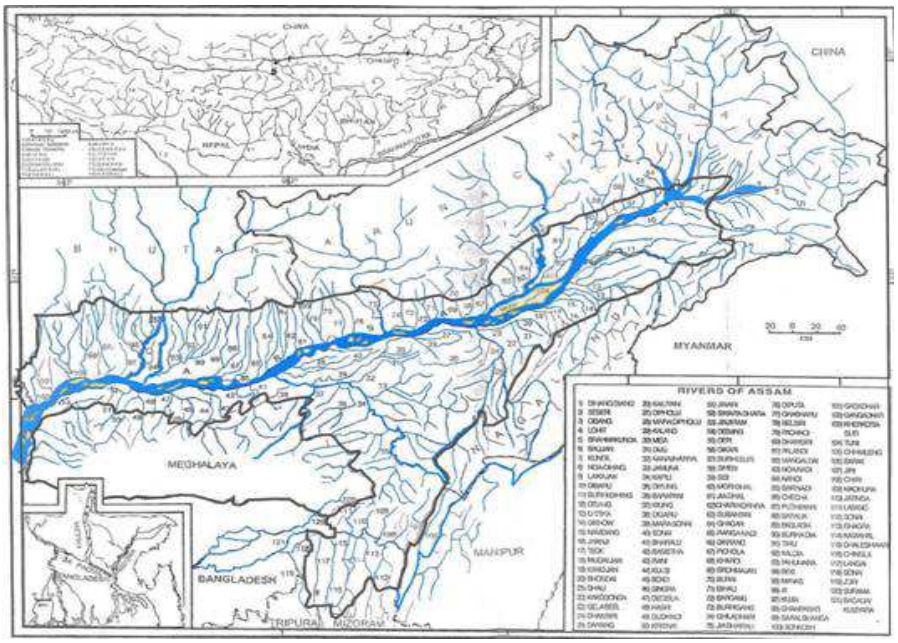
The following table 1 shows the river system of Assam along with the north and south bank tributaries. Below this table, diagram 1 has diagrammatically represented the river system of Assam.

Table 1: Table showing the River system of Assam

| **Rivers** / **Tributaries** | **Brahmaputra** | **Barak** |
|---|---|---|
| **North Bank** | Subansiri, Ranganadi, Buroi, Jia Bhorali, Jia Dhansiri, Puthimari, Pagladia, Manas, Saralbhanga, Sonkosh, Beki, Dikrong | Jiri, Chiri, Madhura, Jatinga, Harang, Kalain, Gumra |
| **South Bank** | Burhi-Dihing, Dikhou, Dhansiri, Kolang-Kapili, Digaru, Dudhnoi, Krishnai, Jinjiram, Dihing, Dissang, Jhanji, Kakadonga | Singla, Longai, Dhaleswari, Sonai, Katakhal |

**Source:** Water Resource Department, Government of Assam

Diagram 1: River system of Assam




**Source:** Water Resource Department, Government of Assam

Thus, it has been observed from table 1 and diagram 1 that the river system of the state is very rich. The two Principle Rivers of Assam, the Brahmaputra and Barak, along with their network of tributaries form the entire river system of Assam. The North bank tributaries of River Brahmaputra have steep slopes; have rocky pebbles and rough sandy beds. They carry heavy sediments, which lead to floods and erosion at various parts of the state during the monsoon season every year. On the other hand, the South Bank Tributaries of Brahmaputra have flatter grades than the north bank tributaries. Further, they have deep meandering channels and carry low sediments. River Barak also has a number of tributaries on both its north and south banks, classified as north bank and south bank tributaries of river Barak. These water resources if utilized optimally can prove to be the greatest blessing for the state.

The following sections have been brought out in consonance with objective 2 of the present study.

## Water and Economy

Water finds its use in all activities leading to economic development. Right from sustaining human life to the growth and development of nation water plays a primary role. In Assam availability of abundant water has lead to the development of the state in terms of agriculture, fishing, industries, transportation and trade.

But the river system of Assam is flood prone leading to perennial floods in the state. Flood and erosion are the two main natural disasters faced by the state every year. An area of 31,500 sq. km which is 39.58% of the total land area of Assam is flood prone. It needs to be emphasized that flood prone area of Assam is four times the national mark of the country's flood prone area. This point out the severity of floods in the state. In Assam, severe floods occurred during the years 1954, 1962, 1972, 1977, 1984, 1988, 1998, 2002 and 2004. Another severe problem faced by the state along with floods is the erosion of river banks. It needs to be mentioned that the average annual rate of erosion is 8000 Hectare. An area of 4.27 Lakh Hectare has been eroded by the rivers since 1950, which is 7.40 percent of the total area of the state.

Annual area affected by flood in the state is 9.31 lakh Hectares. In 2013, 1592 villages have been affected by floods and 71213.79 hectares of crop area have been damaged. In 2014, 4446 villages in the state have been affected by floods and 3 72,178 hectares of crop area have been damaged. In 2015, 4763 villages in the state have been affected by floods and 3, 29,303 hectares of crop area have been damaged. Besides this, floods have damaged houses and also led to loss of human life and animal life during the aforementioned years. Average annual loss due to floods in Assam is Rs. 200 Crore. In 1998 and 2004 alone, due to devastating floods the state suffered a loss of about Rs. 500 crore and Rs. 771 Crore respectively.

## Prosperity and Destruction by Puthimari River in Kamrup District

Kamrup District is situated between 25.46 and 26.49 North Latitude and between 90.48 and 91.50 East Longitude. The geographical area of the district is 4, 34,500 hectares while forest area is 1, 16,694 hectares and net cultivated area is 1, 81,608 hectares. Kamrup district of Assam contributes to a great extent to the prosperity of the state through various activities like industry, agriculture and its allied activities. River Brahmaputra and its tributaries are responsible for the floods in this district. Every year during the months of May to August flood occurs in the low lying areas of the district.

Sometimes late flood may also come in the last part of September and October. The tributaries of the Brahmaputra flowing through Kamrup district are Puthimari, Bornoi, None, Kulsi, Pagladiya, Kalajal.

The Puthimari River, locally known as the Lokhaitora, is one of the major north bank tributaries of the Brahmaputra in the Kamrup District of Assam. It originates in the Himalayas at an altitude of 3750 metres in the kingdom of Bhutan and is called Oontany river. The Puthimari then flows from north to south through the Baksa and Kamrup districts and finally meets the River Brahmaputra. The length of Puthimari river is 112 kilometers and only 80 kilometers of this river flows through Assam. The area of the flood plain in the basin is 385 sq. km. The total number of villages of the river basin is 448 and an area of 68,126 hectares is agricultural land.

The Puthimari is both a blessing and a curse in the northern bank of the Brahmaputra particularly in Kamrup district. It is a lifeline for agriculture and allied activities in the district. But it causes massive floods during monsoons, thus becoming the cause of sorrow. The following table shows the impact of floods by the Puthimari in terms of number of villages affected and population affected during the years 1995, 1997, 2000, 2003 and 2007.

Table2: Flood damages caused by the Puthimari in Kamrup District

| **Year** | **No. of Villages affected** | **Percentage change** | **Population affected (in Lakhs)** | **Percentage change** |
|---|---|---|---|---|
| 1995 | 110 | - | 1.27 | - |
| 1997 | 138 | 25.5 | 0.39 | -69.3 |
| 2000 | 131 | -5.3 | 1.65 | 323 |
| 2003 | 33 | -75 | 0.2 | -87.9 |
| 2007 | 426 | 1191 | 5.12 | 2460 |

**Source:** Revenue Department, Government of Assam

Diagram 2: Number of villages affected by the flood waters of River Puthimari

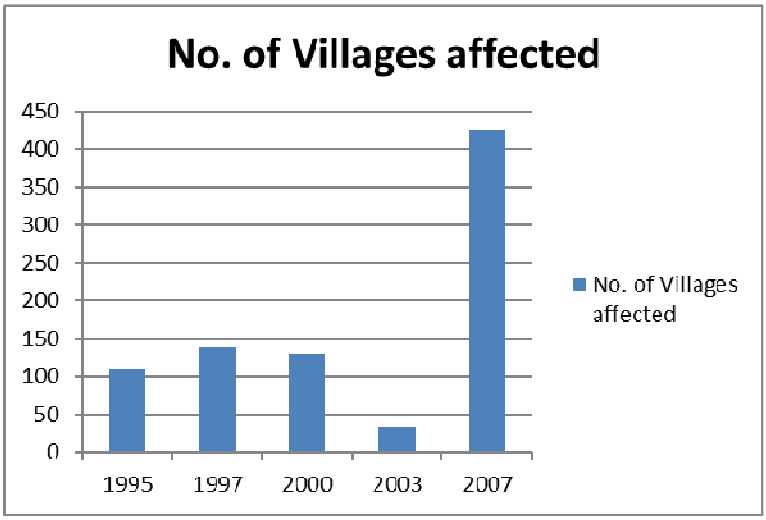
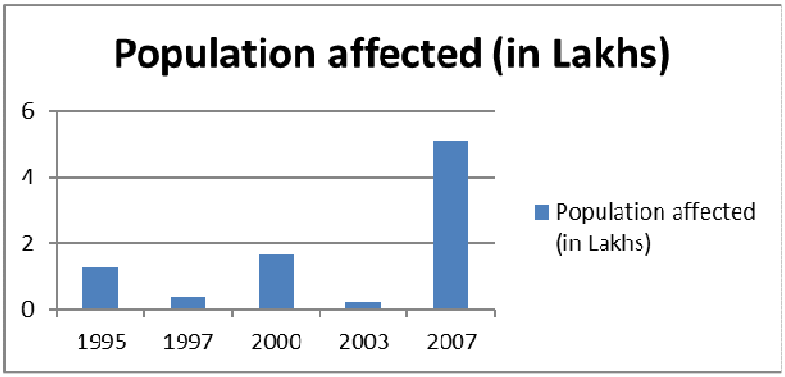



Diagram 3: Population (in lakhs) affected by the flood waters of River Puthimari




From table 2, diagram 2 and diagram 3, it has been observed that the Puthimari River has caused floods over the years in the North Bank of the Brahmaputra in Kamrup district. It submerges villages along its basin damaging life and property. It has also been observed that impact of floods on the population for various years is different. During the years of study in the above table, the least severe floods occurred in 2003 and the most severe floods have occurred in 2007. In the year 2007, 426 villages and 5.12 lakh people have been severely affected by the floodwaters of River Puthimari. The percentage change in the number of villages and population affected in 2007 over 2003 is found to be 1191% and 2460% respectively.

Villages like Satdola, Hohora, Meragaon, Khoiramari, Sonmahari, Borbhag, Jatiya, Ekadi have been repeatedly affected by floods of the Puthimari river. The flood water of the river many times has breached embankment submerging paddy crop fields, houses, schools, markets and causing havoc among the locals.

In our survey, the following has been found-

- The Puthimari River creates floods in the Hajo block, Kamalpur Block and Rangia sub-division.
- The respondents of these areas particularly the rural people living on the banks of the Puthimari have been found to be most affected by the perennial floods of the river. All the 89 respondents of our survey have been affected by the flood waters from the Puthimari river.
- It has been found that these respondents living in the flood affected villages face damage to their property every year. Their agricultural crops are either partially or fully destroyed by the floods. This brings great hardship to the people financially, physically and mentally.
- Financial hardship faced by the flood affected repondents of the area has forced a section of them to work as labourers in the unorganized sector for meager wages. Moreover when floods recede, they face great difficulty in finding work even in the unorganized sector in the affected areas.
- During floods the affected respondents remain at the mercy of the government and charitable organisations and people for their daily necessaries.
- Sources of income during and after the floods are greatly affected. This has been found to be one of the major reasons of poverty in the areas surveyed.
- Years of flood in the same villages again and again have badly damaged the agricultural fields reducing the productivity of the soil. As such a huge portion of the respondents have left agricultural activities particularly in the Hajo area.
- To counter the impact of floods in their livelihood, new activities like fishery, handloom, flower decoration, small retail businesses have been taken up by the locals.
- Moreover a significant aspect observed was that there has been migration of local people to other safer towns and cities, especially Guwahati, to escape flood and its consequences as well as for a better livelihood.

## Proper Management of Water

The yearly floods, not only in Kamrup district but across the state are a major cause of economic backwardness and poverty. As such proper management of water bodies of the state basically in the monsoon season is the need of the hour. In case of the Puthimari River, the local people to get relief from floods should take proper steps with the help of local government bodies. In this regard the local people have already taken some steps such as starting fishery as a business activity by using those lands which are damaged by the flood and where no further scope for agriculture activities exist as found from our study. But from survey it has also been noticed that despite decreasing the amount of flood by using those activities it only led to creating more floods during monsoon season. The main reason for this is that there is mismanagement of natural water bodies and also the water which gathers during monsoon season. Moreover, the locals in the area have not used any scientific method of creating fishery and ponds. Thus, the need for Proper management of water bodies arises with the help of upgrading technology for various types of activities, which directly uses the water bodies. The Puthimari River can also be used as way of communication between both sides of villages of the river bank. The Puthimari River is a blessing of God for the people of Kamrup district especially the Hajo block if they are able to use or manage it as a way of livelihood rather than a reason of sorrow.

Proper management of water is necessary for the following reasons-

- Controlling Flood and erosion, thereby improving the livelihoods of farmers in the flood-prone areas and reducing economic backwardness that is a consequence of perennial floods and erosion.
- Improving watershed management activities in major watersheds to improve livelihood, prevent erosion and landslides.

For proper water management, the following measures have been suggested-

- Construction of embankments and flood walls in the river.
- Creation of an effective river basin management organization that would focus on the whole river basin.
- Selective dredging of the river bed of the tributaries at selective reaches where there is high silt deposited.

The constitution of North East Water Management Authority by the Central Government will be of great help in erasing out the problem of floods and erosion of the state.

## Conclusion

Assam is undoubtedly blessed with abundant water resources as has been observed by studying its river system and wetlands. Water gives life and hope because of its usefulness. Water bodies are essential for Kamrup and the entire state. The Puthimari river is a lifeline for the district. But it has been analysed that heavy floods have been caused by the river during the study period damaging life and property which has affected the economy. It can thus be concluded that water can be both a boon and bane. The study also suggests that to recover the benefits from water resource, this essential natural boon should be taken proper care of and should be managed well by the locals as well as by the government. This will assist the economy to prosper.

## References

Debbarma, A. & Deen, S. (2020). Flood Disaster Management in Assam. *Sanchar Bulletin, 10*(40), 105-109.

Directorate of Economics and Statistics (2014). *Statistical Handbook Assam 2013*. Assam.

Directorate of Economics and Statistics (2016). *Statistical Handbook Assam 2015*. Assam.

Directorate of Economics and Statistics (2014). *Economic Survey, Assam 2013-14*. Assam.

Government of Assam (1999). *Assam State Gazetteer*, Vol. 1.

Lahon, D. (2019). Floods and its impact on the Economy of Assam: A Critical Review. *International Journal of Science and Research (IJSR), 8*(5), 1073-1075.

Precision Survey Consultancy (2018). *Final feasibility report on detailed hydrographic survey on Puthimari River NW-82*, Kolkata.

Roy, P., & Husain, Z. (2004). Magnitude of Floods and its Consequences in Puthimari River Basin of Assam, India. *European Academic Research, II*(2), 2665-2685.

River System of Assam. Retrieved from https://waterresources.assam.gov.in/portlet-innerpage/brahmaputra-river-system

Singh, B. (2020, June 1). PM Modi constitutes North East Water Management Authority as a solution for flood and erosion: Assam CM. *The Economic Times.* Retrieved from https://economictimes.indiatimes.com/news/politics-and-nation/

The Kamrup District. Retrieved from http://kamrup.nic.in/geofr.html

The Mahabahu Brahmaputra. Retrieved from https://thebrahmaputra.in/jour.php

Wetlands of Assam. Retrieved from http://asmenvis.nic.in/KidsCentre/Wetlands_1375.aspx

World Bank. (2007). *Development and Growth in North-East India The Natural Resources, Water and Environment Nexus, Strategy Report.* Washington DC, USA.

3

# Trends in Public Expenditure on Higher Education: Evidence from Selected Indian States

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**Abstract**

The present paper may be an attempt to analyse trends in public expenditures on higher education in India. The top states in India for Quality Education such as Kerala, Delhi, Himachal Pradesh, Assam, Tamil Nadu, Haryana, Gujarat, Maharashtra, Odisha, Rajasthan have been considered. There are diverse ways of inspecting the trends in expenditures. The present paper looked at public expenditures as a proportion of Gross State Domestic Product for the States. It is found that among the sample states, Maharashtra tops the list having highest average annual growth rate whereas Rajasthan has the lowest average annual growth rate. So states which are lagging behind needs special attention.

**Keywords**: Public Expenditure, Education, Indian States, Trends

## Introduction

Education is one of the most important components of social sector and a significant factor of economic growth. Proper education and training may augment the skills, efficiency, and productivity of a person and supports to shape up a skilled workforce that contributes to quicker economic growth and development of the country. Thus, education is considered as significant for economic and social sector development and spending on education has been observed as an asset that is recognized more in recent years. Financial resource availability is one of the important determinants for the expansion and quality enhancement of the education sector. Adequate and effective

allocations of resources are needed for the spread and improvement in the quality of education that may be contingent on proper public spending by the government. Initially, education was the conscientious of individual states, but since 1976 it became the common responsibility of both the central and state governments to maintain the quantity, quality, access and equality of education. In India, it is widely accepted that there is an acute shortage of resources in the education sector. Our education system is in dire need of funds. Its quantitative expansion, qualitative improvement and massive use of funds are required for its universal use.

Spending on higher education is a major concern, and active participation of government and non-government organizations is needed to take action in favour of it. The problems of higher education restructuring, expansion, quality improvement and financial impact after independence were reviewed by various commissions and committees especially the Scientific Manpower Committee (1947) and the University Education Commission (Radhakrishnan Committee) 1948-49. With the declared objective of providing equality of opportunity, the government faced the responsibility of meeting the needs of a growing number of them, many of whom were first generation students who saw higher education as a way of gaining social mobility. There has been an unprecedented expansion in higher education and universities and colleges had increased significantly in number.

Rest of the paper is organized as follows: Section 2 discusses survey of literature, Section 3 covers methodology and data source. Section 4 presents the results of analysis and Section 5 presents the summary and conclusion.

## Survey of Literature

The survey of literature reveals that there are studies assessing education at different parts in India considering various issues. In this connection mention should be made of the following studies:

De and Endow (2008) examined the level of public expenditure and resources and the methods of resources allocation used for the centre and the states. It discovered that when real sector spending increased in the 1990s, it had been stagnant ever since. The share of public expenditure in education as a proportion of Gross Domestic Product was less than 4 percent. The analysis shows that the centre continues to play an increasingly

important role in state education finance. The trends in expenditure of seven states are studied which indicated that recent changes in education spending for underdeveloped states have improved access, but retention and learning achievements are very low. Herrmann, Tausch, Heshmati and Bajalan (2008) concluded that in terms of the primary ECOFIN definition of efficiency, three new EU-22 member states, particularly the Slovenia and Czech Republic, provide interesting answers to questions about the efficiency of state spending in reducing poverty. Tamang (2011) tried to redefine the relationship between economic growth and expenditure in education in India and showed that the physical cost per labor has less of an impact on economic growth than the price. It can be noted that a 1% rise in physical capital per labor will increase the GDP per worker by 0.28% and a 1% increase in government expenditure on labor education will increase the GDP per labor by 0.11%. Kaur, Misra and Suresh (2013) attempted to examine the cyclical behavior of social sector spending, including education and health, in 17 non-special class state between 2000-01 and 2012-13. It has seen that overall social expenditure is applicable at the states of India; education expenditure is cycle-prone, while cycle-supporter is more pronounced during ups and downs during recession. Furthermore, cyclicity is more significant in large states than in low-income states in the terms of income. This probably indicates the collective influence of the political economy, the cyclical state revenue, and the role of the transfer of consideration. Fiscal deficits are observed to negatively impact social sector spending, which supports the fiscal equilibrium impact estimate. For this, however, it will be necessary to create adequate financial space in good times so that they are able to spend more time in need of human capital investment, which is the key to achieving long-term inclusive and sustainable development. Purohit (2014) indicated a substantial opportunity to improve government spending efficiency in healthcare compared to education. The results of the analysis indicate significant state-level inequalities that can be reduced through a combination of strategies such as manpower restructuring, supply of consumer goods within the sector, addition of additional resources through potentially increased budget emphasis, or encouraging more private sector participation. Chatterji, Mohan and Dastidar (2015) tried to identify the per capita education spending determinants of Indian governments at state level. They found no evidence that political factors such as the ruling party's political ideology and the corruption level affect the state government's spending on education. Ghosh Dastidar and Chatterji (2015) examined the relationship between public primary, secondary and tertiary education

expenditure and economic growth of India empirically and indicated that all the sectoral education expenditures were found to affect GDP growth positively from 1980 onwards. Araf (2016) explored the trends of public expenditure on education, like, trends on planned and Non planned expenditure, Revenue and Capital expenditure. The paper also studied trends in intra sectoral allocation of public expenditure i.e. expenditure on primary, secondary, higher education and technical education. Maurya and Singh (2017) tried to test the effects of the increase in government expenditure in the Indian context. The main results of the study showed that increasing public spending boosts economic growth in the long run and inflationary pressures on the economy in the short run. Both short-term and long-term inflation have an adverse effect on economic recovery. Mohanty and Bhanumurthy (2018) evaluated government spending efficiency amongst the states. For that, they looked into the role of economic growth as well as the governance quality and suggested that states are spending their resources on education more efficiently than other sectors. Ansari and Khan (2018) examined the level, trend, growth and inter-sectoral allocation of public expenditure on education and explored the trends on planned and non-planned spending for education. The analysis shows that percentage of expenditure of the State government in the field of education has decreased and the share of the central government has increased. The share of public expenditure on education as a percentage of GDP was less than 5%. Finally, this paper suggested that the government (centre and state) should focus on education from the quality point of view along with budget allocations in order to enhance human resource development in the country. Bhattacharyya (2019) tried to find an effective association among public expenditure on education and the economic growth in 28 states of India and aimed to investigate whether public spending causes economic growth or whether economic growth is the reason of public spending. The result of the study indicated that there is a long-run association among public expenditures on education and economic growth. A one-way effect is found in the long run between Gross State Domestic Product (GSDP) and public expenditure on education. This means that as development takes place in the states of India, it creates pressure on the government to increase its activities, which encourages public spending to increase. Motkuri and Revathi (2020) analysed public expenditure on education and observed it to be around 4% and 2.5% of GDP as public and private expenditure. They suggested that over past three decades growth in private expenditure on education is higher than public expenditure and the ratio declined during this period. It reveals increasing privatization of Indian education.

Gadbade and Kokate (2021) presented evidence that the objective of the study was to analyze 'Public Expenditure on Education: An Interstate Analysis of India'. They highlighted the recent trend as well as expenditure on education by both state and central governments and found the percentage share of state government has declined and that of central government has progressively improved.

The main objectives of the present paper are as follows:

- To analyze the growth performance of public expenditure in some selected states of India
- To compare and rank the states according to the performance in terms of the above indicator

For achieving the objectives, the top states in India for Quality Education such as Kerala, Delhi, Himachal Pradesh, Assam, Tamil Nadu, Haryana, Gujarat, Maharashtra, Odisha, Rajasthan have been considered. The growth rate of all the 10 states is calculated overtime from 2002 to 2018.

## Methodology and the data used

### Methodology

For measuring the growth of public expenditure on higher education in India, sample states such as Kerala (KER), Delhi (DEL), Himachal Pradesh (HP), Assam (ASS), Tamil Nadu (TN), Haryana (HAR), Gujarat (GUJ), Maharashtra (MAH), Odisha (ODI), Rajasthan (RAJ) are considered.

The growth of public expenditure on higher education is measured using the following specification:

✓ Year to Year Growth Rate

Year to Year growth rates are rates of change of the current period with respect to its previous period.

To calculate the Year to Year growth rate, the following steps were used:

- Subtract last year's number from this year's number. This gives the total difference for the year.
- Then divide the difference by last year's number.
- That gives the Year-to-Year growth rate.

Year to Year Growth rate is obtained from $(Y_t - Y_{t-1})/Y_{t-1}$

- $Y_t$ is the magnitude of the variable in period t.
- $Y_{t-1}$ is the magnitude of the variable in period t-1.
- $Y_t - Y_{t-1}$is the difference in the magnitude of the variable in period t and t-1.

**Data**

All the data on University & Higher Education as percentage of gross domestic product **(**GDP) from the period2002 to 2018are obtained from the various issues of "Analysis of Budgeted Expenditure on Education" published by the Government of India, Ministry of Human Resource Development, Planning & Monitoring Unit, New Delhi.

## Results of Analysis

The result of analysis as revealed in Table 1 suggests that the growth rates of public expenditure for the different sample states are fluctuating and also shows negative values for some years. Maharashtra has the maximum average annual growth rate i.e. 53.2% whereas Rajasthan has the lowest average annual growth rate i.e. 10.7% in terms of public expenditure on higher education.

From Table 2, it can be seen that Maharashtra tops in the average annual growth rate and is given highest rank and Rajasthanha having the lowest average annual growth rate in terms of public expenditure on higher education, occupies the last position.

The rank of the sample states are also illustrated in the following bar diagram 1 which shows the position of all the sample states in terms of public expenditure as a percentage of GDP on higher education:

## Summary and Conclusion

The present paper attempts to examine the growth performance of public expenditure in some selected states of India. For achieving the objectives, the top states in India for Quality Education such as Kerala, Delhi, Himachal Pradesh, Assam, Tamil Nadu, Haryana, Gujarat, Maharashtra, Odisha, Rajasthan have been considered. The growth rate of all the 10 states are calculated overtime from 2002 to 2018.

From the result of analysis, it may be summarized and concluded that the growth rate of sample states are not at all uniform and it is negative in some years. Maharashtra shows the highest average annual growth rate whereas Rajasthan has the lowest average annual

growth rate. Thus if all the sample states are ranked, Maharashtragets highest rank and Rajasthan having lowest average annual growth rate in terms of public expenditure on higher education occupies the last position. Thus states which are lagging behind needs special attention.

## References

Ansari, T. H., & Khan, M. A. (2018). An Analysis of Public Expenditure on Education in India. *World Wide Journal of Multidisciplinary Research and Development*, *4*(4), 89-92.

Bhattacharyya, P. (2019). Public expenditure on education and economic growth: A state-level analysis in India. *Humanities & Social Sciences Reviews*, *7*(6), 533-539.

Chatterji, M., Mohan, S., & Dastidar, S. G. (2015). Determinants of public education expenditure: evidence from Indian states. *International Journal of Education Economics and Development*, *6*(1), 1-19.

De, A., & Endow, T. (2008). *Public expenditure on education in India: recent trends and outcomes.* (RECOUP Working Papers, 18). Cambridge: University of Cambridge, Faculty of Education, Research Consortium on Educational Outcomes and Poverty (RECOUP), 1-50.

Gadbade, M. G. B., & Kokate, C. N. (2021). Public Expenditure on Education: An Interstate Analysis of India. *Pal Arch's Journal of Archaeology of Egypt/Egyptology*, *18*(4), 2116-2126.

Ghosh Dastidar, S., & Chatterji, M. (2015). Public expenditure in different education sectors and economic growth: The Indian experience, MPRA Paper No. 66903, 1-30.

Herrmann, P., Tausch, A., Heshmati, A., & Bajalan, C. S. J. (2008). Efficiency and effectiveness of social spending, IZA Discussion Papers, No. 3482, Institute for the Study of Labor (IZA), Bonn, 1-54.

Kaur, B., Suresh, A. K., & Misra, S. (2013). Cyclicality of social sector expenditures: Evidence from Indian states. *Reserve Bank of India Occasional Papers*, *34*(1), 1-36.

Maurya, R., & Singh, B. P. (2017). Nexus of Economic Growth and Public Expenditure in India. *Indian Journal of Economics and Development*, *13*(1), 165-170.

Mohanty, R. K., & Bhanumurthy, N. R. (2018). Assessing public expenditure efficiency at Indian states. *National Institute of Public Finance and Policy, New Delhi, NIPFP Working Paper*, *225*.

Motkuri, V., & Revathi, E. (2020). Private and Expenditure on Education in India Trend over last seven Decades. Research Cell on Education (RSEPPG) Centre for Economic and Social Studies (ICSSR, Ministry of Education, Government of India), 1-11.

Purohit, B. C. (2014). Efficiency of social sector expenditure in India: a case of health and education in selected Indian states. *Healthcare in Low-resource Settings*, *2*(1866), 26-34.

Tamang, P. (2011). The impact of education expenditure on India's economic growth. *Journal of International Academic Research*, *11*(3), 14-20.

Tasleem Araf, C. (2016). Trends, growth and Changing patterns of Public Expenditure on education in India. *Journal of Global Economics*, *4*(4), 1000226.

# Appendix

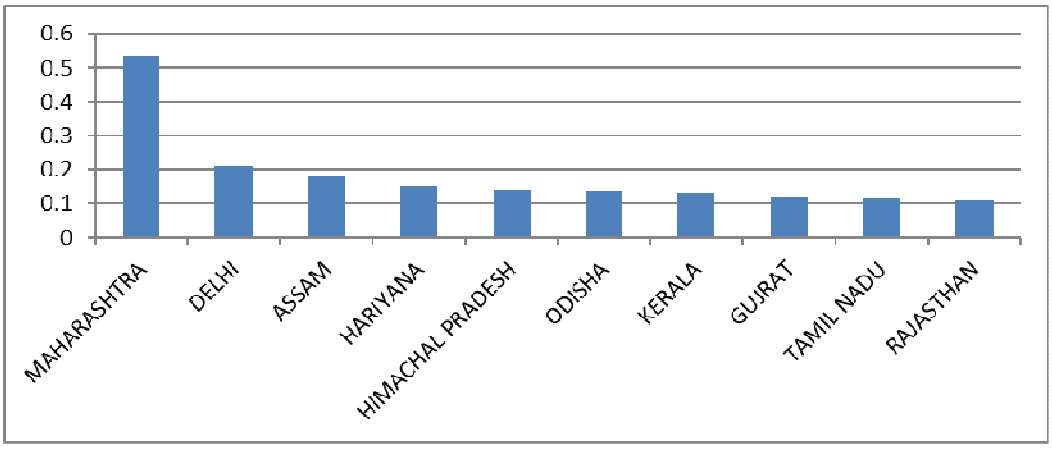
**Table 1: Growth of Public Expenditures in Selected Indian States**

| Year | ASS | DEL | GUJ | HAR | HP | KER | MH | ODI | RAJ | TN |
|---|---|---|---|---|---|---|---|---|---|---|
| 2002 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2003 | 0.411 | 0.533 | 0.139 | -0.042 | 0.037 | -0.222 | 0.231 | -0.329 | -0.279 | 0.102 |
| 2004 | -0.073 | 0.073 | -0.057 | 0.078 | 0.280 | 0.234 | -0.183 | 0.198 | 0.039 | 0.113 |
| 2005 | 0.021 | -0.322 | 0.045 | -0.061 | -0.258 | 0.111 | 0.122 | 0.183 | 0.101 | -0.149 |
| 2006 | 0.045 | 0.074 | 0.036 | 0.082 | 0.171 | -0.003 | 0.207 | 0.140 | 0.091 | 0.084 |
| 2007 | -0.020 | 0.382 | 0.060 | 0.201 | 0.079 | 0.035 | 0.257 | 0.239 | 0.015 | 0.076 |
| 2008 | 0.465 | 0.186 | 0.093 | 0.827 | 0.192 | 0.121 | -0.040 | 0.204 | -0.051 | 0.079 |
| 2009 | 0.205 | 0.521 | 0.200 | -0.057 | 0.147 | 0.234 | 0.161 | 0.138 | 0.243 | 0.330 |
| 2010 | 0.033 | 0.627 | 0.226 | 0.444 | 0.266 | 0.051 | 0.079 | 0.547 | 0.563 | 0.237 |
| 2011 | 0.680 | -0.164 | 0.401 | 0.112 | 0.349 | 0.289 | 0.607 | 0.442 | 0.111 | 0.375 |
| 2012 | 0.095 | 0.215 | 0.160 | 0.110 | 0.102 | 0.274 | 0.001 | -0.124 | 0.072 | 0.048 |
| 2013 | 0.199 | -0.073 | 0.140 | 0.056 | 0.427 | 0.197 | 0.435 | -0.064 | 0.661 | -0.054 |
| 2014 | 0.062 | 0.381 | -0.039 | 0.082 | -0.112 | 0.191 | 0.213 | 0.301 | -0.005 | 0.284 |
| 2015 | 0.677 | 0.098 | 0.591 | 0.243 | 0.251 | 0.116 | -0.111 | 0.341 | -0.041 | 0.162 |
| 2016 | -0.328 | 0.384 | -0.042 | 0.063 | -0.124 | 0.050 | 0.094 | -0.081 | 0.141 | 0.018 |
| 2017 | 0.475 | 0.077 | 0.018 | 0.161 | 0.350 | 0.141 | -0.781 | 0.092 | 0.037 | 0.088 |
| 2018 | -0.022 | 0.365 | -0.002 | 0.085 | 0.078 | 0.302 | 7.228 | -0.058 | 0.014 | 0.049 |
| AAGR | 0.182 | 0.209 | 0.123 | 0.149 | 0.139 | 0.132 | 0.532 | 0.135 | 0.107 | 0.115 |

**Table 2: Rank of the selected Indian states**

| States | Rank |
|---|---|
| Maharashtra | 1 |
| Delhi | 2 |
| Assam | 3 |
| Haryana | 4 |
| Himachal Pradesh | 5 |
| Odisha | 6 |
| Kerala | 7 |
| Gujrat | 8 |
| Tamil Nadu | 9 |
| Rajasthan | 10 |

**Diagram 1: Rank of the States**



4

# Shere Khan: An Individual with Multiple Appeals

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**Abstract**

Very few big cats can really boast the charisma and the essence that tigers bear. Their enigma is exclusively owned by themselves. Alongside the conservation based factual renderings, tigers have frequently stepped in the aura and mindscape of the fictional world through the pens of several geniuses. Royalty, power, grace, charm– all the appreciative epithets come in a single breathe with the ultimate mesmerizing effect while depicting the tigers. This paper effort to unfold the several dimensions of the persona of one cult tiger character, who is quite intimately, associated with the readings of our childhood– the magnificent Shere Khan of Rudyard Kipling's *The Jungle Books* (1987). Perhaps the most interesting fact, which can eventually be found in Shere Khan's appearance, is that he is not only confined to the textual rendition of Kipling. It is natural to expect that he must have acquired certain authorial endowments in the text. But, a number of anime and film adaptations have been made on the text and, the character of Shere Khan finds different molds in disparate adaptations. Although he is an antagonist, his character sharply leaves a scratch upon the mind of the readers and the spectators, presenting him to be much justified. This presentation is all about the aim to venture out the relevance of a relevant political allegory and, also to estimate the argument that death and the sense of real martyrdom convey the appealing impressions, even justifying the profile of a so-called antagonist, keeping a balanced relevance with context of the current state of tiger conservation.

**Keywords**: Delineation, Antagonism, Allegory, Martyrdom, Tiger, Conservation, Reality

## Introduction

"Most of us would agree that a tiger is one of the world's most beautiful creatures. Sadly, in the wild it is threatened with extinction. […] But, is a tiger in a cage truly a tiger? I doubt it. To see the true essence and beauty of a tiger, you have to see it in the wild." (Attenborough) - Indeed, David Attenborough's words justify the royal charm that the tiger possesses. Several flavours can be unfolded regarding the aesthetic pleasure associated with a tiger. While the widely accepted admiration of tigers in history and culture for its unparallel beauty and strength, derived from its real existence, is one side of acquiring the taste of that flavor estimating it to the stratum of a deity; enjoying its presence on its own wild patch of ground is another one. And, having the essence of the transfigured version of tiger world in literary ambrosia, should be considered as a true aesthetic justice. Perhaps, there is no one who is not enamoured in his childhood by the mind-catching visualization of the tiger tales of fables and fairy tales. Tigers are fierce, they are fearsome. Deadly they are, dismounted to the nadir of a notorious man-eating demon – but, did our singular mind ever find them to be saviour? This is what Rudyard Kipling prompts us to reveal in the delineation of his ever enigmatic and deadly Shere Khan, the so-called antagonist of his *The Jungle Book* (1894). Drawing a general view of Shere Khan's character tends us to portray him as a villain, who appears in several stories of *The Jungle Books* (1987). "Mowgli's Brothers" however, is the first of the Mowgli stories of Kipling where we can find the first appearance of Shere Khan and the first impression that a reader acquires at a glance is that of a perfect antagonist, an evil incarnate with the signs of a sinister on his face and physique – "His mother did not call him Lungri [the Lame One] for nothing, […] He has been lame in one foot from his birth. That is why he has only killed cattle." (Kipling, Mowgli's Brothers 6) This is something what a wildlife enthusiast may call cattle-lifting in terms of behaviour. That is why, while analyzing the several sides of his character, relating the fictional traits with the realities would be a great excitement. Kipling craftily uses the two-fold mode of describing his characters. As the readers, our mass sympathy is gathered on Mowgli's side and we feel worried for his predicament but the so-called antagonism, which we are used to speculate from a general point-of-view, is at all a real animosity? Are the actions and words of Shere Khan truly antagonistic? That is what we

should and will judge keeping a logical balance of intertextuality of what is presented in literary form and what actually happens in the reality.

Close to the Kipling's textual version, is a Russian adaptation of the Mowgli stories of *The Jungle Book* entitled as *Adventures of Mowgli* in English, made in 1973, directed by R. Davydov. Here Shere Khan's persona finds its expression through the voice of A. Papanov in the main Russian version and in the English version, Scott McNeil lend his voice for Shere Khan. Perhaps this one bears a large proportion of exactitude with Kipling's work and it is here, where Shere Khan feels the guts to assert, "It is I, Shere Khan, who speak!" (Kipling, Mowgli's Brothers 9). In his first appearance during an arrogant conversation with Raksha when he comes to the wolves' den to snatch away the newly found infant considering him as his 'property'. A tiger's tone must be domineering in its appearance and Kipling had never failed to make the intonation of his supreme feline creation with the tone of a mighty autocrat, who does not care for *The Law of the Jungle*. Quite interestingly, an interrogation arises in our mind that why on earth the law of the jungle which renders the message to "Keep peace with the Lords of the Jungle – the Tiger, the Panther and the Bear" (Kipling, How Fear Came 159) and, places the tiger at the top of the hierarchy, is itself disobeyed by the utmost lord himself? Is it a whim on part of Shere Khan? We, perhaps, do not have an instant response against this but Shere Khan's personality tends him to act in accordance with his own will. So far as the depiction of the scenes is concerned, Davidov's version of the Mowgli stories represent themselves to be in the mold of a perfect ancient wilderness, where the entire jungle fears the tiger and, the tiger takes pride in his absolutism. Man is the unwelcome creature in the jungle and in everyone's eyes, he is the true destroyer. This view is more relevant if judged under the circumstances of the practical activities, performed in the real world. The acceptance of Mowgli in the midst of the jungle dwellers is an odd phenomenon. Except the wolf parents, Bagheera, the melanistic leopard and Baloo, 'the sleepy brown bear' (Kipling, Mowgli's Brothers), most of the wolves and the jackal called Tabaqui, Shere Khan's sidekick, were against this odd courtesy of familiarizing. Undoubtedly it is Shere Khan who firmly protests against Mowgli's inclusion to the pack and thus, he hints two strands for the welfare of the jungle – first of all, the human kind could be dangerous to the existence of the jungle and the second point was his personal animosity with the human beings. Cruel, cunning and intelligent, Shere Khan is fearless of most things except that he is a pyrophobe and also he is frightened by guns as we can observe him in such a mode in the Episode 14 of

a Japanese anime adaptation of *The Jungle Books* by Fumio Kurokawa when he withdraws himself after hearing the sounds of shooting outside the cave and, later on, he steps down in front of Hathi and Kaa's action. Admirably, in all the cases of submission, in spite of giving up, he maintains a gesture of lordship as if he spares the life of his targeted victim so that his weaker side cannot be exposed. However, we shall be discussing on the adaptation later on. In a common view, Shere Khan is disloyal to the laws of jungle but how can he be so, when the law itself asserts the prohibition of the man in the jungle saying : "Ye may kill for yourselves, and your mates, and your cubs as they need, and ye can; But kill not for pleasure of killing, and *seven times never Kill Man!"* (Kipling 160).

So, quite obvious it is that purchasing the man cub's life in an exchange of a life of a water buffalo which Bagheera killed for the welfare of the infant, is not justifiable as per the law. Had Shere Khan been nothing more than a steady protestor, the progression of the events would not have been dramatic and such notion conspicuously would have rendered him as a passive commoner in the jungle, not as an indomitable rebel what we actually find in him, much expected from his persona. The antagonism, however, is not a hypocritical one and that is why, when he goes on to insult the parents in the proverbial twist: "Each dog barks in his own yard! We will see what the Pack will say to this fostering of man-cubs. The cub is mine, and to my teeth he will come in the end, O bush-tailed thieves!" (Kipling 9). The Father Wolf said to the Mother Wolf in a gravely tone: "Shere Khan speaks this much truth. The cub must be shown to the Pack. Wilt thou still keep him, Mother?" (Kipling, Mowgli's Brothers 9). So, it seems the wolves are trying to patching up the law and order in a way or other, but Shere Khan does not prefer to patch up. If arrogance has to be considered as his flaw, then it is quite integral with his character, not a super added certificate. Arrogance marks his character and he appears in a contrasted spectrum so that the animosity with Mowgli can turn out to be more and more reflective. Once again, it should be affirmed that Davidov's version presents all before us keeping a justified affinity with Kipling's own endowment and this attitude is the key to the ethics of adaptation. In this connection, one mention must not be overlooked. The earliest animated version of Disney, entitled as *The Jungle Book*, released in 1967, which was directed by Wolfgang Reitherman and produced by Walt Disney is a less attractive one and a mere fabrication of the stories, meant for the children. Shere Khan's voice was effectively rendered by George Sanders. It may satisfy the audience of a common taste for animation but never fulfills the demands of an

informed spectator with a classy inter disciplinary taste. Shere Khan, here, is a mere villain with no plea for something greater. It is not a proper justice to the caliber of Kipling's crado. His penned character, regardless its darker sides, cannot be a merely aimless blood-thirsty creature. This version dooms the original spirit of a tiger and makes it a mere mafia.

If we turn our eyes to the natural wilderness of tigers, we have to lay emphasis much carefully on the provincial setting of *The Jungle Books* from diverse materials, we may come to know it is chiefly set upon the landscape of Seeone hills ofcentral India and this provincial setting tends us, the most of the modern readers to assume Pench Tiger Reserve and Kanha Tiger Reserve of the Indian state of Madhya Pradesh to be the zone of inspiration for Kipling – a place where he had never visited earlier.And this state is the "Tiger State" of India. Much of Kipling's setting of *The Jungle Books* displays a close affinity to the landscape of Amodagarh forest, the general corridor of Pench and Kanha. The Japanese anime adaptation of the Mowgli stories, directed by Fumio Kurokawa appeared on the screen in October, 1989 and consisted off a total of fifty two episodes. Originally, it was entitled as *Janguru Bukku Shonen Moguri* and in the English version by The Multimedia Group of Canada, it was entitled as *The Jungle Book : The Adventures of Mowgli*. We know this edition in a better fashion as a refined and classic Hindi version was made by National Film Development Corporation of India and the Hindi title track, written by Gulzar and composed by Vishal Bhardwaj, won the hearts of the audiences of all ages. This adaptation presented the work in a highly appreciable manner and, under the supervision of character designer Sadahiko Sakamaki, the playwrights, namely, Nobuyoki Fujimoto, Saburo Sekiguchi and Kenji Yoshida invented a host of new characters, who are not present in the main version of Kipling. Naturally, we find Shere Khan here, as a formidable opponent of not only Mowgli but also that of many other jungle dwellers in an authentic and ideological manner. In the Japanese version, Shigezou Sasaoka lent the voice for Shere Khan, whereas, in the English and the Hindi dubbing, it was lent by David Hemblen and Nana Patekar, respectively. Keeping a close affinity with the text, Shere Khan appeared with his deadly quest to find out Mowgli but gradually, his persona is sown with much complex thoughts and subtlety. He does not confine himself in a mere circle of human-tiger conflict. There lies profound background behind each and every character delineation of *The Jungle Books*. Besides the representation of Mowgli as a replica of Kipling's childhood, the theme of British imperialism is a key issue of *The Jungle Books*. Mowgli is allegorized and his

character typically represents the replica of the British rulers. Shere Khan, on the other hand, typifies the vibrant opponent against such undesired trespassing and critics and readers of varied ranges, from time to time, went on speculating him to be the replica of Mughal emperor Bahadur Shah II, unfavoured and disobeyed by his own subjects. Don Randal properly defines *The Jungle Books* as "Post Mutiny Allegories of Empire" (Randall 62). The tiger metaphor was repeatedly evoked during the Sepoi Mutiny to portray the mutineers as ferocious and bloodthirsty villains. In a *Punch* cartoon entitled the 'British Lion's Vengeance on the Bengal Tiger', for instance, a male lion representing Britain pounces on a Tiger preying on a white woman with a baby in her arms (*Punch* 33, 22 August 1857, pp.76-7). Kaori Nagai rightly states in the introductory section to *The Jungle Books*:

… in this context, the hunting of Shere Khan can be seen as restaging and rewriting of the suppression of the Indian Mutiny as an imperial myth, especially given that tigers in the nineteenth century symbolized the ferocious and untameable side of India. Mowgli's fight with Shere Khan becomes elevated into the eternal battle between Man and Beast, which, according to Hathi in 'How Fear Came', originated in the killing of Man by the first of the Tigers, just as the Indian Mutiny was always represented as British 'retaliation' against native atrocities. (xxxix)

Quite apt is the analogy is and to justify the requirements of the jungle, Shere Khan, in the particular adaptation which we are talking about, goes one step further to a stratum of educated politician. While the text and the earlier adaptations renders the famous kidnapping scene in "Kaa's Hunting" to be an attempt on the sides of *Bandar-log*, a trial to acquire the supremacy by having a superior in their troop. Dangerous are the monkeys indeed. "They have no law. They are outcaste." (Kipling, Kaa's Hunting 29). In Episode 14 of Kurokawa's anime adaptation, by contrast, it is none other than Shere Khan, who tactfully exploits the langurs to kidnap Mowgli simply in order to pull the thorn out his way. While the latest Disney motion picture adaptation of 2016 entitled as the same name of the Kipling's work, directed by Jon Favreau, estimates the former tactic, representing Louie, the giant orangutan as the king of the *Bandar-log*; the Netflix version, directed by Andy Serkis, entitled as *Mowgli: The Legend of the Jungle*, displays the latter strategy of kidnapping. And, to be quite frank, speculating a tiger as a plot maker is a delightful experience, perfectly suitable to the conspicuously political mindset and psyche of the big cat. In connection with this, another thing must be insightfully observed in Disney's film adaptation in 2016 that in one occasion, Shere

Khan turns out to be an old-school story-teller when he provides Raksha's offspring with a scrap of meat and compares Mowgli as unwanted and odd as a baby cuckoo is in the nest of a crow. The very same kind of menace is also repeated by him as we can see him providing the back up to Grizzle, the banished wolf, who is also known as Bunto in different versions, and Jaggu in the Hindi version, and his two companions. The ethics of adaptations allows the production house to generate new endowments and the Netflix version, alongside Davidov's and Kurokawa's version, truly justifies the true spirit of Shere Khan. Yes, he is opponent to Mowgli, but we cannot help suppressing our indomitable attraction towards his personality. In fact, Kurokawa's version should be considered to be the best one for we speculate Shere Khan in his true spirit of a rebel, a revolutionist, a rationalist, and, at the end, his appeals remain undone. In each case of presentation, his prime concern is oriented on Mowgli's upbringing in the jungle. He is spiteful of human beings. It is primarily outgrown from his childhood hatred for human. Quite noticeable it is, Kurokawa's adaptation does not portray Shere Khanto be born-lame contrasting the portrayal by Kipling! Rather, here is found to have been on his prime. He is fit, unscarred and graceful with all sorts of feline masculinity. Here, he is a deliberate cattle-killer in spite of blessed with all sorts of hunting abilities ever to be found in a tiger! This is ruthless but his ruthlessness is not unnatural. We may say, had there not been Mowgli, Shere Khan would not have been blamed at all. Furthermore, without Mowgli, he would not have found any exposure. That would not have shaped up this plot at all. To add more, here he manages to uphold himself as a massive offender against the Father Wolf too, who, in English version, is known as Alexander and in the Hindi version, he is quite affectionately named as Moti. Advancing to a much greater extension of revenge, he even kills Alexander and Mowgli and Alexander's own sons, later on in their riper days, kills Shere Khan as an act of fulfilling their revenge against the villain. Shere Khan was delivered with a nasty blow on his right hind leg from Alexander in the fight. Later, other injuries he receives including a piercing being made in his forehead after Mowgli attacks him with a long, narrow, sharp-edged rock; the wound over his left eye is again left by Mowgli slashing it with a knife in requital for slashing Mowgli's left thigh and harming one of his new human companions, leaving the tiger disfigured. Ultimately, Mowgli defeats and slays Shere Khan by stabbing him in his heart.

The death of Shere Khan is a common catastrophe to both Kipling's text and the adaptations. We find Shere Khan's final appearance in "Tiger-Tiger!" He "…needed no

more trampling. He was dead, and the kites were coming for him already." (Kipling, 'Tiger-Tiger!' 60). No one even thought of at least leaving him wounded. They just brought out the culmination in death, which we may illustrate as a satisfactory feeling of the demolishment of the demon. But, does destiny utter a proper justification to the demand of the lord of the jungle? We must not forget that his fierce nature, his arrogance and wrath are not super added resemblances but quite integral traits of his own character. He did whatever he preferred as right steps. How can he be the destroyer of rule when one of the langurs also utters that he kills to satisfy his appetite, not for the sake of pleasure? And, he did so. Shere Khan's death is consequential and necessary for the development of the plot. To bring out the self-styled justification that he inculcated, perhaps our combined sympathy is bound to reiterate the desired state of his living. But the truth is, had he not been killed, we would have felt him so deeply. He turns out to be a martyr, who, in a way or other, sacrificed his life for the sake of a greater cause of the jungle to keep it unfathomed by the human having no intention for self-glorification. But he fails to keep the jungle unfathomed. He, hence, turns out to be a modified and slightly minimized replica of Ravana in terms of the ethics and spirit, who fought against Rama with full justice. Shere Khan maintained a never-say-die spirit and delivered the last blow as far as practicable before embracing death. So impressive his character is that apart from the primary adaptations of *The Jungle Books*, Orlando Corradi, the renown Italian television producer written a secondary adaptation called *Simba: The King Lion* in 1995, blending some of the characters of Mowgli stories of *The Jungle Books* and Walt Disney's *The Lion King* such as Luri, Bagheera, Kaa, and Baloo are the characters drawn from the former and Simba and Nala (named as Farna in this version) are drawn from latter. Here also death defines Shere Khan's destiny but this adaptation, like that of Disney Animation, is suitable for the children audience. But, it is far more imaginative and connotative in its plot and appeal.

Shere Khan is neither abolished nor will be, because our strong demand of witnessing their life will keep them vibrant. But, quite ironically, tigers are displaying a role of a kind of martyr in a different sense of the word due to our overreached aspiration towards jungle. The defenders are becoming to be claimed a man-eaters, and they are suffering because of our menaces. Turning our eyes to reality, we can figure out a tiger called Ustad or RTR T-24 from Ranthambhore Tiger Reserve in the Indian state of Rajasthan, who, eventually had to be captivated in a zoo called Sajjangarh Biological Park due to a fake allegation of being man-eater. Ustad's menace was to kill Rampal Saini, one of the

forest guards as he encountered him in deadly proximity. Almost same is the case with Avni or T-1 of Yavatmal district of Maharashtra. The man-eating and killing a man for the sake of protection are not the same. Where Kipling had ended up the delineation of Shere Khan, we, the broadcaster of epistemology took up the duty of demolishing tigers disregarding the fact that thry certainly have their own demands and requirements. Drawing Kurokawa's version once again, where the jungle's law taught that "We are of one blood, You and I", we are simply denying that we are under the biological law of same sphere of existence. Thus, we are justifying the abolition of Shere Khans in a sarcastic way.

**References**

Attenborough, David. dir. (1998). *Tiger: The Hunted Majesty*. Dir. Mike Birkhead. Perf. Prod. Hugh Miles. National Geographic Television.

Kipling, Rudyard. (1987). How Fear Came. *The Jungle Book*s. Ed. Kaori Nagai. London: Penguin.

Kipling, Rudyard. (1987). Kaa's Hunting. *The Jungle Books*. Ed. Kaori Nagai. London: Penguin.

Kipling, Rudyard. (1987). Mowgli's Brothers. T*he Jungle Books*. Ed. Kaori Nagai. London: Penguin.

Kipling, Rudyard. (1987). Tiger-Tiger!. *The Jungle Books*. Ed. Kaori Nagai. London: Penguin.

Nagai, Kaori. (1987). Introduction. *The Jungle Books*. Ed. Kaori Nagai. London: Penguin.

Randall, Don. (2000). *Kipling's Imperial Boy: Adolescence and Cultural Hybridity*. Basingstoke: Palgrave Macmillan.

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# ICFAI UNIVERSITY TRIPURA

## NAAC ACCREDITED

Padmashree
**DIPA KARMAKAR**
Brand Ambassador, IUT

**AAA** RATING IN NORTHEAST INDIA BY INDIA'S BEST ENGINEERING COLLEGES 2020 CAREERS360

**AA+** RATING IN INDIA (EAST ZONE) BY INDIA'S (EAST ZONE) BEST LAW COLLEGES 2021 CAREERS360

**2** RANKED Top Engineering Colleges of Excellence (Govt. & Pvt) in India CSR - GHRDC Ranking 2021

**27** RATING 2020 Top 100 Engineering Colleges 2020 siliconindia

**32** RANKED BY INDIA TODAY MDRA Best Universities Survey 2020

**ICFAI GROUP**
**PIONEER OF MODERN EDUCATION SINCE 1984**

**ATTRACTIVE SCHOLARSHIP**

## *Our Mission..*

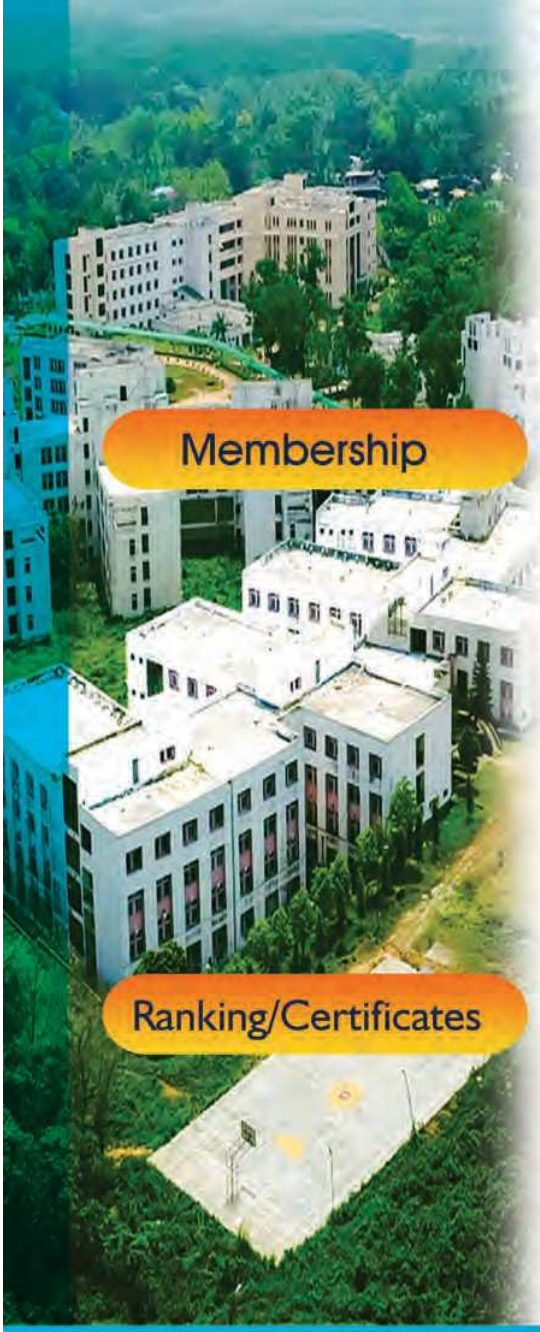
*The mission of the University is to offer world-class, innovative, career-oriented post graduate and undergraduate programmes through inclusive technology aided pedagogies to equip students with the requisite professional and life skills as well as social sensitivity and high sense of ethics.*

**Official Partners**

aws academy Member Institution | ORACLE | vmware

## About The University

ICFAI University, Tripura was established in 2004 through an Act of State Legislature (Tripura Act 8 of 2004). The University has been approved by the University Gants Commission, under section 2(f) of the UGC Act, 1956 and the University is empowered to award degrees under section 22 of UGC Act, 1956.



## Accreditations

- University Grants Commission (UGC)
- National Assessment and Accreditation Council (NAAC)
- Bar Council of India (BCI)
- National Council for Teacher Education (NCTE)
- Distance Education Bureau (DEB)
- Rehabilitation Council of India (RCI)
- Tripura Nursing Council (TNC)
- Indian Nursing Council (INC)
- MSME(HI/BI), Govt of India has recognised as Host Institute to Support for Entrepreneurial and Managerial Development of MSMEs through Business Incubators
- Established Skill Management & Accreditation of Training centre (SMART) recognised by Ministry of Skill Development & Entrepreneurship, NSDC, Govt of India.

## Membership

- Member of the Association of Indian Universities, New Delhi, India
- Member of the Association of Commonwealth Universities,London, UK.
- Member of Institute of Engineers (India)
- Members of Association of Management Development Institutions in South Asia (AMDISA)
- Registered Member with Department of Scientific and Industrial Research, Ministry of Science and Technology, Government of India
- Member of Confederation of Indian Industry (CII).
- Member of Vijnana Bharati.
- Member of Academy of Hospital Administration, Govt of India.
- National Cyber Safety and Security Standards (NCSSS)
- National HRD Network (NHRDN), Gurgaon
- Inter- University National Cultural Board (IUNCB)

## Ranking/Certificates

- Ranked 7th among the Top Engineering Colleges of Excellence (Govt. & Pvt) in India by CSR GHRDC- Engineering Ranking 2020.
- ICFAI University Tripura is ranked 32 by India Today- MDRA Best Universities Survey 2020
- Ranked 27 in the Top 100 Engineering College ranking survey 2020 and ranked 3rd in the Top 10 Engineering colleges 2020 region wise ranking announced by Silicon India.
- Department of Chemistry of ICFAI University Tripura Nature Index ranked is 82nd in India as on 25th April, 2020.
- Established 'Institute Innovation Council (IIC) as per norms of Innovation Cell, Ministry of MHRD, Govt. of India
- Registered with NGO Darpan, Niti Ayog, Govt. Of India
- Certified by ISO 9001: 2015
- Best Universities & Colleges 2018-19 awarded to ICFAI University Tripura in the special category by Rubber Skill Development Council (RSDC).
- ICFAI University Tripura certified by Directorate of Social Welfare & Social Education.
- ICFAI Univesity Tripura got AAA rating in Northeast India by Careers360 Magazine– India's Best Engineering Colleges 2020
- ICFAI Law School got AA+ rating by Careers360 Magazine among India's (East Zone) best law Colleges 2021

## Science and Technology Programs

- B.Tech (CE, ME, ECE, EEE, CSE)
- B.Tech (Lateral Entry)
- BCA
- Integrated MCA
- MCA
- M.Tech

## Basic Science Programs

- B.Sc (Hons) Physics
- B.Sc (Hons) Chemistry
- B.Sc (Hons) Mathematics
- M.Sc Physics
- M.Sc Chemistry
- M.Sc Mathematics

## Education Programs

- B.Ed
- M.A (Education)
- M.Ed

## Liberal Arts

- BA-English (Hons.)
- BA-psychology (Hons.)
- M.A (English)
- MA-psychology

## Nursing Program

- ANM (Auxiliary Nursing Midwifery )

## Allied Health Science Programs

- BSc. in Emergency Medical Technology
- BSc. in Cardiac Care Technology
- BSc. in Dialysis Therapy Technology
- Bachelor in Health Information Management
- Bachelor in Science in Medical Laboratory Technology (BMLT)
- Master of Science in Medical Laboratory Technology (MMLT)

## Management & Commerce Programs

- BBA
- B.Com (Hons.)
- MBA
- MBA (Rural Mgmt)
- MHA (Master of Hospital Administration)
- M.Com

## Law Programs

- BA-LLB (Hons.)
- BBA-LLB (Hons.)
- LL.B
- LL.M (2 Years)

## Special Education Programs

- B.Ed Spl. Ed (ID)
- D.Ed.Spl Ed (ID)
- M.Ed Spl. Ed (ID)

## Physical Education & Yoga

- B.P.Ed
- D.P.Ed
- PGD in Yoga
- B.P.ES
- B.P.ES (L)
- MPES

## Clinical Psychology Program

- M.Phil in Clinical Psychology

## Library Science Program

- M.Lib.I.Sc (Integrated) - 2 Year
- M.Lib.I.Sc - 1 Year
- B.Lib.I.Sc - 1 Year

## Certificate Programs

- French
- Data Science
- HR Analytics & HR Audit

## Programs Offered at ICFAI University Tripura

### Science and Technology

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| B. Tech ( CE, CSE, ECE, ME, EEE ) | 4 Years | Pass in 10 + 2 (Phy/Chem/Math) with minimum 45%, (40 % in case of SC/ST/ OBC)aggregate marks | 50,000 | 57,500 | IT,ITEs, Manufacturing,Companies, Corporates, Telecom, Banks, Govt. Services |
| B. Tech - Lateral Entry ( CE, CSE, ECE, ME, EEE ) | 3 Years | Pass in 3 - year diploma course with minimum 45 % (40 % in case of SC/ ST/ OBC) aggregate marks | 50,000 | 57,500 | IT,ITEs, Manufacturing,Companies, Corporates, Telecom, Banks, Govt. Services |
| BCA | 3 Years | Pass in 10 + 2 ( any Discipline) examination | 27,000 | 30,000 | IT,ITEs, Corporates, Banks,Govt. Services, NGO's. |
| Integrated MCA | 5 Years | Pass in 10 + 2 ( any Discipline) examination | 27,000 | 30,000 | IT,ITEs, Corporates, Banks,Govt. Services, NGO's. |
| MCA | 2 Years | Graduation in any discipline, with 40% and above aggregate marks. | 30,000 | 33,000 | IT,ITEs, Corporates, Banks, Govt. Services, NGO's, Research |
| M.Tech | 2 Years | Valid GATE Scorer with B.Tech /B.E in Civil Engineering or B.Tech /B.E in Civil Engineering with 60% marks | 60,000 | 65,000 | Research, consultant to Pvt. Organization in the field of flood forecasting, flood inundation, flood disaster management, Entrepreneur. |

### Basic Science

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| B.Sc. Physics (Hons.) | 3 Years | Pass in 10 + 2 with 40 % marks in Physics & pass in maths | 27,000 | 29,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |
| B.Sc. Chemistry (Hons.) | 3 Years | Pass in 10 + 2 with 40 % marks in Chemistry | 27,000 | 29,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |
| B.Sc. Mathamatics (Hons.) | 3 Years | Pass in 10 + 2 with 40 % marks in Mathematics | 25,000 | 27,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |
| M.Sc. Physics | 2 Years | Graduate with 45 %(40 % in case of SC/ST/ OBC) marks in Physics | 35,000 | 37,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |
| M.Sc. Chemistry | 2 Years | Graduate with 40 % marks in Chemistry from a recognized University | 35,000 | 37,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |
| M.Sc. Mathematics | 2 Years | Graduate with 40 % marks in Mathematics | 27,500 | 29,500 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |

### Liberal Arts

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| BA - English (Hons.) | 3 Years | Pass in 10 + 2 (any Discipline) with 40 % marks in English | 23,000 | 25,000 | Jobs in Govt., Teaching in Schools/Educational Administrators/ Corporate, Banks, Telecom, Media, Journalism |
| MA - English | 2 Years | Graduate in any Discipline with minimum 45 % (40% in case of SC/ST/ OBC) aggregate marks | 24,000 | 26,000 | Jobs in Govt., Teaching in Schools/Educational Administrators/ Corporate, Banks, Telecom, Media, Journalism/ Research |
| B.A - Psychology (Hons) | 3 Years | Pass in 10 + 2 (any Discipline) with 50 % (45% in case of SC/ST/ OBC) marks | 22,000 | 24,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |
| MA - Psychology | 2 Years | Graduate with 45 %(40 % in case of SC/ST/ OBC) marks in Psychology | 24,000 | 26,000 | Teaching in Schools/ Colleges/ Educational Administrator/ Corporate |

### Library And Information Sciences

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| B.Lib.I.Sc | 1 Year | Graduate in any discipline | 21,000 | 23,000 | School/ College/ University/ district/ State / National Librararies, Bank, Govt. Services, NGO's, Research |
| M.Lib.I.Sc- Integrated | 2 Years | Graduate in any Discipline | 21,000 | 23,000 | School/ College/ University/ district/ State / NationalLibrararies, Bank, Govt. Services, NGO's, Research |
| M.Lib.I.Sc | 1 Year | Graduate with B.Lib.I.Sc | 21,000 | 23,000 | School/ College/ University/ district/ State / NationalLibrararies, Bank, Govt. Services, NGO's, Research |

### Law

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| BBA-LLB Integrated | 5 Years | Pass in 10 + 2 with minimum 45 % (40 % in case of SC/ST, 42% in case of OBC) aggregate marks | 29,000 | 31,000 | Corporates, Banking, Judiciary, Legal Practice, NGO's IPR |
| BA-LLB Integrated | 5 Years | Pass in 10 + 2 with minimum 45 % (40 % in case of SC/ST, 42% in case of OBC) aggregate marks | 29,000 | 31,000 | Corporates, Banking, Judiciary, Legal Practice, NGO's IPR |
| LLB | 3 Years | Graduate in any Discipline with minimum 45 % (40 % in case of SC/ST, 42% in case of OBC) aggregate marks | 26,000 | 28,000 | Corporates, Banking, Judiciary, Legal Practice, NGO's IPR |
| LLM | 2 Years | Graduate with LLB degree (Recognised by BCI) | 30,000 | 35,000 | Corporates, Banking, Judiciary, Legal Practice, NGO's IPR, Research |

D* = Domicile: Students from North East States (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim
ND**= Non-Domicile: Students from states other than North East states.

## Management & Commerce

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) (D)* | Program Fee Per Semester(Rs) (ND)* | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| B.Com (Hons.) | 3 Years | Pass in 10 + 2 examination in commerce or Science with 45% ( 40% in case of ST/ SC/OBC) marks | 25,000 | 27,000 | Banks, Financial Services, Corporates |
| BBA | 3 Years | Pass in 10 + 2 ( any Discipline) examination | 27,000 | 29,000 | Banks, Financial Services, IT, Insurance, Telecom, Corporates, Consulting Companies. |
| MBA | 2 Years | Graduate in any discipline with minimum 45 % (40 % in case of SC/ST/OBC) aggregate marks | 60,000 | 70,000 | Banks, Financial Services, IT, Insurance, Telecom, Corporates, Consulting Companies, Research |
| MBA (Rural Management) | 2 Years | Graduate in any discipline With minimum 45% (45% in case of SC/ST/OBC)aggregate Marks. Preference will given to the students having aca demic qualifications in agriculture and allied subjects. | 60,000 | 70,000 | Agribusiness Management ad Marketing, Rural Co-operatives, Micro Finance, Rural Banking, FMCG, Fertilizer / Pesticide companies, Food sector, NGO's, Consulting companies, Market Research |
| M.Com | 2 Years | B.com (Pass or Hons) from any recognized University/ Institution with 45% marks in aggregate Or equivalent grades. 5% relaxation will be given to SC, ST, and OBC candidates. | 26,000 | 28,000 | Banks, Financial service, Corporate, Tax consultants, Finance Advisor/Planner, etc |
| Master of Hospital Administration(MHA) | 2 Years | Graduate with 50% aggregate marks (Preference will be given to MBBS, BDS, BHMS, B.Sc Nursing, BPT, BAMS, B.Sc Allied Health Science, Veterinary Sciences & B.Sc Pharma) | 60,000 | 65,000 | Hospitals(Government /Private), NUHM, NRHM, NRLM, Healthcare consultancy firm, Hospitality industry, Medico-legal consultancy firm, Insurance sector (Government/ Private) |

## Allied Health Sciences

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | Career Prospects Employment Opportunities |
|---|---|---|---|---|
| Bsc. in Emergency Medical Technology | 4 Years | Pass in 10 + 2 (Science Discipline) with 45% marks in PCB (5% relaxation for SC/ST/OBC Candidates) | 35,000 | Opportunity in Government /Private hospital having ICU/ITU/Critical care unit, Demand in disaster management team for both state/central government, army/navy/airforce. Eligible for Post graduation courses. |
| Bsc. in Cardiac Care Technology | 4 Years | Pass in 10 + 2 (Science Discipline) with 45 % marks in PCB (5% relaxation for SC/ST/OBC Candidates) | 35,000 | Opportunity in Government /Private Hospitals in cardiology department, different cath- labs or diagnostic centers. Eligible for postgraduate courses. |
| Bsc. in Dialysis Therapy Technology | 4 Years | Pass in 10 + 2 (Science Discipline) with 45 % marks in PCB (5% relaxation for SC/ST/OBC Candidates) | 35,000 | Opportunity in Government /Private hospitals, NRHM, NUHM, NGO, clinics/healthcare setup offering dialysis treatment. Eligible for Post Graduation courses in dialysis. |
| Bachelor in Health Information Management | 4 Years | Pass in 10 + 2 (any Discipline) with 45 % marks (5% relaxation for SC/ST/OBC Candidates) | 35,000 | Opportunity in Government / Private hospitals, diagnostic centers, NRHM/NUHM, legal firms,Healthcare consultancy .Eligible for Post Graduate courses. |
| B.Sc. Medical Lab Technology | 4 Years | Pass in 10 + 2 (Science Discipline) with 45% marks in PCB (5% relaxation for SC/ST/OBC Candidates) | 26,000 | Opportunity in Government /Private hospital having ICU/ITU/Critical care unit, Demand in disaster management team for both state/central government, army/navy/airforce. Eligible for Post graduation courses. |
| M.Sc. Medical Lab Technology | 2 Years | Candidate must have passed degree, e.g. B.Sc. MLT/ B.Sc. Physiology/ Microbiology/ Biotechnology/ Biochemistry or equivalent B.Sc. Biosciences from a recognized University | 60,000 (D*)<br>65,000 (ND) | Opportunity in Government / Private sector, Lab Technician, Medical Lab Incharge, Research and Development Manager (Laboratory), Technical Officer etc. Can pursue research or can flourish in academics as well |

## Education

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) (D)* | Program Fee Per Semester(Rs) (ND)* | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| B.Ed. | 2 Years | Graduate or post graduate in any discipline with minimum 50 % (45 % in case SC/ST/ OBC) aggregate marks | 40,000 | 42,000 | Teaching in Secondary level |
| MA - Education | 2 Years | Graduate in any discipline | 17,000 | 19,500 | Teaching in Schools/Educational Administrators/ Research |
| M.Ed. | 2 Years | B.Ed. (1/2 years)/ B.EL.ED/B.Sc.B.Ed./ B.A B.Ed./ D.EL.Ed./D.Ed. with a Bachelors degree. 50% marks at all the levels | 48,000 | | Teaching in Teacher Education |

## Physical Education and Yoga

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) (D)* | Program Fee Per Semester(Rs) (ND)* | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| B.P.Ed | 2 Years | Graduate or post graduate in any discipline with minimum 50 % (45 % in case SC/ST/ OBC) aggregate marks | 22,000 | 24,000 | Jobs in Schools/ Colleges/ University , Physical Trainer |
| D.P.Ed | 2 Years | Pass in 10+2 or equivalent with 50% of marks in any stream | 20,000 | | Jobs in Schools/ Colleges/ Physical Trainer |
| PGD in Yoga | 1 Year | Any graduate | 16,000 | 21,000 | Yoga Teacher in Schools, Yoga Therapist/ Yoga Psycologist/ Yoga Inspector in MNC's, Health Club, Yoga Club |
| B.P.ES | 3 Years | Pass in 10 + 2 examination or equivalent from any recognised education Board/ University | 20,000 | | Jobs in Schools/ Colleges/ University , Physical Trainer |
| B.P.ES(LE) | 1 Year | Pass in two years diploma in Physical education | 20,000 | | Jobs in Schools/ Colleges/ University , Physical Trainer |
| MPES | 2 Years | Candidates must have passed with at least 50% marks for Gen/OBC and 45% for ST/SC category. B.PEd (4yrs. Integrated)/ B.PEd. (1yr or 2 yr)/ BPE (3yrs)/ B.Sc (Physical Education)/ BPES (3yr) | 30,000 | | Assistant professor/Physical director, Sport officer, Sports administrator in various colleges, NIT, IIT, state and central Universities. |

## Special Education

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| B.Ed. Spl.Ed. (ID) | 2 Years | Graduate or post graduate in any discipline with minimum 50 % (45 % in case SC/ST/ OBC) aggregate marks | 40,000 | 42,000 | Teaching in Secondary level and at special schools |
| D.Ed.Spl.Edu (ID) | 2 Years | Pass in 10 + 2 (any Discipline) with minimum 50% marks | 25,000 | | Special schools, Sarva Siksha Abhiyan/ Resource teacher in General School/ Integrated/ Inclusive setup |
| M.Ed.Spl.Ed(ID) | 2 Years | B.Ed. Spl. Ed (MR) / B.Ed. General with D.Ed. Spl. Ed (MR) with 50% marks (RCI). | 37,500 | | Professional preparation of teacher educators-engaged in continuous professional development of teachers |
| M. Phil in Clinical Psychology | 2 Years | M.A. / M.Sc_ degree in the Psychology with 55% marks in aggregate, Preferably with special paper in Clinical Psychology . | 70,000 | | Qualified professional & extensive inputs & widesp-read Clinical experience to acquire the necessary skills in the area of Clinical Psychology |

## Nursing Science

| Program | Duration | Eligibility | Program Fee Per Semester(Rs) | | Career Prospects Employment Opportunities |
|---|---|---|---|---|---|
| | | | (D)* | (ND)* | |
| ANM | 2 Years | Pass in 10 + 2 (any Discipline)examination | 40,700 | | Hospitals(Government /Private), NUHM, NRHM, NRLM, Healthcare consultancy firm, Hospitality industry, Medico-legal consultancy firm, Insurance sector (Government/ Private) |

## Certificate Program

| Program | Duration | Eligibility | Program Fee (Rs) |
|---|---|---|---|
| Data Science | 6 Months | Minimum graduation in Science or Engineering. | 25,000 |
| HR Analytics & HR Audit | 4 Months | Graduation with Computer Literacy | 35,000 |
| French | 6 Months | Minimum pass in 10+2 (in any discipline) | 15,000 |

# Campus Life

# Story of Success

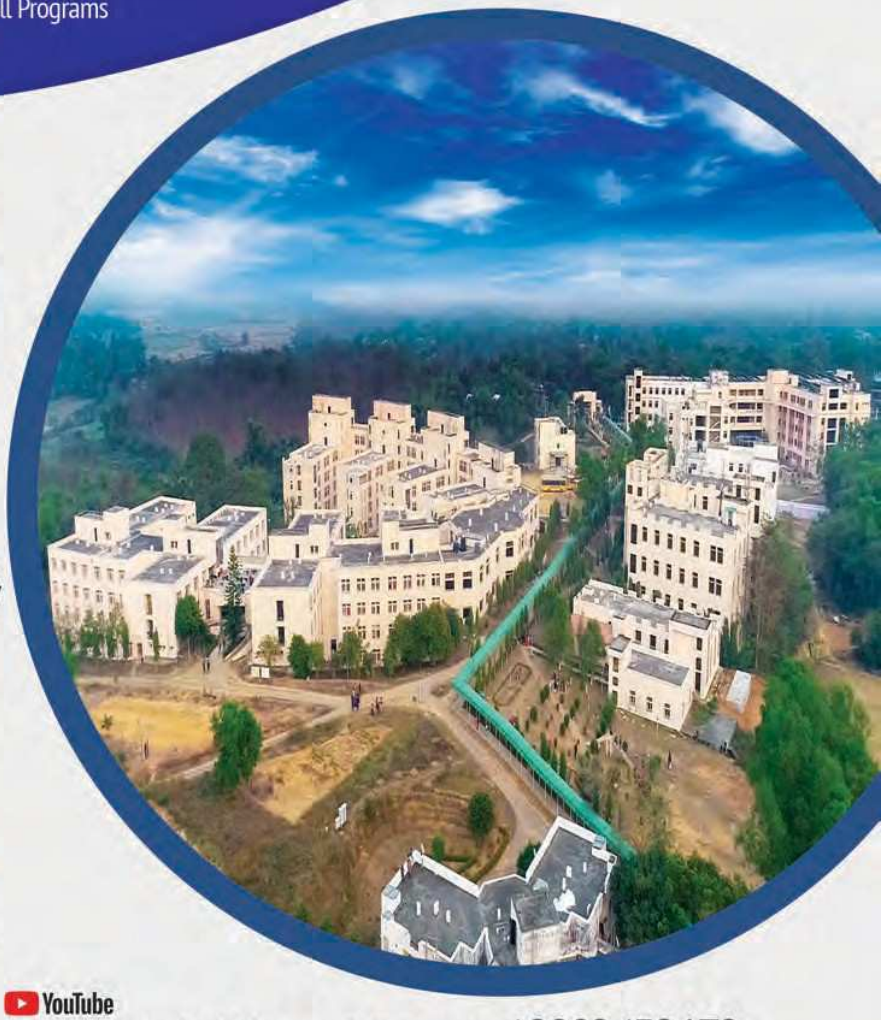
## Our Resources

Team of Experienced Faculty Members who are alumni of reputed institutions like IITs, IIMs, NITs, National Law Universities & other renowned Institutions.

- Wi-Fi enable Campus
- Smart Class Rooms
- Labs / Workshop
- Enriched Library
- Hostels
- Full Campus is Under cctv Surveillance
- Yoga
- Medical Centre
- Gymnasium
- Soccer Field
- Basket ball court
- 24 x7 Ambulance Service
- 24 hours Power Generator back-up etc.
- Full Campus is Covered by Jio wifi, BSNL wifi, ICFAI wifi
- Badminton court

## Unique Features

- Fee concession for students from North Eastern States
- N J Y Memorial Scholarships
- Merit Scholarships during Admission and also during study at University
- Signed MOA with IIT Bombay for setting up North Eastern Region Spoken Tutorial FOSS HUB at ICFAI University Tripura
- French & Chinese Language as Elective Course for all Programs
- Setup Virtual Lab in Collaboration with IIT, Delhi.



### ICFAI University Tripura

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### Agartala City Office

Colonel Chowmuhani, House no. 226797,
Palace Compound, Agartala -799001, Tripura (W), India
Ph: +91381-2329198, 7005302245

### Guwahati Office

Uma Bora Complex, 1st. Floor, Bora Service Bylane, G.S. Road,
Guwahati,Assam - 781007, Ph: 0361-2459686 / 9854116517

### Contact at Manipur

Uripok polem Leikai, Mahum Building 3rd Floor,
Imphal West, Pin- 795001, Manipur.
Ph: 7422916755, 8732878865

### Silchar Office (Assam)

2rd Floor of Gurukul Junior College, Arts & Commerce,
N.S. Avenue, Hailakandi Road,
near Gupta House (OppositeDas Colony), Silchar-788005
Ph: 8011177710, 76379 68599, 7002115455

### Kolkata Office

195, Canal Street,
Shreebhumi Bus Stop, Near Vivekananda Statue
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