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Making Dhaka a Walkable City: A Case Study on Dhanmondi and Gulshan Thana

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Abstract: The study was conducted with the objective to make Dhaka city walkable. Dhaka the ninth largest and the fastest growing mega city of the world by population, experiences immense congestion where 66% of pedestrians face trouble during walking. The following data collection methods are used in this study reviews of documents and literature, interviews, surveys and field observations. In this research the situation of walkability and the reasons behind the leading environmental problem of walking on a number of streets in the planned residential area was investigated. Originally conceived and designed for the high income groups of the society, the serene environment of residential areas are gradually disrupted by the invasion of commercial functions, which eventually degraded the overall livability of these residential areas. In brief, this research tried to reveal the walkability in the residential area, with the aim to ensure reduced system on traffic jams of Pedestrian streets and roads of Dhaka city. Research findings focus on abrupt open drains unpleasant smell from the drains, sewage and the city's polluted air discourage one to walk on the streets. Huge amount of pedestrians movement has been examined in the study area, most of them are nonresidents. In such a situation effort should be given in formulating policies to encourage local residents to be conscious while policies should also be there in convenience to the nonresident pedestrians and make them conscious as well. Conclusions and lessons learned from the study are presented and linked from concepts in the literature and findings. Recommendations concerning topics such as planning, management, stakeholder involvement, safety and source separation are suggested and future research directions are outlined.

Keyword: Walkability, Pedestrian, Streets, Pollution, Polices, Safety

Introduction

To improve the growing walkable roads and ease off traffic problems in Dhaka is currently supporting the development of Pedestrian and Bus Rapid Transit (BRT) corridor that will run between the Gulshan and Dhanmondi Thana of Dhaka city areas. It is anticipated that the pedestrian gong will carry up to 100,000 passengers daily along the 20-kilometer corridor. However, since a large proportion of trips in Dhaka are currently made on foot, the needs of pedestrians must be addressed if the BRT is to create a positive and efficient public transit experience. Walking is, in fact, a basic form of mobility in Dhaka and is an important component of almost every journey taken. When the BRT is fully operational, passengers will need to walk to and from the stations safely and comfortably. To ensure that the BRT corridor not only ease off traffic problems in Dhaka but also addresses the needs of pedestrians, this report presents a BRT Walk ability Strategy which provides policy and infrastructure recommendations aimed at creating an environment in which walking is appealing, safe, and convenient. The BRT walkability Strategy can be used as a model for other neighborhoods in Dhaka, as well as for other cities throughout Bangladesh, to assist decision makers as they strive to create safer and more convenient pedestrian friendly transportation options. The BRT walkability Strategy builds

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on the results of primary and desktop research, as well as extensive discussions with both policy makers and citizens. An observation and perception study was designed to generate a clearer picture of the actual and perceived problems faced by pedestrians in Dhaka and to identify and document the specific challenges that they confront. In May and June 2011, direct personal observations of pedestrian environments were conducted in Uttara, Airport, and Basundhara residential areas located directly along the proposed BRT Line. Observations were also made in Mirpur and Old Dhaka, as these areas would be served by a proposed World Bank-funded BRT line which will ultimately be connected to the airport Gazipur corridor. The study revealed that footpaths were often non-existent or in a very poor condition, while crossing streets is both difficult and dangerous. The observational study was complemented by a perception study of a random sample of 1,850 people and two focus group discussions. The perception survey was conducted among residents of and visitors to various locations in Uttara, Tongi, Gazipur, Mirpur, and Old Dhaka who were asked about how they felt about current street and walking conditions. In addition to complementing the observations made by the research team, these interviews were important to gauge people's perception of their walking experiences. The focus groups, held with mothers of school aged children and female garment workers, explored some of the perceived problems in more depth. The surveys and the discussions highlighted that walking in Dhaka is often neither safe nor convenient. A corresponding survey of 64 hawkers focused on identifying facilities and supports which could improve the pedestrian environment; it also highlighted the mostly unrecognized contribution that hawkers make to Dhaka's economic vitality and safety.¹

Objective

- To identify and define problems of walkable streets in Dhaka city.
- To reduce system on traffic jams of pedestrian streets and roads in Dhaka city.
- To improve walkable pedestrian streets and park roads in Dhaka city.

Importance of the Study

At the same time, there are still many cities in developing economies, such as in Bangladesh, where walking remains a key mode of getting around because it is free for low-income residents with limited transport choices. However, as economies develop, the car symbolizes progress and city planning changes to accommodate the rising number of private and commercial vehicles. Bangladeshi cities provide sobering examples of that change the ubiquitous bicycle has been replaced by spluttering cars and roads are choked with daily traffic jams and air pollution (Shumi et al., 2015). Many developing cities embody these problems of rapid urban development and motorization. Current challenges to the creation of a pedestrian friendly environment include a weak policy framework, an unsupportive infrastructure, and a transportation environment that are more focused on cars than on people.²

In the middle of the road just outside shopping mall, street and stuck, we observed it only halfway across Dhanmondi area, the broad boulevard in the northern neighborhood of New Market. Therefore, people wait on the median for vehicles. Gulshan area is native city, It is thought of own experiences. Bangladeshi cities can be impossibly cruel to pedestrians.³

Walking is an important mode of transport for the people in Dhaka. A large number of people walk here every day to go to their destinations and for coming back home. Problems regarding the walking environment not only affect the easiness and comfort of walking but also convey impacts on individual wellbeing, even in the planned residential areas of the city. Originally conceived and designed for the high income group of the society, the serene environment of Gulshan and Dhanmondi residential areas are gradually disrupted by the invasion of commercial functions. This phenomenon is more intensely observed along some of the major connecting routes of the city that forms the center or edge of these residential areas. Land use restructuring is taking place in these residential areas through densification. Large residential plots are subdivided and high rise residential and commercial buildings are making their way at an accelerated rate. Such high rise development is changing the streetscape and original flavor of Gulshan-Dhanmondi residential areas. Conversion of large plots into smaller sub-division is another phenomenon, which was neither expected nor planned in these residential environments. As such, these areas are losing the original aspect of design characteristics.¹

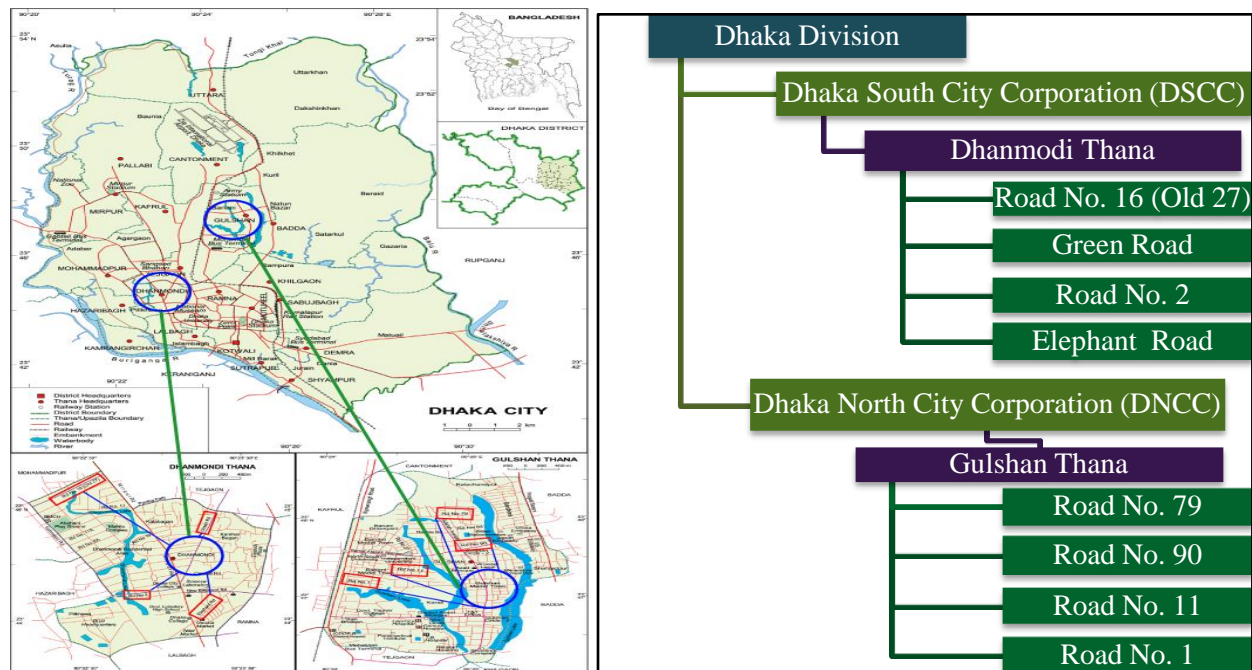
Methodology

The methodology of this study is based on mixed method approach the survey questionnaire, Key Informants Interview (KII), Focus Group discussion (FGD) and perception of respondent at Dhanmondi and Gulshan thana of Dhaka city. Following method cross sectional with taken random sampling, determinate total sample size 122. The questionnaire is prepared in the English and Bengali both languages, descriptive statistics has analyzed by SPSS Software.

Study Area

DSCC (Dhaka South City Corporation): Dhanmondi Thana is a residential area in Dhaka South City Corporation, Bangladesh. Dhanmondi is located in the Dhaka District of Bangladesh. It has 33451 houses and a total area of 4.34 km² and total population is 200706. The lakesidewalkway at Dhanmondi Lake is overlooked by the Rabindra Sharabar, an open-air amphitheater near the Road 8 bridges, where dramas, concerts, and various cultural programs are held from time to time by both amateur and professional artistes, especially during major festivals and holidays. There are restaurants and cafes all over the locality.⁴⁻⁵

DNCC (Dhaka North City Corporation): The Gulshan Thana comprises an area of 53.59 km², consisting of three wards (72, 73 and 74), 37 mouzas and 20 villages, including Gulshan Model Town, consisting of Gulshan circle 1 and circle 2, Banani Model Town, Baridhara Diplomatic Zone, and Mohakhali. 50% of the area is residential, 20% commercial, and 12% is diplomatic area. 18% land in Gulshan consists of other areas, including slums, of which the biggest is the Karail slum and Gulshan Lake. Apart from the urban areas, the 37 mouzas of Gulshan Thana also contain 20 villages. Flood water runoff flows into these water bodies practically turning these into buffer flood control reservoirs, except some pockets of transient water-logging.⁴⁻⁵



Source: <http://www.lged.gov.bd/ViewMap.aspx>; www.bangladesh.gov.bd

Figure-1: Showing Map the selected study area of Walkable Dhaka city.

Literature Review

Conceptualizing ‘Walkability’: Walkability is a part of livability component in promoting sustainable environment and creating a livable place. One of the important elements is to create a walkable environment in order to achieve livability in a city. Major city centers in the world have faced challenges in keeping the city safe and increase the residents’ health condition, economic stability as well as providing excellent transportation system and network.⁶



Source: Islam & Saiful, 2006.

Figure-2: Sustainability, Livability and Walkability connection

Livability is a part of the sustainability concept which consists of six different objectives and component. One of the objectives is to achieve the transportation sector’s goals such as promoting walkability, giving more accessibility and more transportation choice. Walkability is the extent to which the built environment is walking friendly. The key factors of walkability demonstrate walking activity, considering walking environment and walking behavior of users. A walkable community is more than a place where people walk; it is an environment in which people walk often, securely, and conveniently. Walking is an interactive mode of transport for

experiencing an adjacent environment and interacting with the society, which is not possible for other transport modes. Traffic congestion, environmental pollutions are emerging problems in many areas, which in turn are reasons of increasing urban sprawl. Walkability is defined as the measures of how friendly an area is to walking. It differs from walking, which is an activity while walkability is a measure.⁷

The Importance of a Walkability Strategy: The BRT Walkability Strategy envisions a city with a culture of walking. It envisions a city in which streets, parks, public spaces, and neighborhoods are accessible, secure, vibrant, and enjoyable so that people choose to walk more often. Walking does not harm the physical environment, it is free, it requires little infrastructure, it can save time, and it requires no fuel. As Dhaka's commercial streets depend on high levels of foot traffic, designing communities that facilitate walking will benefit local businesses. In addition, creating a walkable community along the BRT corridor will contribute to the success of public transit, as most transit trips begin and end with walking. Finally, supporting and building pedestrian-friendly environments will encourage people to choose walking as a regular mode of travel, creating lively streets and making the city more livable. In other words, walkable communities are livable communities. The transportation sector creates environmental problems when it prioritizes moving private automobiles rather than people. Space allocated to moving and parking cars and motorbikes means less space for housing, parks, schools, and playgrounds. Negative environmental impacts can be lessened by reducing vehicle kilometers travelled, encouraging active transportation, building communities that reduce the distances people must travel. Walking and cycling do not emit air pollutants, require significantly less space, and generate little if any noise. Walking and cycling are environment-friendly modes of transport. Low physical activity levels contribute to obesity, heart disease, diabetes, and other chronic health problems. Walkable communities are therefore safer and healthier communities. Transport and urban planning in Dhaka and surrounding areas are the responsibility of many separate departments, agencies, and international organizations whose work is not coordinated. No single body exists to oversee pedestrian issues. By engaging all of these organizations, the BRT Walkability Strategy could encourage and facilitate coordination.⁸

The Current Transport Situation in Dhaka: Walking in Dhaka: The vast majority of trips in Dhaka are done by means of foot, by rickshaw, or by public bus. Within the Dhaka City Corporation (DCC) area, 38.7% of primary trips are made by rickshaw, 28.5% by public bus, and 19% on foot. In the greater Dhaka Metropolitan Area (DMA) excluding the DCC itself, walking is the main form of transport, accounting for 37.2% of trips, followed by rickshaws (28.5%) and public bus (24.4%). In both areas, the percentage of trips taken by private car is very low: 5.2% in DCC and 3.8% in DMA (**Khan & Chowdhury 2014**). Land Use Diversity: Three-quarters of the observed roads had either a low or medium-volume of motorized traffic, which was reflective of the fact that eighty four percent of the analyzed segments were completely or primarily single use mostly residences. Almost no segments contained parks or playgrounds. This lack of mixed

use was identified as a problem by some perception survey respondents. Thirty eight percent said that a desired destination was “too far” to reach by on foot conveniently or safely.⁹

Footpath Availability in Dhaka city: A major factor in pedestrian deaths is the lack of good quality footpaths, as people are forced to walk on the road. A previous report notes that there are only about 400 kilometers of footpaths within the DCC area, compared to a road network of 1,293 km. ideally, footpaths should exist on both sides of a street; this suggests that Dhaka should have almost 2,600 km of footpaths. However, only 37% of observed roads had footpaths on both sides, and almost half had none at all.¹⁰

Footpath Quality in Dhaka city: Most of the observed footpaths were constructed of dirt and sand, materials which are inappropriate in a city setting as they become virtually unusable during wet weather. Almost three- quarters of the footpaths constructed of better materials were still of poor quality and likely to cause pedestrian injury. Only 18% of the observed footpaths were given a “good rating.” Surveyed pedestrians complained that the absence or poor quality of footpaths meant that they could not walk to their desired destinations. During focus groups, 62% of garment factory workers and mothers indicated that they would like to see wider, more level footpaths. The garment workers mentioned the often muddy pathways as a particular hardship when walking.¹¹

Dangerous Safety and Pedestrian's footbridge: Most dangerous places for pedestrians were on roads and at the sides of roads – precisely where pedestrians are often forced to walk due to absence, obstruction, or poor quality of footpaths. The most dangerous activities were crossing the road (46%) and walking along the road edge (35%). Only 3% of fatalities occurred at designated pedestrian crossings, suggesting that when pedestrian crossings - such as zebra crossings and signalized pedestrian crossings exist, they provide significant protection for the pedestrian. It became clear that most people were unaware of the types of pedestrian crossing aids available. Although some participants felt that the foot over-bridges increased safety, women and the elderly in particular identified them as being a serious obstacle to their movement by foot, particularly when they are unwell or tired, when they are wearing saris, when they have children with them, and/or when they are carrying bags or boxes.¹²

Facilities for the Disabled and Pedestrian Amenities: Virtually all of the roads observed during the study were inhospitable for people with disabilities. Few had curvilinear or curb cuts or were usable for a person in a wheelchair. Fifty eight percent of the perception survey respondents desired better facilities for those living with disabilities. At the same time, very few amenities (such as seating, trash cans, and public toilets) existed for pedestrians. The most common service amenity was the presence of vendors, observed in only 20% of the segments. Trees are also a very important pedestrian amenity as they provide shade and can provide a physical separation between pedestrians and traffic. Only 9% of streets position had many trees/dense tree cover, while 62% of streets had few or no trees.¹³

Analysis

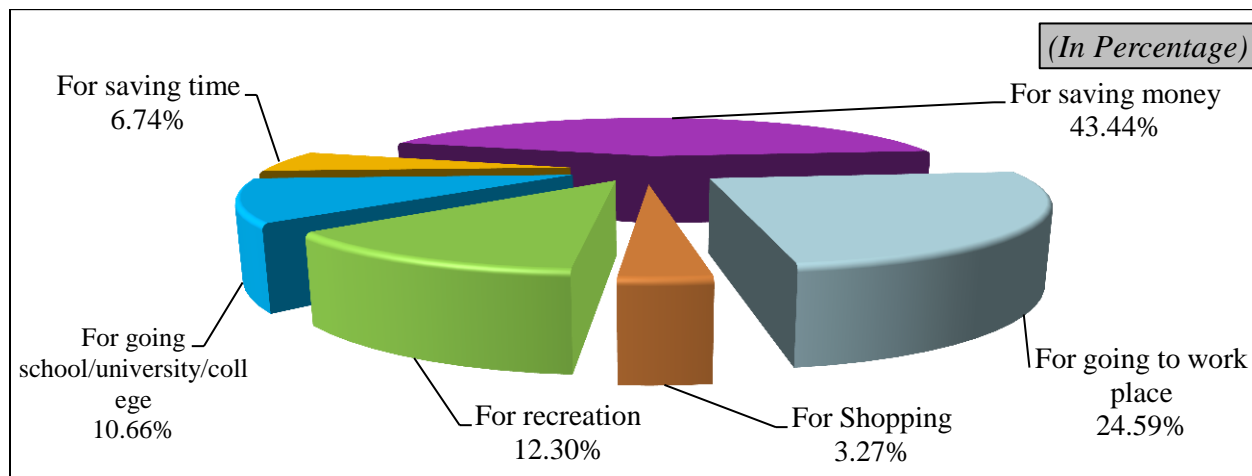
Descriptive statistical analysis is brief descriptive frequency that summarizes a given data set, which can be either a representation of the entire or a sample of a population. Descriptive statistics are broken down into measures of central tendency and measures of variability (spread). Questionnaire base total responders are 122 and calculate 100% data distribution system.

Table-1: Sidewalk Area is user friendly

Type	Frequency	Percentage
Dhanmondi	33	27.05
Gulshan	89	72.95
Total	122	100.00

Source: Field Survey, 2018

Table-1 shows that 27.05% of the respondents said that sidewalk user friendly in Dhanmondi area and 72.95% of the respondents said that sidewalk user friendly in Gulshan area.



Source: Field Survey, 2018

Figure-3: Purposes of using sidewalk

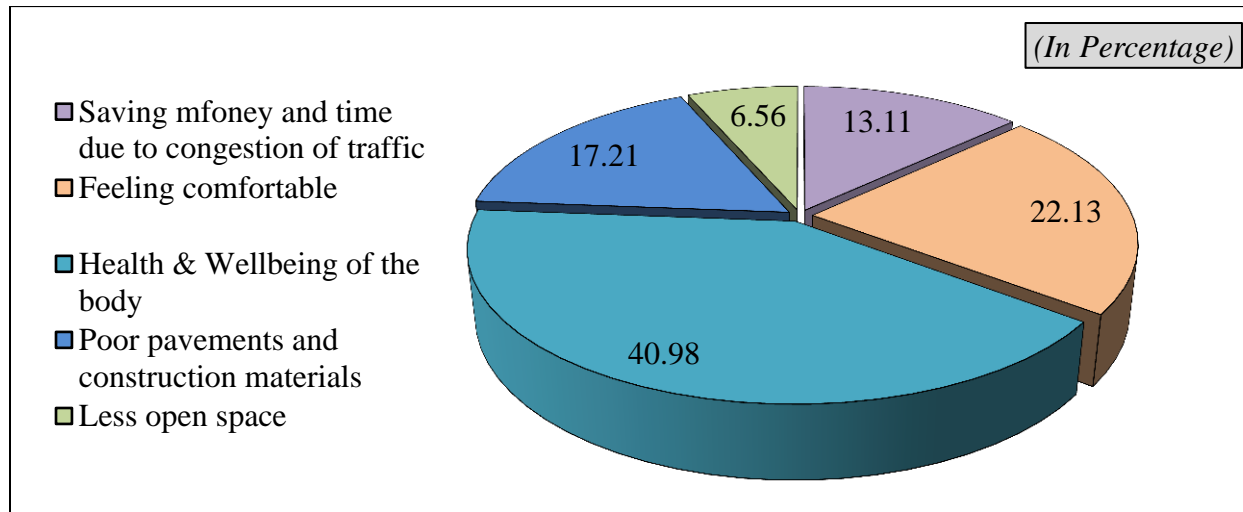
Figure-3 shows that about 12.30% responded use sidewalk for recreation, 10.66% responded use sidewalk for going school/university/college 5.74% respondents use sidewalk for saving time. 43.44% respondents use sidewalk for saving money 24.59% responded use sidewalk for going to work place and 3.27% respondents use sidewalk for Shopping.

Table-2: Reason for Sidewalk

Type	Frequency	Percentage
Unfinished side-walk	49	40.16
Discontinuity of sidewalk	15	12.30
Poor road surface condition	18	14.75
Bus counters	26	21.31
Untidy footpath	9	7.38
Other reasons	5	4.10
Total	122	100.00

Source: Field Survey, 2018

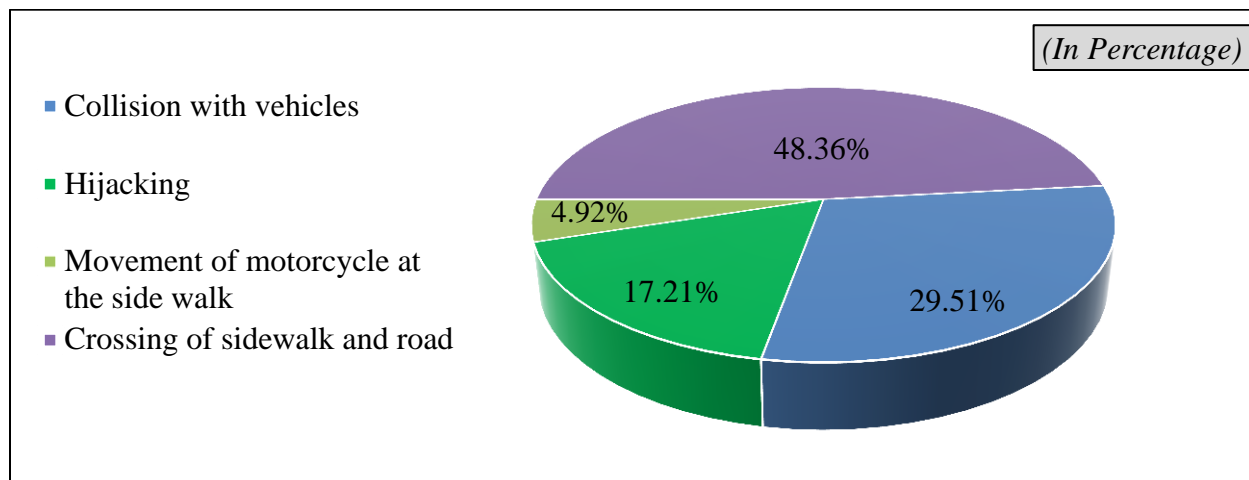
Table-2 exposes that about 40.16% the respondents use sidewalk because of unfinished sidewalk, 12.30% responded use sidewalk because of Discontinuity of sidewalk, 14.75% respondents use sidewalk because of poor road surface condition 21.31% responded use sidewalk because of bus counters 7.38% responded use sidewalk because of Untidy footpath and 4.10% responded use sidewalk because of other reasons.



Source: Field Survey, 2018

Figure-4: Use footpaths rather than transport

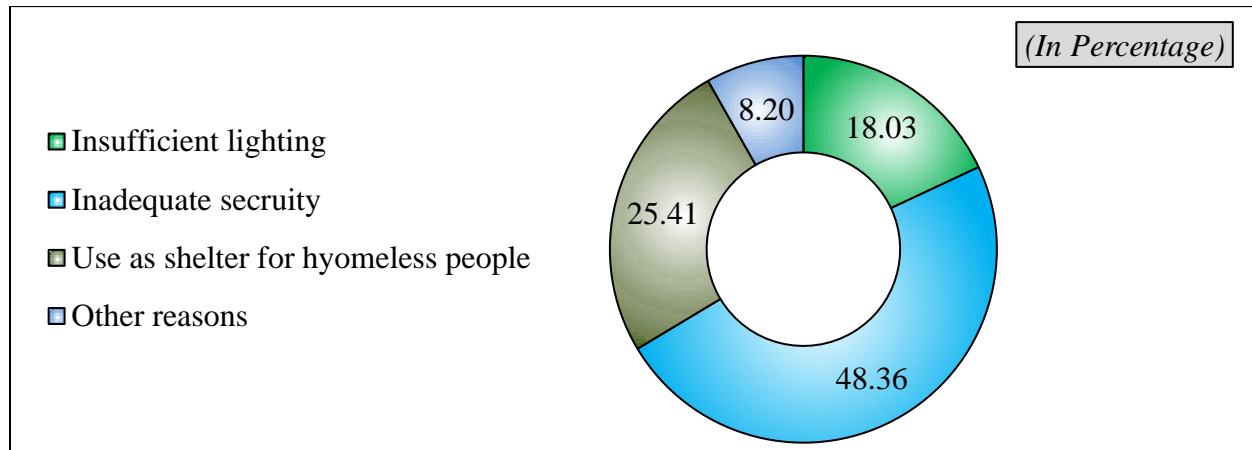
Figure-4 focuses that 13.11% of the respondents said that they use footpaths rather than transport for saving of money and time due to congestion of traffic, 22.13% of the respondents said that they use footpaths rather than transport because feeling comfortable, 40.98% of the respondents said that they Use footpaths rather than transport because of Health & Wellbeing of the body and 17.21% of the respondents said that they Use footpaths rather than transport because of poor pavements and construction material and 6.56% of the respondents said that they Use footpaths rather than transport because of less open space.



Source: Field Survey, 2018

Figure-5: Reasons of feeling threatened

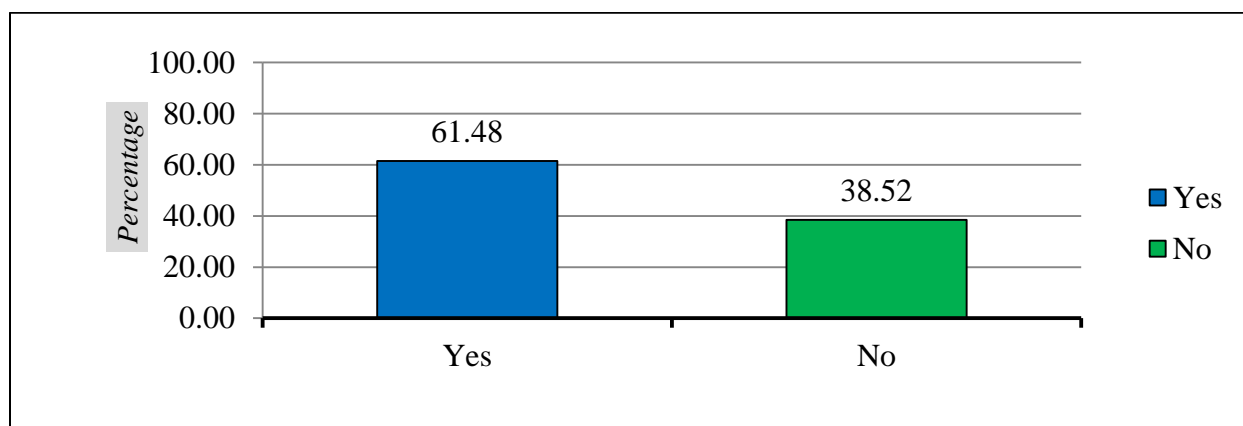
Figure-5 reveals that 29.51% of the respondents said that they feeling threatened because of collision with vehicles, 17.21% of the respondents said that they feeling threatened because of Hijacking .4.92% of the respondents said that they feeling threatened because of Movement of motorcycle at the sidewalk and 48.36% of the respondents said that they feeling threatened because of Crossing sidewalk and road.



Source: Field Survey, 2018

Figure-6: Reasons for feeling threatened at night

Figure-6 exposes that 18.03% of the respondents said that they feeling threatened at night because of insufficient lighting, 48.36% of the respondents said that they feeling threatened at night because of inadequate security.25.41% of the respondents said that they feeling threatened at night because of use as shelter for homeless people and 8.20% of the respondents said that they feeling threatened at night because of other reasons.



Source: Field Survey, 2018

Figure-7: Now a day, motor cycle crosses the sidewalk and its big problem

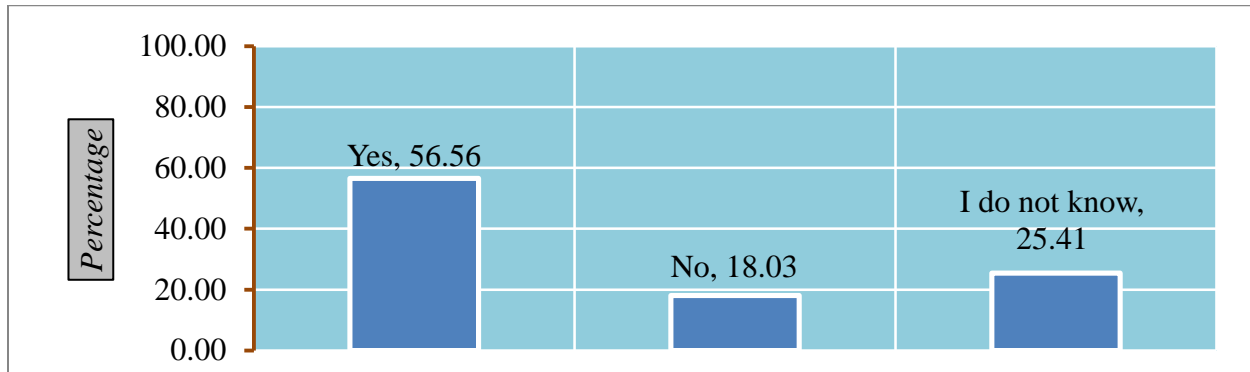
Figure-7 shows that 61.48% of the respondents said that motor cycle crosses the sidewalk is a big problem and 38.52% of the respondents said that motor cycle crosses the sidewalk isn't a big problem.

Table-3: It is important to make this city walkable

Type	Frequency	Percentage
Yes	95	77.87
No	27	22.13
Total	122	100.00

Source: Field Survey, 2018

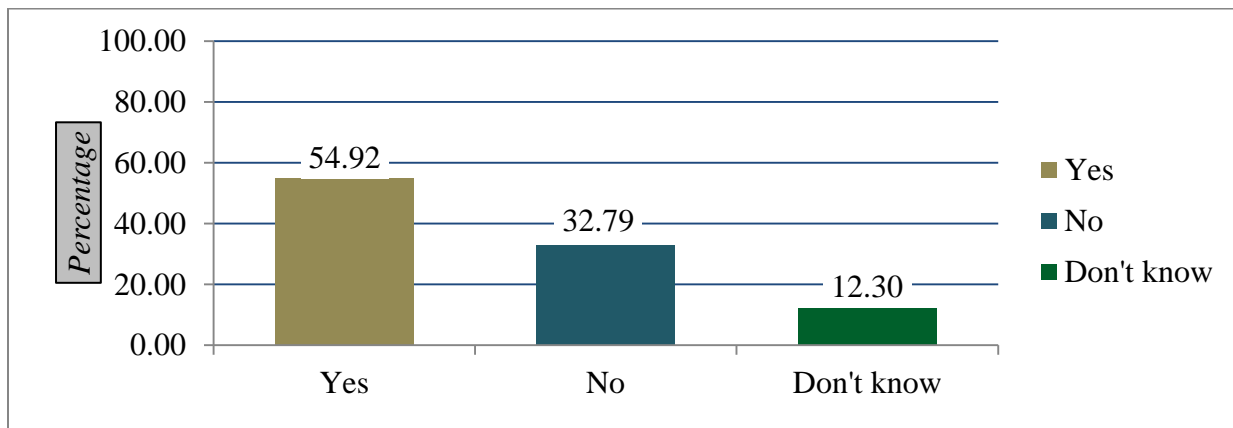
It is noted in the table-3 that 77.87% of the respondents said that It is important to make this city walkable and 22.13% of the respondents said that It is not important to make this city walkable.



Source: Field Survey, 2018

Figure-8: It is possible making Dhaka city walkable

Figure-8 reveals that 56.56% of the respondents said that It is possible to make Dhaka city walkable 18.03% of the respondents said that It is not possible to make Dhaka city walkable and 25.41% of the respondents said that they do not know about this.



Source: Field Survey, 2018

Figure-9: Pedestrian, do you have any idea about to make this city walkable

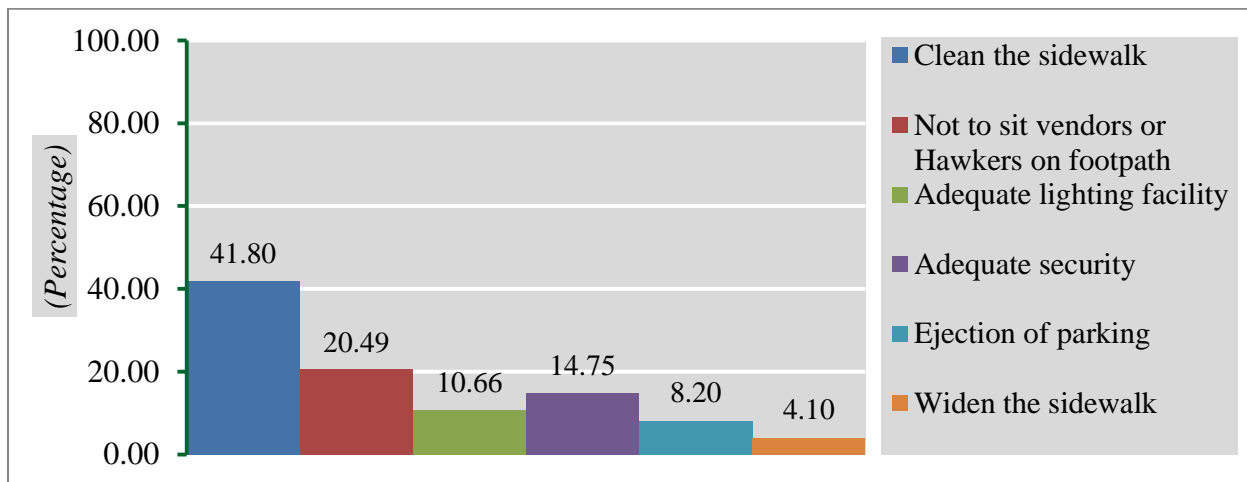
Figure-9 shows that 54.92% of the respondents said that they have idea about to make this city walkable, 32.79% of the respondents said that they do not have idea about to make this city walkable and 12.30% of the respondents said that they do not know about this.

Table-4: Initiatives should be taken

Type	Frequency	Percentage
Enhancing the width of the footpath	48	39.34
Improving the surface condition	21	17.21
Maintaining a clean footpath	17	13.93
Removal of street hawkers	13	10.66
Improving street lighting	8	6.56
Improving security	10	8.20
Other measures	5	4.10
Total	122	100.00

Source: Field Survey, 2018

Table-4 exposes that 39.34% of the respondents said that Initiatives should be taken Enhancing the width of the footpath, 17.21% of the respondents said that Initiatives should be taken Improving the surface condition, 13.93% of the respondents said Initiatives should be taken Maintaining a clean footpath, 10.66% of the respondents said that Initiatives should be taken Removal of street hawkers, 6.56% of the respondents said that Initiatives should be taken Improving street lighting and 8.20% of the respondents said that Initiatives should be taken Improving security and 4.10% of the respondents said that Initiatives should be taken Other measures.



Source: Field Survey, 2018

Figure-10: Initiatives should government take in this regard

Figure-10 shows that 41.80% of the respondents said that government should take initiatives in Clean the sidewalk, 20.49% of the respondents said that government should take initiatives in Not to sit vendors or Hawkers on footpath, 10.66% of the respondents said that government should take initiatives in Adequate lighting facility, 14.75% of the respondents said that government should take initiatives in Adequate security, 8.20% of the respondents said that government should take initiatives in Ejection of parking and 4.10% of the respondents said that government should take initiatives in clean the sidewalk.

Discussion

General Interview: Walking makes citizens fully part of the city and of the urban space. As survey data in the pedestrian comment presented it “Walking is one of the most democratic and equitable ways of getting around, but it’s also one of the ways most linked to factors outside an individual’s control, like social or physical abilities and the presence of infrastructure to walk comfortably and safely.” Razia Sultana (37 years), said "Bangladesh pay attention to a walk time smoking public place have government law but public abide by roles but not enforce Bangladesh police".

Key Informants Interview (KII): Though 93% of the total population in Dhaka walks or uses public transit or bicycle, our transportation system has been established focusing private cars. The present number of cars in Dhaka is above 3 lakhs. In Dhaka every year the amount we lose because of traffic jam is 23,000 crore taka. And a huge number of cars are polluting environment causing deaths of above 15,000 people each year (WHO). So illegal parking on roads and footpaths should be stopped to reduce traffic jam. Dr. Mohd. Abdul Matin, General Secretary, Bangladesh Poribesh Andolon (BAPA) on shows that there 16 points of illegal parking only in 1.5 kilometer road. Punishment for this kind of activity is mentioned in our laws but we cannot see any enforcement.

Md. Motlubor Rahman, Police Inspector (Investigation), New Market thana said while moderating that, Dhaka Structure Plan 2016-2030 has mentioned to build 10 new multi-storied parking infrastructure and 3 elevated expressway in the draft. Naznin Kabir, Environmentalist, Bangladesh Environmental Society, said that, High Court has writ a rule against illegal parking and hydraulic horn. Razia Samad, Executive Member, POBA, said that, private cars are a problem for the big cities. Talukder Rifat Pasha, Former Student, Dhaka University, said that, there are no facilities for the disabled people in Dhaka. They face a lot of problems while moving in the broken and uneven footpaths. Moreover, there is illegal parking. A convenient public transit should be ensured for them.

Focus Group Discussion: Two focus groups are taken in conducting research. Key person are selected from Dhanmondi and Gulshan area with the urban share of the Dhaka city. Population growth rate is approximately increasing 60% by 2050. The BRTA, LGED, RHD, BWDB and RAJUK are introducing a new tool to help governments, city planners and NGOs. The developers make cities more equitable, healthy, safe, and vibrant.

With a better global understanding of walkability, and more consistent and frequent measurement of the walkability of urban environments, decision-makers will be empowered to enact policies that create more walkable urban areas.

Findings

There are gaps in consistency of key features of the built environment associated with walking at Dhanmondi and Gulshan area-

- The city’s footpaths are often discontinuous. One cannot go from point A to point B by using one continuous loop footpath.
- Footpaths are often interrupted by vendors occupying the space.

- Walking has become difficult due to illegally stowed building construction materials overflowing dump steps, improper sewage disposal, and the establishment of dustbin on road.
- Abrupt open drains, rancid smell from the drains, sewage and the city's polluted air discourage one to walk on city street.
- The overcrowded footpath makes it virtually impossible to walk without bumping into a fellow pedestrian.

Recommendation

- To make city walkable, it is urgently need the combined efforts of the traffic engineer, the architect planner, the mayor, the policy maker the urban anthropologist and finally the good citizen.
- Very few service amenities exist for pedestrians.
- Strict fines are issued to anyone parked in a pedestrian or hawker spaces.
- Barriers should be eliminated to mobility for pedestrians with physical disabilities such as construct level footpaths or construct slopes for wheel chairs.
- All high and medium motorized traffic volume roads should have safe pedestrian crossings spaced every 100-150 meters to ensure comfort safety as compared to the foot over bridges.

Conclusions

Pedestrians are of vital importance to a city and yet face a wide range of obstacles to their safe, easy and convenient without first giving pedestrians the priority they deserve within both urban and transport planning. The BRT walkability Strategy provides the framework within which a pedestrian-friendly city that values walking can be created. Improving walking conditions throughout Dhaka should be given the utmost importance. The study also concludes that the method of waste management used depends on the size of the hotel, footpath restaurant, management vehicle, its target market and its level of operation. Making Dhaka walkable city can ensure sustainable development in DNCC and DSCC.

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Mirroring Shakespearean Tragedy through *Poetics*: An Evaluation.

Ali Akber*

Abstract: *Poetics*, the study of ancient Greek dramatic art, is Aristotle's unparalleled contribution to evaluate dramatic art even in modern literature. Here Aristotle gives a definition of tragedy and delves details into it. Aristotle suggests the purposes as well as manners of tragedy and gives a minute note of its structure. He sets rules for a tragic hero fit for an ideal tragic plot. He places tragedy before comedy and makes a wondrous comparison between tragedy and epic. On the other hand, William Shakespeare, the father of English drama, emblems English dramatic art contributing immensely to theatrical performances. His tragedies are considered his best creations where his true genius can be identified as incomparably matchless. Now, this paper makes an attempt to evaluate the major tragedies of Shakespeare on the basis of the rules set in the classical text '*Poetics*' by Aristotle.

Keywords: Tragedy, plot, chorus, tragic action, tragic flaw, unities, downfall.

Introduction: Aristotle (384-322 BC), mainly known as a philosopher of ancient Greek, is still regarded as one of the influential personalities contributing largely upon the extension of human knowledge. *Poetics* (335 BC) is his 'one of the earliest surviving works of dramatic theory'¹ which actually is regarded as the first literary theory about poetic and dramatic art. In *Poetics*, Aristotle gives detail accounts of the various aspects of a tragedy. He laid there 26 chapters where each chapter has the entitled aspect of a tragedy. The theory of mimesis is discussed in the first three chapters entitling the media, objects and manners of poetic imitation. Chapter four presents the origin and the development of poetic art while chapter five has comparative views of comedy and epic with tragedy.

The basic discussion on tragedy begins actually from chapter six where Aristotle defines tragedy and gives a detail note about the structural elements upon which a tragedy is built. Then he lays several chapters on the nature of an ideal plot for a tragedy. He sets ideals for a tragic hero in chapter thirteen and of other characters in the chapter fifteen. The rest of the chapters uphold other minor issues related to tragedy.

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It is well-known that William Shakespeare (1564 – 1616), an English playwright, has topless popularity as a dramatist over centuries throughout the world. He is widely known as the world's greatest dramatist.

His extant works, including collaborations, consist of approximately 39 plays, 154 sonnets, two long narrative poems, and a few other verses, some of uncertain authorship. His plays have been translated into every major living language and are performed more often than those of any other playwright.²

Of his 39 plays, nine are categorized as tragedies, eleven are as history plays, fourteen are as comedies and the rests are with controversial views. However, he is mostly known and acclaimed for his tragedies. Whether or not Shakespeare read poetics in translation he follows the classical tradition of the art of tragic characterization and seriousness of action to a great extent. However, he disregards some other Aristotelian rules such as, dramatic unities, stage effects, moral views etc. This article is an attempt to bring Shakespeare's tragedies under the frame set by Aristotle with a comparative judgment that how far Shakespeare follows the rule and how much he adds verities of his own.

Objectives: The objectives of this paper will be as following:

- i) To discuss the Aristotle's concept of tragedy as presented in *Poetics*.
- ii) To analyze the structure of Shakespearean Tragedy.
- iii) To clarify the points which Shakespeare adopts from Aristotle
- iv) To find and commend on the distinctions which Shakespeare innovates.

Review of Literature:

Poetics is Aristotle's valuable contribution to the world of literature and literary criticisms. There are ample literary productions based on *Poetics*. Significant among them includes: Landa, Garcí. *Aristotle's Poetics*, SSRN Electronic Journal, January 2004; Ananth, Mahesh, *A Cognitive Interpretation of Aristotle's Concepts of Catharsis and Tragic Pleasure*, International Journal of Art and Art History, December 2014, Vol. 2, No. 2, pp. 01-33; Daniel J. Campbell, *Aeschylus and Aristotle's Theory of Tragedy*, Loyola University Chicago, 1996 etc. Similarly much works are done on the tragedies of Shakespeare such as Britton, John, "A. C. Bradley as a Critic of

Shakespearean Tragedy" (1960). Dissertations. Paper 576. Bradley, A.C. *SHAKESPEAREAN TRAGEDY LECTURES ON HAMLET, OTHELLO, KING LEAR MACBETH*, UAS, 1957. Sipra, Mohammed, *Comparative Analysis of the Concept of Shakespearean Tragedies*. Advances in Language and Literary Studies ISSN: 2203-4714 Vol. 5 No. 1; February 2014. But there are very few comparative works between Aristotle and Shakespeare. So, it is highly hopeful that this study will open a new dimension.

Methods of Research:

The sources from which the research elements have been collected are of two categories i.e. (i) primary source and (ii) secondary source. Aristotle's *Poetics* translated by T.S. Dorsch, Penguin Classics, December, 1965, USA and *Shakespeare's Tragedies*, Create Space Independent Publishing Platform, Amazon, June, 2014, USA are regarded as the primary sources and all criticisms, reviews, interviews, articles etc. regarding *Poetics* and Tragedies of Shakespeare are considered secondary sources. The research will be carried out through extensive searches of materials in the library book shops, fairs, internet sources, independent analysis and scholarly arguments.

Poetics-Its Main Arguments: In *Poetics*, Aristotle compares tragedy to such other metrical forms as comedy and epic. He gives a wondrous definition of tragedy and suggests that it is a kind of imitation which he terms as 'mimesis.' To him it deals with a serious action and uses direct action rather than narrative form to achieve its ends. He defines tragedy in chapter six as-

'Tragedy, then, is a representation of an action that is worth serious attention, complete in itself, and of some amplitude; in language enriched by a variety of artistic devices appropriate to the several parts of the play; presented in the form of action not narration; by means of pity and fear bringing about the purgation of such emotions.'³

He emphasizes that the language of a tragedy should be enriched with various literary devices. The form of tragedy is not narrative like epic, rather it is completely based on dramatic action. To his words-‘by representing the characters performing all the actions dramatically’³. Finally, by catharsis, Aristotle means the sweeping away of the pity and fear. He compares tragic pleasure to the mental serenity just after the purging of extreme emotions aroused by the tragic action as tranquility prevails just after the turbulent storm.

The end of tragedy is Purgation of 'Catharsis' of the emotions. Aristotle says that tragedy excites pity and fear in order that 'by pity and fear we may affect the catharsis of such emotions. This, catharsis, Aristotle regarded as the function of tragedy.'⁴

Aristotle suggests six constituent elements for tragedy i.e. plot, character, diction, thought, songs and spectacles. He goes on to discuss the structure of an ideal tragic plot and spends several chapters on its requirements. To him, plot is the ‘ordering of the incidents’³ or ‘ordered arrangement of the incidents’³. The length of the plot is suggested to be ‘within a single revolution of the sun, or only slightly to exceed it’³

Moreover, the plot requires a single theme round which all the actions are logically connected with the purposes of demonstrating the change in the protagonist's fortunes and it must be on the dramatic causation and probability of the events. He adds ‘anything unnecessary should as far as possible be avoided’³ because ‘for beauty is bound up with size and order’.³

The aim of tragedy is not to represent just the complete action but the action that awakens pity and fear. The action should be chosen as such one which merely hearing will induce shuddering horror among the audience. He delves into deep and defines the kind of action that arouses pity in the mind of the audience. In chapter 14, Aristotle gives an outline of this-

Fear and pity may be excited by means of spectacles; but they can also take their rise from the very structure of the action which is preferable method and the mark of better dramatic poet. For the plot should be so ordered even without seeing it performed anyone merely hearing what is afoot will shudder with fear and pity as a result of what is happening as indeed would be the experience of anyone hearing the story of Oedipus.³

To him, ‘the tragic pleasure that is associated with pity and fear, it is obvious that this effect is bound up with the event of the plot.’³ Therefore, the action should be selected consciously for if a man injures or kills his enemy, it will not induce pity. He suggests that the involvement of the characters’ near and dear ones to one another as brother kills brother; son-father, mother-son or father-son will certainly sweeps a strong wave of pitiful emotion among the audience. Aristotle

shows the example of the murder of Clytemnestra by Orestes, Eriphyle by Alcmaeon, Medea's killing of her children and finally the terrible deed of Oedipus in ignorance of the relationship.

Again Aristotle dislikes showing the murder on the stage. To him- 'to produce the effect by means of spectacles is less artistic'³ because it will create hatred 'not of fear, but of something merely monstrous, have nothing to do with tragedy, for not every kind of pleasure is demanded of tragedy.'³ Aristotle classifies the tragic plot as simple and complex and suggests that complex action is better than that of a simple. He indicates that the complex plot is that in which the change of fortune comes with the twist of reversal and discovery. The twisting plot intensifies the tragic impression better.

Aristotle divides the structure of the tragedy into four parts i.e. prologue, episode, exode and choral song. The choral song is subdivided into parode and stasimon. The prologue includes the whole part that precedes the parode, the first appearance of the chorus. He demarcates the episode between the two complete choral songs. The rest of the parts which comes without following a choral song is defined as exode. About the importance of the chorus, Aristotle suggests in chapter 18- 'The chorus should be regarded as one of the actors; it should be a part of the whole, and should assume a share in the action, as happens in Sophocles, but not in Euripides'.³

Aristotle draws the distinction between tragedy and other genres like comedy or epic just based on the basic emotion 'pity and fear'. It is the tragic hero who arouses these feelings in the mind of the audience. Such hero is presented neither with extreme goodness nor with extreme badness but with the quality which the audience can identify themselves with. To him, the audience feels pity for characters feeling like themselves. If the hero is superior in some ways, the tragic pleasure is more intensified. Aristotle suggests some ideals for the tragic hero in the following ways in chapter-13:

The well-convicted plot will have a single interest, and not, as some says, double. The change in fortune will be, not from misery to prosperity, but the reverse, prosperity to misery, and it will be due, not to depravity, but to some great error either in such a man as I have described or in one better than this, but not the worse.³

Poetics introduces the hero more transparently-

This is the sort of man who is not conspicuous for his virtue and justice whose downfall into misery is not due to vice or depravity, but some error, a man who enjoys prosperity and high reputation, like Oedipus and Thyestes and other famous members of families like theirs.³

Thus, the catastrophe or the calamity upon the tragic hero is just due to his own mistake not for the planned heinous crime which according to him, will induce hatred not the sympathy. It is called tragic flaw which leads him to the downfall. It may be the error of judgment or ignorance. The downfall from the excessive pride is termed as 'hubris'. So, the hero suffers 'undeserved misfortunes'. In modern term he is 'more sinned against than sinning'. Thus, the audiences feel pity also because they feel that they could make same error or even more in that situation. 'Aristotle does not mean just any type of action, however, in his discussion of tragedy. He is referring to a change from happiness to misfortune that is the result of a mistake made by a person of good character (e.g. Oedipus).'⁵ Aristotle adds that 'pity is aroused by unmerited misfortune, fear by the misfortune of a man like ourselves'.³

Aristotle recommends four specific criteria for the creation of the characters fit for best tragedy in chapter-15:

First and foremost 'the characters should be good'.³ It is because the downfall of a bad character will never induce pity. Aristotle uses the goodness in simple term. To him there can be goodness in every class of people such as a woman or a slave. Secondly, 'the portrayal should be appropriate'.³ To Aristotle, every character should be portrayed with the traits appropriate to it. The manners and the moods should be in befitting ways. To him, it is totally inappropriate to present a woman with manly rigidity and a man with shyness. Thirdly, 'the characters should be lifelike'.³ Aristotle always suggests the playwrights to portray very natural characters with the likeness to the real world. The character with supernatural stature is suggested to avoid. He recommends not the angelic one but characters like us, vice and virtue together. Fourthly, 'they should be consistent'.³ To Aristotle, rigidity and consistency of the character is must for the tragedy. If the characters surrender or retreat from their own prejudices or confidence, the tragic effect will not be heightened. He clarifies saying that if the characters are portrayed with inconsistency; they should be presented as inconsistently consistent.

Thus, Aristotle gives the details of a successful tragedy with the tone of classical authority. His observation is minute and seems to seeking perfection. He prescribes for thematic, linguistic as well as structural devices of a tragedy.

On the other hand, William Shakespeare, the father of English drama wrote as many as nine famous tragedies i.e. *Romeo and Juliet*, *Julius Caesar*, *Hamlet*, *Othello*, *King Lear*, *Macbeth*, *Antony and Cleopatra*, *Titus Andronicus* and *Coriolanus*. The core list of nine tragedies can be

expanded to twelve if we include the history plays like Richard III and Richard II which were also regarded as tragedies in the days of Shakespeare. Though it will not be wrong if we say that Shakespeare created the model for the English tragedy, the question what qualifies the tragedy as Shakespearean tragedy is highly pondering one. Still there is something special about his tragic ideals which set them apart from the tragedies written by others. It is very difficult to attempt framing his work under a specific category. It is because in his every work of art, he is experimenting to create something new, marking a distinction from the previous one. Though he has been always successful in maintaining uniqueness, there are some common aspects which he tries to follow in most cases and that are here a matter of concern.

Shakespeare was highly influenced by the ancient Greek dramatists and the Aristotelian concept of tragedy. It is Aristotle who first defines tragedy. Though Shakespeare follows the basic concept of tragedy from the Greek master, he shows also his creativity which bears the testimony of his superb artistic genius.

Structure of Shakespearean Drama: Typically, the main structure of Shakespearean plays is a five act escalation. These are the following;

Act I: Exposition

Act II: Rising Action

Act III: Climax

Act IV: Falling Action

Act V: Denouncement/Denouement

The Exposition reveals the setting of the play and sometimes it highlights a theme and plays a vital role of providing the appropriate mood and atmosphere for the play. It also acts as a 'hook' engaging the audience. Shakespeare rarely introduces his tragic figure at this stage. In the rising, Shakespeare usually presents an incident that introduces the conflict and sets in motion the further action of the play. It works as inciting or exciting force functioning and grabs the attention that moves the play. In this stage, the tragic figure is presented suffering from a tragic flaw in character. As a result of this flaw, the hero makes error of judgment which we can see is directly responsible for his tragic downfall, leading to the catastrophe of the play. Climax is the turning point in the fortunes of the tragic protagonist. The consequence of 'hamertia' serving to compound the tragic figure seems more controlled by events than in control of them. The situation is here as the direct result of the hero's previous actions. Here it is evident that the event

is controlling the hero, not hero controlling the events. The protagonist's 'fatal flaw' is put into play, moving to an inevitable downfall. The falling action comes just following closely after the climax. This incident intensifies the downfall of the tragic hero and sets in motion the denouement of the play. It is actually a repercussion of the climax. The 'fatal flaw' presented here leads the character to a ready decision. This portion is also used to show the social chaos between characters even in nature.

Denouement is the final part where the death of the protagonist is shown. All of Shakespeare's tragic figures die and their deaths serve to give a note of finality to the tragic impressions. It is highly noteworthy that Shakespeare's tragedies never end with the death of the protagonist, rather there is always an introduction of a new social order, a new harmony in society. That is why they are not considered nihilistic or depressing.

Comparative Analysis: If we look at Shakespeare's plays through the mirror of *Poetics*, it is evident that Shakespeare absorbs things from Aristotle and there are aspects which he defies from the Greek master's set-ideals. Thus, Shakespeare builds his own pyramid of creativity. Aristotle suggests that a tragedy should deal with action which is highly serious in nature demanding full concentration. Shakespeare, in almost all of his tragedies, deals with serious action. Though his play *Romeo and Juliet* is romantic in nature, a tone of serious conflict pervades all the play and finally is pacified by deaths of the hero and heroine. In all other tragedies including *Julius Caesar*, *Hamlet*, *Othello*, *King Lear*, *Macbeth*, *Antony and Cleopatra*, *Titus Andronicus* and *Coriolanus* the actions are seriously connected not to the individuals only, but to the entire kingdom affecting the whole of the subjects or citizens together.

The language of Shakespearean tragedies is the reflection of the Aristotle's 'enriched by the verities of artistic devices'. Most of his dialogues are saturated with high musical quality. His pun or playing with words is highly artistic. His musical and artistic genius finds maturity in tuning his soliloquies. Adriana suggests 'most tragedies were written by Shakespeare in maturity, period in which an author has generally acquired experience and techniques as a composer, as well as language competence and awareness.'⁶ It is fact that Shakespeare has much unnecessary description. He used to love playing with words. Sometimes, the meaning becomes inscrutable to the general readers. Johnson Suggests 'in narration he affects a disproportionate pomp of diction and a wearisome train of circumlocution, and tells the incident imperfectly in many words, which might have been more plainly delivered in few.'⁷ He is an utter fan of quibble. 'A quibble was to him the fatal Cleopatra for which he lost the world, and was content to lose it.'⁷

Almost all of Shakespeare's tragedies are entitled by the name of the central characters. Aristotle prescribes that the hero of a tragedy is 'a man who enjoys prosperity and high reputation, like Oedipus and Thyestes'³. Following this sense, Shakespeare portrays his heroes with kingly status. King Lear, Antony, Julius Cesar, Macbeth were the rulers, Othello was a commander of Army, Hamlet was the prince of Denmark, Romeo is from elite family. Thus, almost all the tragic heroes of Shakespeare enjoy royal status as suggested by Aristotle.

Aristotle suggests that all the tragic heroes should have certain flaws which will lead them towards their downfalls. Shakespeare does never portray any angelic hero. His heroes are 'lifelike' having vices and virtues together. King Lear is portrayed with the error of judgment; Antony, with unnatural weakness for his beloved Cleopatra; Macbeth, with ambition for power; Othello, with suspicious mind; Hamlet, with procrastination etc. These flaws lead them towards their downfalls.

The feeling of pity and fear and the purgation of this pity and fear is termed as the tragic pleasure by Aristotle. We feel pity for the heroes of Shakespeare. The characters suffer more than they deserve. Though Macbeth turns into a merciless butcher, his final self-realization quite successfully draws the sympathy of the audience. Again, though Othello becomes a jealous killer, the audiences are convinced that he is just prey to the situation and Iago, a tricky villain. Thus, Othello also wins the very soft corner of the audience. According to Paul Epstein:-

The great tragedies of Shakespeare show the clarification of human individuality through a clarification of ends. A king or similar figure lives in an assumed finite realm; this awakens in him a subjectivity that would possess this realm. This reveals rather the total dependence of individuality on an absolute Good. In Hamlet and Lear, the hero then can find himself through the affirmation of family and state as instances of this Good and then in a death that overcomes the difference between these instantiations and their ground. The incapacity of Othello and Macbeth to live in these finite forms shows also their destruction as individuals.⁸

However, a genius like Shakespeare could not be tied to any prescription, be it Aristotle or whoever else. Shakespeare ignores maintaining the three unities i.e. unity of time, place, and action. Shakespearean tragedies encompass years and decades rather than Aristotle's 'single revolution of the sun'.³ He changes the setting from place to places rather than encircled within a single place like that of Oedipus Rex. Johnson detects 'to the unities of time and place he has shown no regard'⁷ His tragedies are like his comedies add multiple themes together. His plots are loose and cover many unnecessary characters as well as incidents. Unlike Aristotle's suggestion

of single act, he introduces five-act play again each act is subdivided into several scenes. He adds subplots, thus, destroys the unities of actions though critic like Samuel Johnson demands that he has maintained the unity of action. Johnson comments 'the plots are often so loosely formed, that a very slight consideration may improve them, and so carelessly pursued, that he seems not always fully to comprehend his own design.'⁷

Shakespeare adds comic elements in his tragedies so profusely that sometimes the seriousness of the action as suggested by Aristotle seems to be destroyed. Therefore, some of his tragedies and comedies are hard to categorize with the respective terms, rather they are identified as 'tragicomedies'. But to Johnson it is considerable as he opines 'the censure which he has incurred by mixing comic and tragic scenes, as it extends to all his works, deserves more consideration.'⁷

The Greek tragedies referred to by Aristotle are saturated with pagan religious thoughts of Greek mythology where fate rules supreme. Characters are represented there mostly as the puppets in the hand of fate. Whereas, Shakespeare's tragedies do not preach the religious sermons though there are slightly touches of Christianity. Shakespeare uses chance occurrences instead of fate. He does never preach 'what is lotted cannot be blotted', rather he presents his characters determining their fate by their actions. That is why it is said 'Shakespeare's character is destiny'.

The tragic heroes are committing venial, or forgivable, sins due to their passion removing their reason and ability to choose while the antagonists are committing mortal, or fatal sins that are unforgivable in their resolute excessiveness. It can truly be concluded then that Hamlet, Othello, King Lear, and Macbeth, all being robbed of their reason are truly victims of passion.'⁹

As it is discussed before, Aristotle suggests that action is the most important element in a tragedy and character is less important as there may be tragedy without character but no tragedy without action. In Aristotelian concept, action determines the character but not the character determines the action. In this regard, Shakespeare stands opposite to Aristotle. In Shakespearean tragedies, just the protagonist plays the most influential roles. In other words, all the actions in a Shakespearean tragedy centre round the protagonists.

Aristotle suggests that the tragedy shows just the downfall of the central hero from prosperity to misery. Shakespeare also shows the utter tragic dooms in almost every of his tragedies. Shakespearean tragedy may be called 'a story of exceptional calamity of hero and

heroine.’¹⁰ All the heroes including King Lear, Othello, Antony, Romeo, Macbeth, and Hamlet receive mortal dooms.

The tragic heroes of Shakespeare are all lovely figures. They have no friends. Even heroes’ wives and beloved have no favours of heroes. The hero dies and so does the heroine. Macbeth dies as does lady Macbeth. Romeo and Juliet die. Othello and Desdemona die. Hamlet and Ophelia die. Antony and Cleopatra die and Brutus and Portia die. The stage is littered with dead bodies.¹¹

Aristotle gives much importance on the use of Chorus, a group of elderly persons who sing together. They were used in Greek tragedies especially at the very outset to introduce the main characters, comment on the present and anticipate the future. They were used to fill the gaps between episodes maintaining unity of the time and action and finally they used to serve moralizing the consequences. Shakespeare never introduces chorus in any of his plays but sometimes he introduces fools playing an important role. It is called that Shakespeare’s fools are wiser than the characters. It is evident in *King Lear*.

To Aristotle, as it is discussed earlier, to arouse pity and fear by means of killing is less artistic. Aristotle highly discourages to show murder on the stage which according to him, will induce hatred and horrific disgust. Therefore, he suggests using narrative technique for those incidents as happened in *Oedipus Rex*. Shakespeare disregards Aristotle’s suggestions and shows all the murders happening openly on the stage.

Shakespeare, unlike classical authors writes just for pleasure following ‘art for art’s sake’ not ‘art for man’s sake’. None of his plays either comedy or tragedy preaches any moral lesson. It seems that he does never attempt so. He is an Elizabethan playwright introducing romantic norms. The neo-classical author Johnson says, Shakespeare sacrifices virtue to convenience, and issues much more careful to please than to instruct, that he seems to write without any moral purpose.’⁷

Shakespeare shows his uniqueness in the art of characterization. Unlike Aristotle’s suggestion of shorter canvas, Shakespeare introduces lists of characters. However, all of his characters are presented brightly with psychological complexity:

Shakespeare’s plays are full of conflicting thoughts, and expression is so convincing that it is not possible to plan a system of philosophy out of them. Each character, from the king to the clown, from the most highly intellectual to the simpleton, judges life from his own point of view and says something that is so deep and appropriate at the playwright’s versatility of genius. So is the case with the conception of tragedy.¹²

Like Aristotelian tragedy, Shakespeare's tragedies do not end with the final catastrophe or the death of the protagonist. Rather, he takes one or two more scenes to restore the order again. Thus, his falling action is slower than that of Aristotle's recommendation.

Now we may conclude saying that Shakespeare like the neo-classical authors does never blindly follow the Greek master Aristotle. He just maintains some ideals with which he feels comforts. He boldly leaves aside the suggestions with which he feels discomfort. Shakespeare maintains Aristotle's recommendations of serious actions, enriched language, central character of kingly status, tragic flaws leading the hero towards tragic doom, purgation of pity and fear etc. Again he also avoids Aristotle's prescription of unities, shows murder on the stage and avoids chorus. In many cases Shakespeare introduces subplots, presents story without morals etc. He seems to follow more Seneca, a famous ancient Greek tragedian, than Aristotle. About Senecan influences Sipra says:

Shakespeare in his earlier tragedies was, undoubtedly, influenced by Seneca but not in his major tragedies as *Macbeth*, *Hamlet*, *Othello* and *King Lear* but it is said that there would be no Elizabethan tragedy if there were no Seneca because Shakespearean themes are revenge, blood and thunder, rant and bombast madness, supernaturalism and sensationalism like that of Senecan plays.¹²

Finally, the two names Aristotle and Shakespeare figure prominently in any discussion of tragedies over the ages. One is a theorist, the other is a practitioner. Shakespeare, the best-known playwright in the world literature was not tied to any prescriptive rules. He made his own rule and inspires generations of writers to follow him while Aristotle will be revered as a classical genius.

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Comprehending English Lectures at Private Universities in Bangladesh: Problems and Way Outs

S. Jubair Al Ahmed

Abstract: The predominance of English language all over the world dignifies English language as the medium of higher education in the non-native countries like Bangladesh to an enormous phase. Academic listening, thereupon, has been one of the most important skills in order to comprehend the content information from the classroom lectures. But most of the learners, especially, of private universities in Bangladesh are debilitated in this exigent field. This paper ventures for identifying the reasons in the root through a surveying questionnaire, semi-structured interviews and focus group discussions (FGD) with participant learners, and for pursuing the possible way outs according to the capacities and resources in Bangladeshi EFL (English as foreign language) context. Implemented the proposed facets properly, listening skill will reach a level where learners prove them as world standard students.

Key words: English language, higher education, academic listening, comprehending lectures.

Introduction

“Teaching language as communication has become an accepted aim of the foreign-language teacher throughout the world. To most this has come to mean that we must teach our students to speak the language with some fluency and authentic idiom. What emphasized, however, is that communication is a process involving at least two people. Speaking does not of itself constitute communication unless what is said is comprehended by another person”.¹ So listening skill has a great value for communication purpose, and it becomes more valuable when the learners are involved in academic lectures since “English for academic purposes (EAP) in instructional settings require a higher level of listening skill”.² But it is a matter of regret that listening skill of a language is “a long – neglected area”.³ This scenario of English language, as English is learnt and taught as our foreign language, is very common and regular at every level of education in Bangladesh. This picture is crystal clear if we have an investigating look on every academic syllabus, examination modules, university admission tests and other public examinations. There is the prior emphasis on only reading and writing skills for academic purposes; speaking skill is, more or less, given importance for both, a little bit, academic, (class/project presentations, viva-voce etc.) and, to a great extent, career motives. This feature is very common from primary stage to the tertiary level of education. The learners face a great problem while they get admitted to the universities, especially private universities. Teachers in private universities are subject to delivering lectures through English language, and most of the learners are incapable of understanding the lectures. The author as a teacher is bitterly experienced in this aspect. This kind of problem, therefore, demands possible way outs as soon as possible as “it has been revealed that good listening comprehension contributes significantly to academic success”.⁴

Statement of the Problem

General problem:

- Out of the four skills of English language, listening skill is silently denied from the primary to tertiary level of education in Bangladeshi EFL context.

Specific problem:

- Most of the learners in private universities are incapable of comprehending English lectures.

Objective of the Study

This study has been accomplished in order to:

- find out the present condition of learners' capability of understanding English lectures
- know the emphasis on listening skill at their primary, secondary and higher secondary level of English education
- identify the problematic area(s) for which learners lag behind in listening skill
- seek way outs in order to strengthen learners in listening skill and comprehending English lectures.

Research Methodology

Because of the nature of this paper both qualitative and quantitative approaches have been adopted. Data have been collected through a surveying questionnaire from 41 learners of Honors first year first semester. They are the students of English department at Dhaka International University. Interviews and group discussion have also been conducted with the learners.

Literature review

Listening skill is significantly considered in second language acquisition (SLA) process. Several dozen of researches have been carried out focusing on listening, teaching listening modules, strategies of teaching listening, metacognition of listening, accents and pronunciations, challenges of academic lectures etc. by many researchers. For example, a study carried out by Goh finds out some significant factors affecting learners' listening comprehension. They include vocabulary, prior knowledge, speech rate, type of input, and speaker's accent. Goh's study shows that about 68% of interviewed learners are lagged behind in listening comprehension due to speaker's accent.⁵ Zarin suggests teachers "to select listening texts that are spoken by non-native speakers as teaching materials so that students can develop their listening skills and do not get demotivated".⁶ Rahimirad and Moini emphasize "various core academic activities like listening to teachers explaining courses and assignments or listening to classmates' questions, reports, and summaries, which are dependent on active listening comprehension skills".⁷ Since Bangladeshi

learners have not huge opportunity to be exposed to English listening experience, “some general listening materials and listening tasks,” Alam and Sinha consider, “must be included to provide exposure to the sound system of English. As recommended by most researchers, a variety of texts and tasks with lots of opportunity for practice is the best option”.⁸ But in the Bangladeshi EFL context, there is a research deficiency in the problem of comprehending English lectures at the private universities. The current study is an endeavor to fill this gap and eradicate this problem and seeking the possible best way outs for the learners at (private) university level.

Research Findings

To have a subtle look and vivid concept on the present scenario of listening comprehension and the emphasis on listening in various levels of education, every finding of the single question is shown in the table rather than the pie chart or column bar.

No of Items	Descriptions of the Items	Responses of the Participants		
		Agree	Disagree	Undecided
	Your classes are conducted using English language.	90.24%	7.32%	2.44%
	You understand English lectures thoroughly.	31.71%	65.85%	2.44%
	You faced listening test after you got admitted in the university.	56.1%	39.02%	4.88%
	Your listening proficiency was tested and you are grouped accordingly.	4.88%	92.68%	2.44%
	Your university has language laboratory from where you can receive listening assistance.	7.32%	90.24%	2.44%
	You heard English lectures in English classes at your primary, secondary and higher secondary levels.	53.66%	46.34%	0%
	You have listening activities at your primary, secondary and higher secondary levels.	26.83%	73.17%	0%
	Marks were allotted for listening skill in your primary, secondary and higher secondary curriculums.	2.44%	97.56%	0%

	You were well motivated to improve English listening skill.	75.61%	24.39%	0%
	You were provided with technological equipment for correct pronunciation and native like accent.	2.44%	97.56%	0%

Table 1: Questionnaire and findings

The table shows more than half of the university learners (65.85%) are incapable of comprehending teachers' lectures delivered in English language, and the learners (31.71%) understanding the lectures range in between 50 – 80 percent of the lecture. This very ratio comes out from the focus group discussion. Again the learners face a nominal listening test in the fundamental English language classes after they get admitted to university, but there is no next step to make them skilled by segmenting them according to their proficiency level as 92.65% learners consider so. Another common scenario the table mentions is that the concerned bodies of private universities are, somehow, unresponsive to providing listening-oriented language laboratory (only 7.32%). This picture is more miserable at the primary, secondary and higher secondary levels (only 2.44%).

The problem of comprehending English lectures lies not only in the systematic problem of the universities, but the educational policies of primary, secondary and higher secondary levels, to a great extent, are responsible for this. Though the finding shows the out of the 53.66% learners heard English lectures, to some extent, when they were at the secondary level/ college, but delivering lectures in English were totally depended upon the teachers' intention. And what is about the other two left levels is easily measurable. This very problem arises from the mechanism of syllabus design since there is no mark allotted for listening skill in the primary, secondary and higher curriculums as 97.56% learners has reported. The same percentage of learners has reported that they were not provided with technological equipment for correct pronunciation and native like accent.

Recommendations

If there is any problem or crisis in present time, it does not mean that the reason lies at the same time, rather reasons are prolonged phenomena that started long before. Prudential steps, this is why, should be carried out. The reasons behind the problems of uncomprehending English lectures at the university level spring out from the primary level to university level as well. The following recommendations may be appropriate way outs for the current listening situation at the tertiary level in Bangladesh.

- English syllabus designers should be concerned about the examination system and marks distribution in order to have a positive output. Equal emphasis on the four skills of English language (listening, speaking, reading and writing) must be given in teaching and learning, and

equal marks must be allotted for every skill of English language from primary level to higher secondary level, for example:

Exam Area	Marks
Listening	25
Speaking	25
Reading	25
Writing	25
Total	100

- English teachers of primary, secondary and higher secondary levels must be subject to teaching English through using English language, and for this, Primary Training Institution (PTI), National Academy for Educational Management (NAEM), Dhaka and University Grand Commission (UGC), Bangladesh respectively should provide (English) teachers with quality trainings on this so that learners become used to listening English lectures.
- Phonetics and Phonology course should be introduced to the English syllabi of primary, secondary, higher secondary and Honors first year so that learners have enough command of English sounds, accents, stresses, intonations etc. According to Vandergrift, “Listening comprehension is anything but a passive activity. It is a complex, active process in which the learner must discriminate between sounds, understand vocabulary and structures, interpret stress and intonation, retain what was gathered in all of the above, and interpret it within the immediate as well as the larger socio-cultural context of the utterance”.⁹
- Listening test should be included in the university admission tests and students may be grouped according to their proficiency range. It will help the language instructor commence the listening courses and practices as to the students’ competency level. According to Brown, “One very important idea for teaching listening is that listening courses must make use of students’ prior knowledge in order to improve listening comprehension”.¹⁰
- Every department should record every individual teacher’s lectures in the audio-visual format and newcomers would watch and listen to the lectures, gestures and style of expressions so that the freshers can have the primal idea of the teachers’ lectures and comprehend them easily.
- In the classroom, teachers should inform the students about the topic of the next class. It would help students gather some prior knowledge on the certain topic and understand the lectures comfortably.
- Teachers may give classes through bilingual method; she/he, firstly, should use English language (L2) and the same thing, then, should be translated into Bengali language (L1). The ratio of using English and Bengali language the teachers, at first, may maintain at about 50:50 (L2:L1), and it is wise to decrease the ratio gradually like 60:40, 70:30, 80:20, 90:10 and 100:00.¹¹ This very

strategy is empirically successful in the author's classroom teaching experience at the university level.

- Teachers should monitor how much of the lecture learners have comprehended through asking questions, making them repeat some information, setting them in a competition to derive points from the lecture and so on. It will help learners fully concentrate on the lecture, and concentration leads one to the comprehension.
- In this techno-modern era, the advent and application of technologies have immensely facilitated language teaching and learning. Classes should be held with the technological equipment like audio, video, Power Point presentation, and so on. The use of technology make students more motivated and attentive, and students can easily understand or infer the meaning from the visualisation lectures. As Jeremy Harmer said, "Exposure to language is a fundamental requirement for anyone wanting to learn it. Listening to appropriate tapes provides such exposure and students get vital information ... about pronunciation, rhythm, intonation, pitch and stress."¹² Harmer again said, "Video is richer than audio tape. Speakers can be seen. Their body movements give clues as to meaning".¹³

Conclusion

A classroom lecture at the university level is a cumulative asset of a teacher's experience, study, research, observation and so on. It is, generally, quite impossible on the part of the learners to gather this kind of quality information. Every lecture, therefore, is very much important for the learners. No single word or information, if possible, should be skipped, because these lectures pave the ways for learners' bright future. The recommendations proposed in this paper might be applied in the universities and other levels of education in order to have expected outcomes and successes in Bangladeshi EFL context. Teachers, nevertheless, should be dynamic and concerned about the application of appropriate theory, the development of careful instructional designs and strategies, and the study of what actually happens in the classroom teaching.

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Magic Realism in Syed Manzoorul Islam's *Sukh Dukher Golpo*

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Abstract: The present study is an attempt to explore the elements of magic realism in Syed Manzoorul Islam's *Sukh Dukher Golpo*. Islam is one of the remarkable pioneers of postmodernism and storytellers in Bangladesh. He has a special fascination for unusual happenings. In his writing, magic realism plays a vital role to develop the action of the story. He depicts both happiness and sorrows of the people with the touch of magical realism. *Sukh Dukher Golpo* obviously contains some magical elements and a dreamlike situation.

Key words: magic realism, happiness, sorrow etc.

Introduction

Sukh Dukher Golpo is the collection of twenty stories that scrutinize different incidents, emotions, dreams, hopes, frustrations, affections and deprivations of our lives sometimes with realistic touch and some other times with magical grandeur. His realism visualizes the common sights, the common emotions, usual sight of natural lives and his magical elements suggest the mastery hidden in them and both of which balance our lives among naturalism and supernaturalism in a marvelous way. In *Sukh Dukher Golpo*, magical elements are found in nine of the stories. In this article only three stories namely *Kathalkonna*, *Pathkuwa*, *Ellen Saheber Chokh* are presented critically. No works of such type on Syed Manzoorul Islam is found before. Hopefully this will satiate the demand of the readers.

The phrase 'magical realism' seems contradictory. One might wonder how something can be both magical and real at the same time. In Latin America, the continent from which the genre of magical realism originated, a certain amount of the population believes that anything can happen. In this way, magical realism is closely connected to the Catholic religion, which believes in miracles and other spontaneous and indescribable phenomena. So, simply 'magic realism' in literature indicates a masterful use of magical elements with realistic touch. In the world of magic realism, the narrator speaks of the surreal so naturally it appears real. Some definitions of magic realism are:

'A literary or artistic genre in which realistic narrative and naturalistic technique are combined with surreal elements of dream or fantasy.'¹ 'Magical realism, magic realism, or marvelous realism is literature, painting, and film that, while encompassing a range of subtly different concepts, share in common an acceptance of magic in the rational world. It is also sometimes called fabulism, in reference to the conventions of fables, myths, and allegory. Of the four terms, Magical realism is the most commonly used and refers to literature in particular that portrays magical or unreal elements as a natural part in an otherwise realistic or mundane environment.'² 'The term magic realism describes contemporary fiction, usually associated with Latin America, whose narrative blends magical or fantastical elements with reality.'³ 'Magical realism--is not a realism to be transfigured by the supplement of a magical perspective, but a reality which is already in and of itself magical or fantastic.'⁴ 'Magic Realism which of all the terms has had the most critical consideration, relies most of all upon the matter-of-fact, realist tone of its narrative when presenting magical happenings. For this reason it is often considered to be related to, or even a version of literary realism.'⁵

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However, magical realism is not speculative and does not conduct thought experiments. Instead, it tells its stories from the perspective of people who live in our world and experience a different reality from the one we call objective. If there is a ghost in a story of magical realism, the ghost is not a fantasy element but a manifestation of the reality of people who believe in and have "real" experiences of ghosts. Magical realist fiction depicts the real world of people whose reality is different from ours. It is not a thought experiment. It is not speculation. Magical realism endeavors to show us the world through others' eyes. In other words, the author may give precise details of the real world such as the date of birth of a reference character and the army recruitment age, but such facts help defining an age for the fantastic character of the story that would turn out to be an abnormal occurrence like someone living for two hundred years. To add more, in magical realism we find the transformation of the common and the everyday into the awesome and the unreal. It is predominantly an art of surprises. Here time exists in a kind of timeless fluidity and the unreal happens as part of reality.

Historically magic realism in art refers to a twentieth century movement which was initiated by European artists after World War I and which was followed by a second phase that began in North America a decade later. The earliest phases of Magic Realism began around 1919 and preceded Surrealism by several years. Together the two phases spanned approximately four decades; with residual works after 1960. The movement actually began as a reaction to Expressionism, Cubism, and other avant-garde movements. The first paintings were characterized by sharply focused, unsentimental presentations of commonplace subject matter. The trend was called "Post-Expressionism" by a number of writers. But the art critic Franz Roh added the term "Magischer Realismus" in a 1924 essay, in which he described the leading edge of a strong current in the arts towards a new realism. During the same period, the promoter Gustav Hartlaub organized a large exhibition of art in Mannheim under the name "Neue Sachlichkeit" (translates as "New Objectivity" or "New Functionalism"), and it is that name that historians have generally applied to German art of the Weimar period. Franz Roh identified 22 traits of Magic Realism. The important features include a sharp focus throughout the painting, the smooth and thin application of the paint, juxtaposition of the near and far subject matter, the subordination of painting techniques, and the limited use of aerial perspective and atmospheric effects. According to Roh, "the mystery (of Magic Realism) does not descend to the represented world, but rather hides and palpitates behind it". There are a number of factors that led to the development of this movement. In postwar Germany there was a prevailing feeling of disillusionment and angst due to instability, and stemming from the defeat in the war. The intense emotionalism and the experimentation of the Expressionist movement, which had dominated the arts in northern Europe for two decades, had run its course. Many art critics who had previously promoted Expressionism felt that the new generation of artists was producing superficial work, intended purely to exploit. At the same time, many artists felt that the Modernist movements had moved art too far in the direction of abstraction. These same artists developed a realistic style, portraying everyday life but adding a twist of the bizarre and the unusual. Magic Realist painters added dreamlike and fantastic elements to their art, but their subject matter still always remained within the realm of the possible. Here lies the main difference with Surrealism, the movement that followed soon after. Surrealism purposefully challenged us with unreal or even unnatural imagery, although sometimes using similar techniques, borrowed from traditional art. Magic Realism spread from Germany to many other European countries, and subsequently to North America. Although in many ways the movement was soon overshadowed in Europe by the Surrealist movement, it flourished to a considerable extent in the Americas, as an alternative

artistic current to the mainstream Abstract Expressionism movement which developed in the 1940's and 50's.⁶

Exploring Magic Realism in *Kathalkanna (Jackfruit Girl)*

The story is about a WFO officer named Afsar, a graduate of English literature and got married to a woman graduated from Bangla department named Manosi. It was a love marriage which the families of both sides disagreed to. However, Manosi was afraid of her father-in-law as he was a war criminal (Rajakar Commander) in Pabna District. It is also because her aunt was tortured inhumanly by people like that in 1971. Afsar failed to convince Manosi to take her to her in-laws' house and stayed in the city. This was the beginning of the confute which continued later. Manosi was impressive in nature and liked gossiping with her friends which was detested by him. He physically tortured her from time to time even when she was pregnant. Surprisingly, Manosi was unnaturally patient and silently consumed all the tortures. Such patience was defined devilish by him and his father. Manosi's unnatural patience is defined by Afsar as that of 'Succubus', a female demon absorbing man's energy. Afsar declares that-"A witch was she in my father's words. Sir, as you know; only the witches have such power of tolerance. But I did not realize how it happened. She had a dangerous disease as a result of which the baby was never born."⁷ (Translated by me) One night, she mysteriously disappeared leaving her worn clothes. Afsar seemed to be relived and got married again. The second wife was the cousin and gentle in nature. One day Afsar found a strange Jackfruit in a farm of Gajipur. Fortunately it was gifted to him by an officer there. He was happy thinking that his second wife is highly fond of eating jackfruit. He took it to his home and very shockingly, in the middle of a moonlit night when he was alone, he saw a nude girl coming out of the jackfruit and got intimate with her. After waking up the next morning, he wondrously found himself naked and saw a hollow in the middle of the Jackfruit. The following morning, he narrated the event to his wife but she left him immediately after that. He searched for the girl and the mystery of the Kathalkanna (Jackfruit Girl). But there is still none to unfold this mystery. The unnatural size of the Jackfruit, the appearance of a nude girl from the jackfruit at a moonlit night, her physical intimacy with Afsar, the finding of the nudity of Afsar and the hollow of Jackfruit are all magical. Afsar narrates the event in the following way-

I closed my eyes, Sir, but Sir not so long. I had to open it as it seemed to me that the jackfruit was shooting its arrows of smell at me. What an acute smell, looking at it I found it split by itself and a girl came out from it. I could not but gaze. I tested myself whether I was awoken or in faint. She was, Sir, without cloth. I only found her amicable as in the period of pregnancy. I am sorry, Sir. Sorry to say that it came to me and holding my hand for long ... Sorry Sir , Sorry to say ... I could not tell any more what happened next . Sorry sir sorry to say I along with her a long time, Sir, a long time... Sorry Sir, Sorry to say.⁷ (Translated by me)

Exploring Magic Realism in *Ellen Shaheber Chokh (The Eye of Mr. Ellen)*

Md. Babul retired as an ordinary employee of Text Book Board, led his life with simplicity and honesty. While he was in his duty he had to answer to the queries of the education experts who came from London to inspect. Among them one was named Ellen Johnson. In answer to his queries, one day Md. Babul mistakenly called himself Ellen. From there on, Md. Babul started to be known as Mr. Ellen. Now he is retired having three sons named Dalim, Ponir, Makhan and a single daughter named Rimu. Dalim and Ponir are married. They

used to live at a simple house in Sampur built in the property gifted from his father-in-law but after his wife had died, he along with Ponir, Makhan and Rimu started living in an apartment bought by Makhan at Lalmatia. Ponir is still living in Sampur doing restaurant business. Now Mr. Ellen is having problem with his right eye but he has a great reluctance for its operation. However, he managed to have it. It was wondrous to him the way he was received with such honor even by the doctor in that hospital. Now his eye is somewhat okay but has another mysterious problem. He sees some things clearly while the others seem gloomy. Here the observation of Mr. Ellen through his eyes suggest magic realism. Eye with its normal sight is part of the realism. But his miraculous sights of gloom over different normal things are part of the magic. For example, Mr. Ellen sees his younger sons Ponir, Makhan, wife of Ponir, all objects of their house including water and furniture are with black shade before his eyes. He confusingly observed in the time of supper “Ponir is sunken in the midst of darkness as well as Morzia. Rimu is likely covered with the smoke emitted from the burning coil of train in the early days. The utensils, the rice-curry, the gloom pervades everywhere.”⁷ (Translated by me). He explained it to the doctor who was afraid of his son Makhan thinking that if the problem is in the operation. The doctor suggested him not tell it to anyone except him. He also suggested him to go for an outing thinking the problem might be psychological. Even he sees the doctor, all his equipments of the hospital and all political allies with Makhan in black. It is wondrous that the nurses and employees of the hospitals seem normal. He declares to the doctor “You look black and your equipments also but these nurses are not and neither the employees. I fail to understand the matter.”⁷ (Translated by me). As per the doctor’s suggestion, Mr. Ellen then went to Sampur to his old house where he felt better. In the next day’s newspaper he found something harassing about his son Makhan misusing his political powers. At first he could not believe himself about his son’s doing but later on he is confirmed by his eldest son Dalim. Now Mr. Ellen is convinced that anything with dishonesty and corruption seemed gloomy in his eye, as Dalim and his wife look normal to him, and even the good news in the newspaper is seen clearly, unlike the bad news.

Exploring Magic Realism in *Pathkuwa (The Deserted Well)*

The old man was a famous lawyer but now he is a workless person living in his dilapidated house with his lame daughter Rukhsana. His other sons and daughters are married and away from his house. They are willing to give their house to a development company thinking its security and mercenary motivation but the old man is totally unwilling thinking that it will be unsecured for his daughter Rukhsana. There was a deserted well in their house which was marked risky and suggested to fill up by the health officer. Its water was seriously dirty and was not drinkable. They scattered there sodium bicarbonate and other cleaners. However, a few days later there was a crisis of the tube-well water for which Amina’s mother had to pull water from that well. Surprisingly, the water was very clear and pure. The coming of pure water from the dilapidated well is a representation of magical realism. Here the miraculous power of the deserted well to cure the diseases of different types is quite magical. Md. Babu Mia was suffering from digestion problem but wondrously he was cured after drinking its’ water. Babu Mia narrated to Rukhsana, in the words of the author “He did not realize how he got well. It seems to him he is rejuvenated. The matter seemed miraculous to him”⁷ (Translated by me) Amina’s mother also gets cured of her hand ache. Her belief of the magical power becomes apparent when she is heard to declare.... “Apa this water is the gift of God. This water cures the diseases of people. Take, you should take a glass of it.”⁷ (Translated by me) The handicapped daughter Rukhsana also felt better with her leg. This news spread far and near and there were streams of people collecting water from that well thinking that it was the grace of God. The sons of the old man came to the house but were

highly disturbed by the presence of such crowd in their house. They took help of the policeman to get rid of the people. By this time the old man's grand-daughter fell seriously ill and was about to die but she was then miraculously cured by drinking the water from that well. The curing of the daughter whom all the doctors had failed and that too just after drinking a glass of water from the well, is very magical. As it is narrated "Next morning the girl woke up being ever fresh as if she were never touched by fever."⁷ (Translated by me) After this the old man as well as his eldest son refused to sell the house. After a few days, Amina's mother felt the pain again, suggesting that the water was not working anymore.

Conclusion

Sukh Dukher Golpo is abundant with magic realism, combining imagination with reality. Here Syed Manzoorul Islam generalizes the pains and gains of the common mass with the touch of magical elements in a highly convincing way. His color of magic does not arise fear in the mind of the readers; rather these are accepted as natural and relevant. The story would lose its complete beauty if we think to deduct these magical elements from there. Thus, his use of magical elements is highly purposeful and justified.

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A Historical Hiatus; the Stimulus of Fiction in Charles Dickens' *A Tale of Two Cities*

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Abstract: This article is an endeavor to present how Charles Dickens turns the historical incidents into fiction in *A Tale of two Cities*. He depicts the sufferings of general people in the hands of aristocrats, and then the punishment of the aristocrats in the hands of ordinary people in the revolutionary periods in France. He considers war as a historical process. This process can't be rejected, it can be averted. One historical incident stirs him much to write this fiction. Though the idea of justice runs through the story, the author wants to teach the healing quality of mercy.

Key words: Aristocrat, Revolution, General People, Justice, Mercy

Introduction

The French revolution acted as an elementary and inspirational source for Charles Dickens to think about sketching a historical novel entitled *A Tale of Two Cities*. However, Dickens was mostly influenced by Thomas Carlyle's *The French Revolution*. He went between the lines of *The French Revolution* five hundred times since its appearance in 1839, and he found no book that was to be of greater use of him. One incident in Carlyle's book seriously stirred Dickens. Carlyle recorded that Mme Roland was sentenced to death for revolutionary activities. When she waited for her turn to die, she asked for pen and paper, "to write the strange thoughts that were rising in her." Her request was refused, presumably by one who feared the power of words. Dickens approached that one could avert any kinds of conflict through the power of love and sacrifice¹.

Being inspired by a long range of sources, Dickens seemed to have a great passion for creating a story regarding French Revolution. The mainstream source was Carlyle's *French Revolution*, yet Dickens created the basic idea for the plot, that derived from a play called *The Frozen Deep*, written by Wilkie Collins². In addition, Bulwer Lytton, the writer of another book *Zanoni*, assisted Dickens in developing this fiction.

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Objectives

- The objective of this study is to illustrate Dickens' attitude towards the French Revolution and thereby his fiction, *A Tale of Two Cities* as the most effective solution to declaim the devastating effect of war.
- It addresses the novelist's support to the revolutionary reasons simultaneously and assessed his condemnation to the way the Revolution occurred.
- This piece of research regards Revolution as a historical process but justice and right are the proper concerns of the individual that reflect in *A Tale of Two Cities* by superseding the real history.

Research Methodology

To complete this research study, stimulation came from the study of *A Tale of Two Cities* by Charles Dickens. A good number of criticisms on this novel were studied to comprehend the context rigorously. The Keen Observation Method was applied successfully for this research work. By using this method, the researcher went through different literary articles, critical compositions, and websites to find interrelated study materials, in order to be acknowledged in the allied topics. Content analysis was utilized for understanding the relationship between different incidents of French Revolution and the development of a fiction.

French Revolution and its Impact on *A Tale of Two Cities*

At the very outset of the novel the famous poetic lines offer a dispassionate overview of the whole era of the French Revolution. With a mature and milieu perspective, Dickens sees all things that happened at the time of evolution, and accepts them as inevitable in the course of human events. In this way, he sets the tone for the novel, a tone that will attempt to be objective, historical and narrative.

In this novel he uses a technique of "forward look". However, he prepares the readers for future happenings of significance. He mentions some trees now growing and will furnish the wood for the guillotine. It is a clear indication that Fate and Death with their guillotine and tumbrels already lurk in the background and they strongly foreshadow the Revolution⁴.

As a historical novel in any literal sense, *A Tale of Two Cities* has obvious limitations. It attempts no really panoramic view of either the English or the French political world of those critical years. A single state Trial suffices to give us the tone of English public life under George III. For example, from the revolution in France only two actual episodes are taken out of history and re-enacted in the novel; the fall of the Bastille and the lynching of old Foulon is followed by both Dickens and Carlyle very closely.

Dickens takes hints from life in shaping the characters in the novel. These hints are derived from the personalities who played extremely minor roles in the history. The first spark of the revolutionary wine merchant Defarge seems to be found in the scanty reference Carlyle makes to

a real wine merchant Cholat. In this regard Dickens shows the breaking of wine casket of red color and the people's sopping up the wine to drink which becomes a symbol of the time; at what time the downtrodden people will spill the blood of those who oppressed them and kept them hungry, destitute, ignorant and pessimistic. The men will be hauled up by ropes and pull "to flare upon the darkness of their conditions."

Oppression of the Aristocratic People and its impact

The aristocratic people in France oppressed the general people so severely that the Revolution became inevitable. One aristocrat Monseieur the Marquis, the ruthless aristocratic uncle of Charles Darnay, was once driven in the street of Saint Antoine in Paris at a reckless speed. A child was run over and killed. The arrogant noble concerned about his horse more than about the child. He threw two gold coins to the child's father as recompense. He values the life of the child with two gold coins. The child was a son of Gaspard, a peasant in Saint Antoine. Next morning Marquis was found murdered in his bed and Gaspard fled away. After one year of these incidents, Gaspard, who murdered the Marquis to take revenge, has been found and executed. Madame Defarge, "a frightfully grand woman", the revolutionary counterpart of the Marquis D'Evermond, registers into her knitting the name of Evermond and his entire race as doomed to destruction. When she learns that Charles Darnay is the nephew of the late Marquis, she "registers" the name of Charles Darnay⁵.

Then we see the oppression of the countryside. Poverty dominates the field, the village and the people over there. The signs of oppressive taxation are everywhere. When Marquis returns from the town, he is passing a graveyard. There a grief stricken woman begs him for a marker for the grave of her dead husband, but she is shoved away.

The idea of the aristocratism is depicted through the conversation between Charles Darnay and Marquis. Charles deplors the generations of oppression. The whole aristocracy is corrupted. In this context he says in the novel *A Tale of Two Cities* "Even in my father's time, we did a world of wrong, injuring every human creature who came between us and our pleasure whatever it was"

However, Marquis does not believe that the poor have any rights. He says they should be treated like animal. The picture of oppression is clearly depicted in the letter of Dr. Manette. Moreover, in the letter he mentioned that he was taken by the Evermonde brothers for the treatment of a delirious young woman and her expired brother. The boy told him the story of merciless taxation, plunder and oppression of the Evermonde brothers and their latest story of the physical torture of the girl's husband until "he sobbed twelve times, once for every stroke of the bell and died on her bosom." Then the girl became the property of the younger brother. Their father died of heart break. The boy removed his younger sister out of reach of their oppressors. Then with a soldier's sword the young boy sought out the brothers. To express the oppression of the Evermonde brothers the boy utters in the novel,

“We were so robbed by that man who stands there as well we common dogs are by those Superior Beings. Taxed by him without merry obliged to work for him without pay obliged to grind our corn at his mill, obliged to feed scores for his tame birds on our wretched crops... we ate it in fear, with the door barred and the shutters closed that his people should not see it and take it from us.”

They also have to drive away the frogs and foxes for the whole night, So that the Evermonde brothers' sleep does not interrupt.

Dickens viciously attacks the France aristocracy. He shows their extravagance, their cruelty, their lack of social conscience, their haughtiness and their utter blindness which cause the France Revolution⁶.

Rudiments of Revolution and its dominance

Then the author dramatizes the preparation for the Revolution. He captures the atmosphere of secrecy and suspicion, the thirst for vengeance, the organization of revolutionary groups and meetings, the cultivation of the pretense to deceive the aristocracy.

Then it can be seen some aggressive revolutionary movement in the revolutionaries' attacking of Bastille prison. However, the men and women are armed with axe, pistol, and knife as well as in hunger and revenge. They slaughter their governor, rescue seven prisoners and impale the heads of seven guards on pikes. Defarge searches Dr. Manelte's old cell and finds two initials- Dickens borrowed this great deal of the description of the storming of the Bastille directly from Carlyle and he also got an overview about aristocracy.

Then they wanted to punish an official, Foulon who once said, “The people may eat grass.” Dickens delineates the killing of Foulon in the hands of the mass people. The people started hitting him:

“Down, and up, and head foremost on the steps of the building; now, on his knees; now, on his feet; now, on his back, dragged, and struck at, and stifled by the bunches of grass and straw that were thrust into his face by hundreds of hands; torn, bruised, panting, bleeding, yet always entreating and beseeching for mercy; now full of vehement agony of action, with a small clear space about him as the people drew one another back so that they could see; now, a log of dead wood drawn through a forest of legs; he was hauled to the nearest street corner where one of the fatal lamps swing, and there Madame Defargelet him go as a cat might have done to a mouse silently and composedly looked at him while they made ready, and while he besought her; the women passionately screeching at him all the time, and the men sternly calling out to have him killed with grass in his mouth. Once, he went aloft, and the rope broke, and they caught him shrieking; twice, he went aloft, and the rope broke, and they caught him shrinking, then, the rope was merciful, and held him, and his head was soon upon a pike, with grass enough in the mouth for all Saint Antoine to dance at the sight of.”

Only for being the relative of Foulons, his son-in-law was also slaughtered. Dickens shows the mob particularly blood thirsty. He refers the revolutionary mobs as a sea and time. It refers to the mobs pounding, surging and destructive force⁷.

Question of Justice and Power of Mercy

Through a real terrifying condition Charles Darnay goes to France because of an urge of their old family servant. After very inconvenient and bothersome journey he arrives at the gates of Paris. For being an aristocrat he was jailed “in secret”.

The revolutionary motto was “Liberty, Fraternity, Equality or Death.” They want to get rid from the torture of aristocratic people. They want their legal share otherwise they may die for their rights.

Hearing the imprisonment of Darnay, Lucie, her daughter and Dr. Manette come to Paris to help him. Dr. Manette has some influences with the revolutionaries, because he has a personal prestige as a former prisoner. When Darnay summoned before the tribunal he says he gave up his inheritance and went to live in England. He returned to France for a sacrifice for his old family servant. Dr. Manette’s testimonies on Darnay’s behalf swayed the jury which acquitted him. Here raised the question of justice but mercy saved Darnay. The power of mercy saved an innocent man from his in hereditary sins.

Late in the afternoon of the very day of Charles’ release, he was arrested again, because he is denounced and gravely by the citizen and Defarge and by one another. This time Dr. Manette becomes helpless to prevent it. Charles was sentenced to death. His accusation is -he is the inheritance of Evermond family. The crimes of the Evermondian brothers come to light through the letter of Dr. Manette which he writes in the prison.

In *A Tale of Two Cities* the imprisoned father appears in dual guise: as Dr. Manette at the beginning, and as Darnay (the father of little Lucie) at the end. In a hidden way each imprisoned father is also a delinquent father. Dr. Manette deserts his family when he dares to write to the Minister exposing the Marquis’s crime; and Darnay does the same when he goes to France (without even telling Lucie beforehand) to rescue the postmaster Gabelle from the guillotine⁸.

At this crucial moment Sydney Carton comes to France knowing everything he shows his awareness of the values of life, service, trust and love. He makes a plan secretly, as he has a close resemblance with Darnay; he will sacrifice his life by going to the guillotine on behalf of Darnay. Sydney Carton gains admitted into Charles’ cell, drugs him, and goes to the guillotine in his place. His last words are “It is a far, far better thing that I do, than I ever done; It is far ,far better rest that I go to, Than I have ever known.” In the prison Carton was identified by a poor seamstress. But she takes courage after recognizing Sydney’s purpose. When they go to the guillotine, she asks for pen and paper, but she was refused. Dickens takes this incident from Carlyle.

Sydney Carton was the victim of injustice. The fictional Carton offers a kind expiation. He provides for an individual invention in the historical process. It averts the visitation of the sins of father on their children. Carton's death will be the freely chosen sacrifice of an innocent man in the cause of love.

This brings us to Dickens's second preoccupation in representing the French Revolution. It is the obsession- the word is hardly too strong with destructive violence, significantly. The violence that fascinates and horrifies him most is not that of the revolutionary state embodied in the guillotine-but the violence of the mob and their cruelty. There is no single instance in the novel in which we are shown the guillotine in action. But there is a great deal of bloodthirsty talk about it on the part of the Defarges and their companions. Even in the last scene, as Carton awaits execution, it is only a whirring and thudding monster which he hears behind his back. The important point is Dickens realized that dangers of revolution could not be removed by repression, by more hangings or more imprisonment, but only by recognizing and alleviating the conditions that caused them. In one of his few political speeches, criticizing the Palmerstone government in 1855 for its conduct of the Crimean war, he declared that one of the tasks he had sought to fulfill as a man of letters was 'to understand the heaviest social grievances and to help to set them right', and in another speech of the same period he declared that 'literature cannot be too faithful to the people – cannot to ardently advocate the cause of their advancement, happiness and prosperity.'

But this did not make Dickens a revolutionary. It was not a change in the shape of society that he sought. He had no program for an ideal society, and brought forward very few constructive suggestions of any kind; essentially what he criticized were the wrong moral attitudes, the attitudes that allow social abuses to accumulate out of selfishness or mental lethargy, and, as Orwell has pointed out, 'in every attack... upon society he is always pointing to a change of spirit rather than a change of structure.'

But the revolutionaries, if not the rebels are deceiving themselves when they proclaim Dickens to be of their opinion. The violence of the revolution, he maintains, is as negative as the oppression of a rigid social order, and just as self-destructive. The revolution repopulates the prisons, and no prospect could have seemed more repellent or more anti-human to Dickens. Madame Defarge is the ultimate personification of the revolution in *A Tale of Two Cities*, and she becomes the uncontrolled desire for revenge that has turned her into a monster of pure evil. The final struggle between her and Miss Pross is a contest between the forces of hatred and of love. It is love that wins, when Madame Defarge in her turn is self-destroyed, through the accidental discharge of her own pistol. It is difficult to explain how a critic like T.A. Jackson (*Charles Dickens: The Progress of a Radical*, 1938) can see in this, or in any passage of *A Tale of Two Cities*, evidence of what he calls 'a complete and wholehearted sympathy with the revolutionaries; and, up to a point, an entire agreement with, and admiration for, their methods of setting to work.' George Orwell, who, whatever his own views, sought always to see things as they were, came much nearer to the truth when he concluded: And Dickens is very sure that revolution is a monster.

That is why everyone remembers the revolutionary scenes in *A Tale of Two Cities*: they have the quality of nightmare, and it is Dickens' own nightmare⁹.

Conclusion

In Fact, if Dickens had a lesson to teach his time in *A Tale of Two Cities*, it was to be spoken only in moral terms. He regarded violence as the necessary end of violence; prison as the consequence of prison; hatred as the wages of hatred. He preached that we must not allow society to take on the condition of frustrated anger in which men become mobs and the world is violently upturned.

Even within *A Tale of Two Cities* the alternatives to the fatal cycle of oppression and upheaval are present. If all French noble-men had been as willing to abandon their privilege as Darnay; if all French intellectuals had been as willing to expose abuses as Dr. Manette; if all men were as willing to make sacrifices for their fellows as Sidney Carton; if there were more kindness like Mr. Lorry's, or more love like Pross's, or more loyalty in a tight corner like Jerry Cruncher's; then, we are expected to assume, the world would be a far better place, in which revolutions would no longer take place and prisons would not be built for men to be buried in.

It is in fact by a moral resurgence that Dickens hopes to defeat the threat of revolution, and the idea of such resurgence is clearly linked with the theme of resurrection that permeates every level of *A Tale of Two Cities* and assumes an almost grotesque variety of forms¹⁰.

Dickens always tries to avert war. Carton's sacrifice is "a deed of purity, caution and redemption--- and a triumphant assertion of the saving and creating power of love" By this power of love the author wants to create a sense of mercy. He supports the power of justice. But he wants that, the innocent son does not punish for his predecessors' sin, though justice demands it. If this process goes father, then the revenge may go on continuously by the both side. So, he says about the power of mercy. This power can stop the entire conflict.

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Detection of Brain Stroke from CT Scan Image

Md. Solaiman Mia*

Abstract: Brain is our most important organ. Brain stroke is an abnormal incident that causes catastrophic damages in the brain. It is caused when flow of blood to an area of brain is cut off. When this happens, brain cells are being deprived of oxygen and begin to die. Accurate detection of a stroke in the brain is a complex and challenging task. If the stroke portion can be segmented and displayed separately, the treatment process becomes more efficient. This paper provides an efficient process for proper detection of brain stroke from CT scan images. A CT scan image of brain is taken as input. After performing some basic image processing operations, some morphological operations are executed. Then connected components are calculated. Finally analysis of some region properties is done. The system has been tested with different CT scan images. In most of the cases the system came up with satisfactory results.

Keyword: Brain Stroke, CT Scan Image, Connected Components

Introduction

Human brain is of crucial importance since it is the organ that controls our thoughts and actions. The human brain has similar general structure like other mammals, but has a more developed cortex than any other. It mainly consists of four parts - gray matter (GM), white matter (WM), cerebrospinal fluid (CSF) and background.¹

When the blood supply to part of a brain is interrupted or severely reduced, a brain stroke occurs and depriving brain tissue of oxygen and nutrients. As a result, brain cells begin to die within minutes. Brain stroke detection remains one of the most significant research areas in medical imaging. Brain strokes are heterogeneous in terms of color, texture, shape and position. As a result stroke detection is a complicated and difficult task. In the field of medical imaging, a significant number of researches were focused on brain stroke detection in recent years.²

Motivation: Stroke is a common medical emergency. The incidence rises steeply with age, and in many lower and middle income countries it is rising in association with less healthy lifestyles. About one-fifth of patients with an acute stroke die within a month of the event and at least half of those who survive are left with physical disability. Of the 180-300 patients per 100,000 population presenting annually with a stroke, 85 percent sustain a cerebral infarction due to inadequate blood flow to part of the brain, and most of the remainder have an intra-cerebral hemorrhage. An early detection of the existence of a stroke in the brain can save patients from further damage.

This paper provides an efficient system for proper detection of brain stroke using connected component calculation. The scope of this research is vast in medical applications. Detection of brain stroke can be done properly using the proposed system. The system can help in saving lives by providing properly detected brain stroke type and portion as output from an input CT scan image. Stroke detection from CT scan data is an essential but time consuming task when it is completed manually by medical professionals. But with the high speed computing machines, this task can be done more efficiently in expense of less time.

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The target of this research is to provide an efficient methodology to detect brain stroke by using connected component calculation and analyzing their region properties. An efficient system is developed to perform the detection of brain stroke from CT scan images. The major points of this research are-

- Enhancement of the CT Scan Images
- Segmentation of the Stroke
- Connected Component Calculation
- Analysis of Region Properties (Area, Perimeter etc.)
- Detection of the Stroke Portion

This paper is organized into five Sections. The second Section provides an overview of the background study and related works done in this sector. The third Section contains the detailed description of the proposed system. The fourth Section presents the experimental results obtained from different test cases, performance evaluation of the system. In the final Section, conclusion of the work by discussing the contributions and plans for improvement of the research is included.

Background Study

Brain stroke has been a major concern in the field of medical science throughout the last decade. In this Section, some background studies about brain stroke and CT scan is discussed.

Brain Stroke: Just like the heart, our brain depends on a strong blood supply to function accurately and survive. A brain stroke is a brain attack which happens when the arteries that supply blood to the brain become jammed or blocked. According to pathology, brain stroke can be divided into two categories:

a. Ischemic Stroke – This type of stroke occurs if an artery that delivers oxygen-rich blood to the brain becomes jammed. Blood blobs often cause the blockages that lead to this type of strokes.³ The two types of ischemic stroke are thrombotic and embolic. In a thrombotic stroke, a blood clot (thrombus) forms in an artery that supplies blood to the brain. In an embolic stroke, a blood clot or other substance (such as plaque, a fatty material) travels through the bloodstream to an artery in the brain. With both types of ischemic stroke, the blood clot or plaque blocks the flow of oxygen-rich blood to a portion of the brain.

b. Hemorrhagic Stroke – This type of stroke occurs if an artery in the brain outflows blood or breaches (breaks open). The force from the trickled blood harms brain cells.⁴ The two types of hemorrhagic stroke are intra-cerebral and subarachnoid. In an intra-cerebral hemorrhage, a blood vessel inside the brain leaks blood or ruptures. In a subarachnoid hemorrhage, a blood vessel on the surface of the brain leaks blood or ruptures. When this happens, bleeding occurs between the inner and middle layers of the membranes that cover the brain. In both types of hemorrhagic stroke, the leaked blood causes swelling of the brain and increased pressure in the skull. The swelling and pressure damage cells and tissues in the brain.

CT Scan: CT scan is a radiological procedure done by using a machine called scanner to scrutinize a body tissue by compelling a series of cross-sectional image.⁵ One portion is taken at a time in a full ring rotation. A computer then computes and renovates the rate of concentration and density of X-rays into an image on a screen. CT scan is relatively cost effective. It helps in quick screening test with an established role in cross-sectional imaging of cranio-spinal trauma, subarachnoid hemorrhage, stroke etc. Evaluation of post-operative patient as well as of bone and

detection of calcification in brain, it has a role to play in those situations where magnetic resonance imaging (MRI) is contraindicated. CT scan allows faster scanning, thinner sections or larger scan ranges, especially in critically ill patients, children and trauma patients.

Existing Approaches of Detecting Brain Stroke

To detect brain stroke and brain tumor, extensive amount of work has been done and modified approaches are being introduced on a regular basis. Brain stroke detection can be performed by different methodologies. Tremendous affords have been made in each of the methodologies. There have been works on the CT scan image enhancement, CT scan skull stripping, Brain cancer classification and detection using artificial neural network etc. In this Section, various existing methodologies regarding brain stroke detection is discussed.

CT Scan Image Enhancement: Enhancement of CT scan images has been made by novel approaches based on Modified Tracking Algorithm, Histogram Equalization and Center Weighted Median (CWM) Filter.⁶ Enhancement has been made by using histogram specifications with Maximum Likelihood Gamma Distribution (MLGD) method to get accurate statistical information to get high contrast image.

Many have proposed a method of removing noise from CT scan image and image enhancement using adaptive multi scale data condensation (MDC) strategy. The strategy is based on the selection of representative neighborhood on the basis of their information content with respect to the entire filter mask.

Image quality was proposed to be improved by a new approach using stochastic resonance (SR) based transform in Fourier space for the enhancement of magnetic resonance images of brain lesions, by utilizing an optimized level of Gaussian fluctuation that maximizes signal-to-noise ratio (SNR).

CT Scan Skull Stripping: Among many CT scan skull stripping algorithms, one particular algorithm has been presented based on a hybrid method that conglomerates watershed algorithms and deformable surface model. The method takes advantage of the robustness of the watershed algorithm and also uses the surface information available to the deformable surface model.⁷

The algorithm first localizes a single white matter voxel in a T1-weighted CT scan image. Then the algorithm uses it to create a global minimum in the white matter before applying a watershed algorithm with a pre-flooding height. The watershed algorithm builds an initial estimate of the brain volume. The estimate is based on the three-dimensional connectivity of the white matter. It performs well in the presence of intensity non uniformities & noise. But this might erode parts of the cortex or might remove parts of the cerebellum. To remove these inaccuracies, a surface deformation process fits a smooth surface to the masked volume which allows the incorporation of geometric constraints into the skull stripping procedure. A statistical atlas is generated from a set of segmented brains. The atlas is then used to validate and potentially correct the segmentation. Then the CT scan intensity values are locally re-estimated at the boundary of the brain. Finally, a high-resolution surface deformation is performed that accurately matches the outer boundary of the brain thus resulting in a robust and automated procedure.

CT Scan Image Segmentation: Image segmentation is an approach of separation. This approach separates a portion of image. A large number of segmentation methods for pictures have been developed. The segmentation of an image contains the division of the image into areas with similar attributes.⁸ The main target in a large number of image processing applications is to

extract important features from the image data. Then using the data a description, interpretation, or understanding of the scene can be provided.

Overview of Proposed Methodology

The previous Section provided an overview of various brain stroke detection systems and their success. In this Section, the proposed brain stroke detection system has been described.

Proposed Methodology for Brain Stroke Detection: A brief overview of the proposed system is presented here. The system takes a CT scan image as input and outputs only the detected stroke portion from the original image. The methodology is described in Algorithm 1. The steps of Algorithm 1 are as follows:

Algorithm 1: Proposed Brain Stroke Detection System

Step 1: Read the input color or grayscale image.

Step 2: Get the Red, Green, Blue (RGB components) of a pixel. Use the formula, $Y = 0.2126 R + 0.7152 G + 0.0722 B$ to compute the weighted average of the RGB components to turn those values into a single gray value. Replace the original RGB components with the computed gray value.

Step 3: Resize or normalize the grayscale image in to 300×280 image matrix.

Step 4: Define an average or mean filter h of the size 3×3 . Filter the image matrix, which is achieved after resizing, with the multidimensional filter h . Store the filtered data in an array.

Step 5: Add Step 2, Step 4 image and an integer value 80 and pass it into a median filter to get the consequential enhanced image.

Step 6: Compute a global image threshold using Otsus method that lies between 0 and 1 to convert the intensity image of Step 5 to binary image. It is used in order to minimize intra-class variance of the black and white pixels. After performing this, fill the holes in the resultant image.

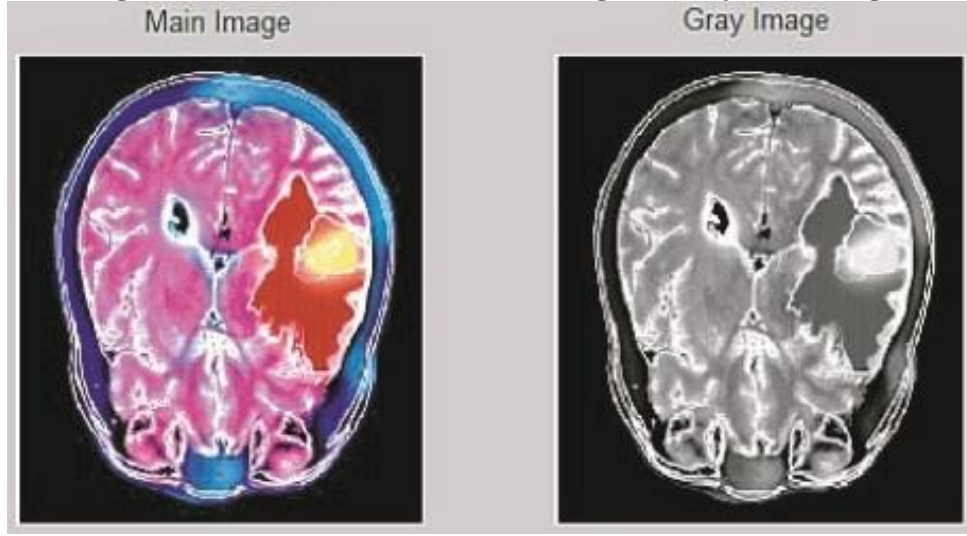
Step 7: Perform morphological operation on the Step 6 image to get the modified image.

Step 8: Compute and label all the connected components or blobs in the Step 7 image.

Step 9: Calculate Area and Perimeter of each blob in the resultant image. Remove the blobs with area less than 100. Then store area and perimeter of the remaining blobs and calculate $(Perimeter \times Perimeter) = (4 \times PI \times Area)$ for each blob and store them in an array. Adjust a constant parameter K . Compare K with each of the elements in the array and rule out the unnecessary blobs to get the desired stroke portion.

Conversion to Grayscale Image: After reading the input image, conversion to grayscale image is done. The process is carried out by forming a weighted sum of each three (RGB) components. The formula that is used for this conversion is $Y = 0.2126 R + 0.7152 G + 0.0722 B$, which eliminates saturation and hue information retaining the luminance. The final image returns a grayscale color map. A sample is demonstrated in the Figure-1.

Figure-1: Conversion from RGB Image to Grayscale Image



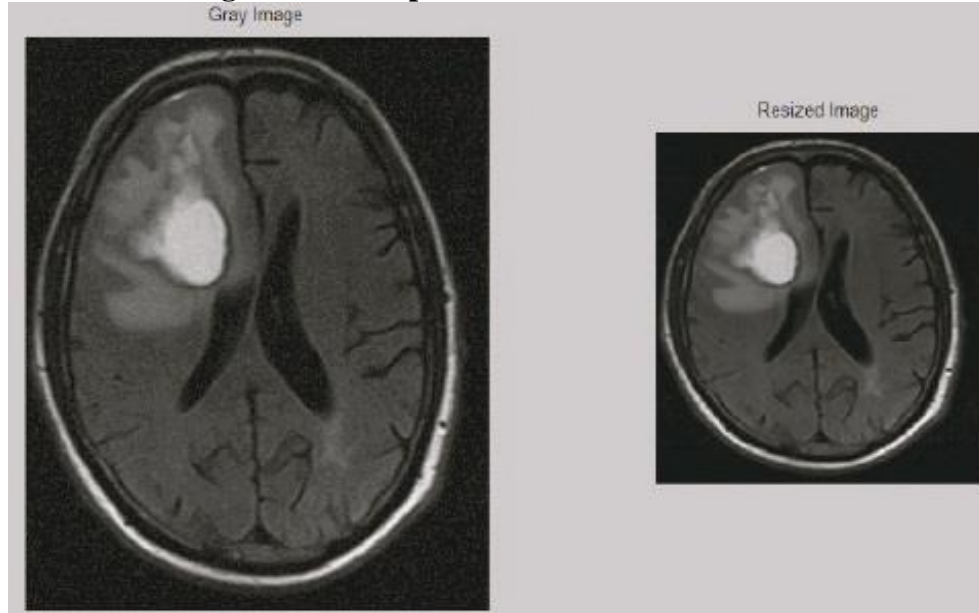
Normalization: Input CT scan images for this system may be of various sizes like $(R1 \times C1)$, $(R2 \times C2)$, $(R3 \times C3)$, $(R4 \times C4)$ etc. After the conversion of the input image to grayscale image, normalization operation is performed. Input image $I[(0,0), (R \times C)]$ is scaled to image $N[(0,0), (300,280)]$ using the Equation 1.

$$N(x_i, y_i) = I(x_i \times S_x; y_i \times S_y) \quad (1)$$

Where, $S_x = 300/x_m$ and $S_y = 280/y_m$.

Normalization can be of two kinds. One is enlargement another is shrinking. Enlargement means increasing in size and shrinking means decreasing in size. A sample is demonstrated in the Figure-2.

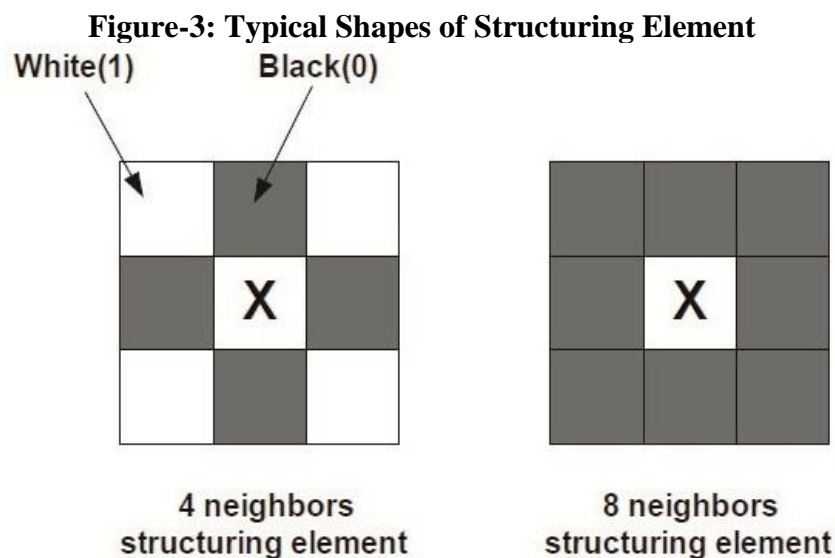
Figure-2: Example of Normalization Method



Filtering the Image: Filtering is a procedure for enhancing or modifying an image. To emphasize certain attributes or to eliminate other attributes, filtering technique is used. Image processing actions implemented with filtering include smoothing, noise removal, sharpening, and edge enhancement. Filtering is a neighborhood process, in which the value of any certain pixel in the output picture is determined by smearing some algorithm to the values of the pixels in the neighborhood of the equivalent input pixel.

Threshold Segmentation: After the previous Step, the filtered image is converted into binary image using the threshold method. This method computes a global threshold which can be used to transform an intensity image to a binary image. The normalized intensity values lie between 0 and 1. Otsus method is used, which selects the threshold to lessen the intra-class change of the black and white pixels.

Morphological Operations: After threshold segmentation, some morphological operations are done. The main target of these operations is to show only that part of image which contains the stroke. These operations take two pieces of data as inputs. The first piece is the image that will erode. The second is the set of coordinate points known as structuring element. The size of the second piece is usually smaller than the first one. It is also called a kernel. It is this structuring element or kernel that determines the precise effect of the morphological operations on the input image. The structuring element can have any shape. Typical shapes are presented in Figure-3.

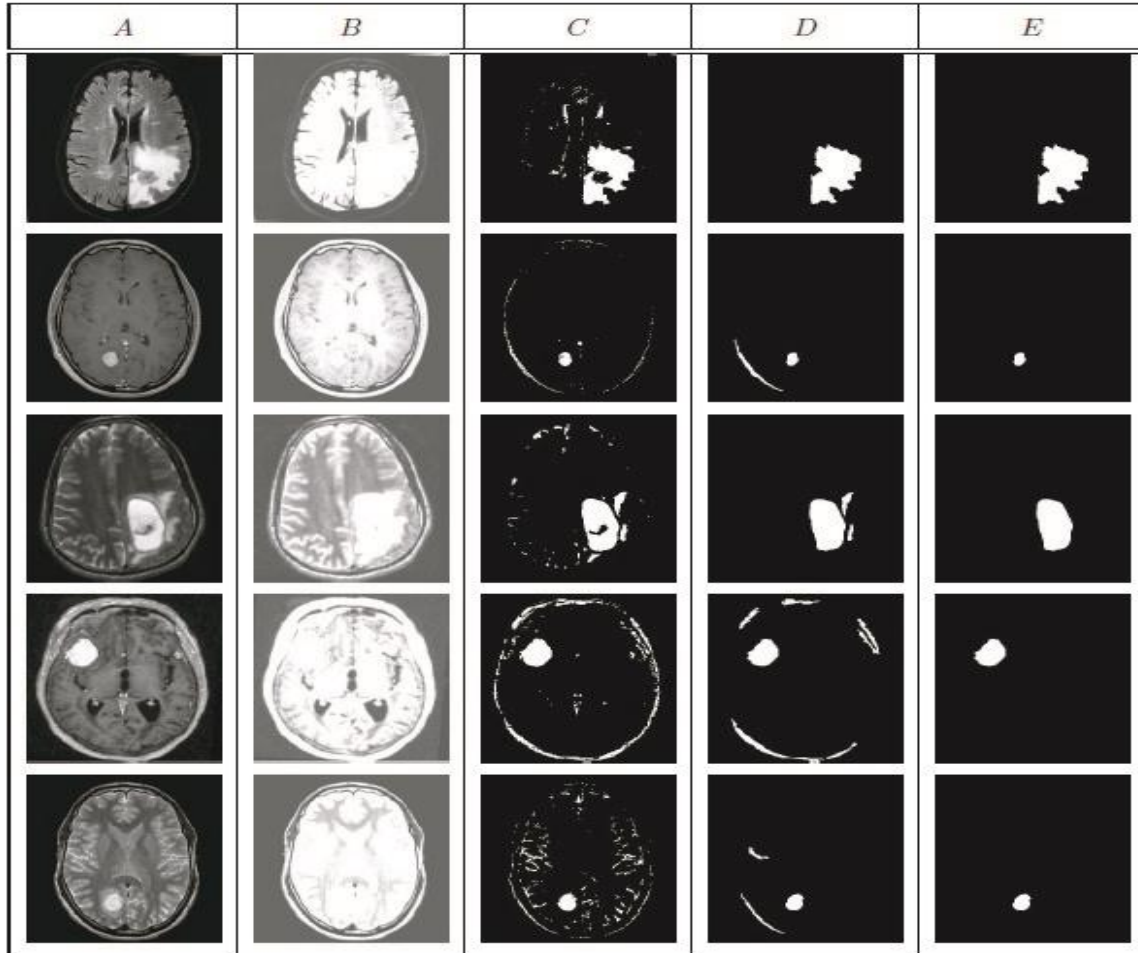


Connected Component Calculation: For effective detection of stroke portion, at first the number of objects (white regions) in an image has to be recognized. Objects can be recognized by their spatial structure. A basic procedure in investigating spatial structure is finding connected components. To find connected components in an intensity image, some knowledge on region boundaries, neighborhood and connectivity is required. The black pixels in a binary image divide the image into regions by making region boundaries. The number of white regions really depends upon the technique in which pixel neighbors are well-defined.

Experiment on Different Input Images

Figure-4 shows some experimental results on several input MRI images where A = Normalized Image, B = Image after Median Filtering, C = Image after Global Threshold Segmentation, D = Image after deleting small blobs and E = Image with detected stroke portion.

Figure-4: Experimental Results for Different Input Images



Performance Evaluation

In this research, the input database was constructed using the Internet (Google) search. Basically CT scan images of patients diagnosed with brain stroke were the main concern of this research. The proposed method is implemented using Microsoft Visual C (6.0), OpenCV and Matlab 2013a. Basic image manipulation operations were experimented via Visual C and OpenCV. Complex operations were performed and examined in Matlab.

The Figure-5 depicts the bar graph of Area vs Perimeter of the detected stroke region. In all cases Area shows greater intensity than Perimeter.

Figure-5: Area vs Perimeter Graph

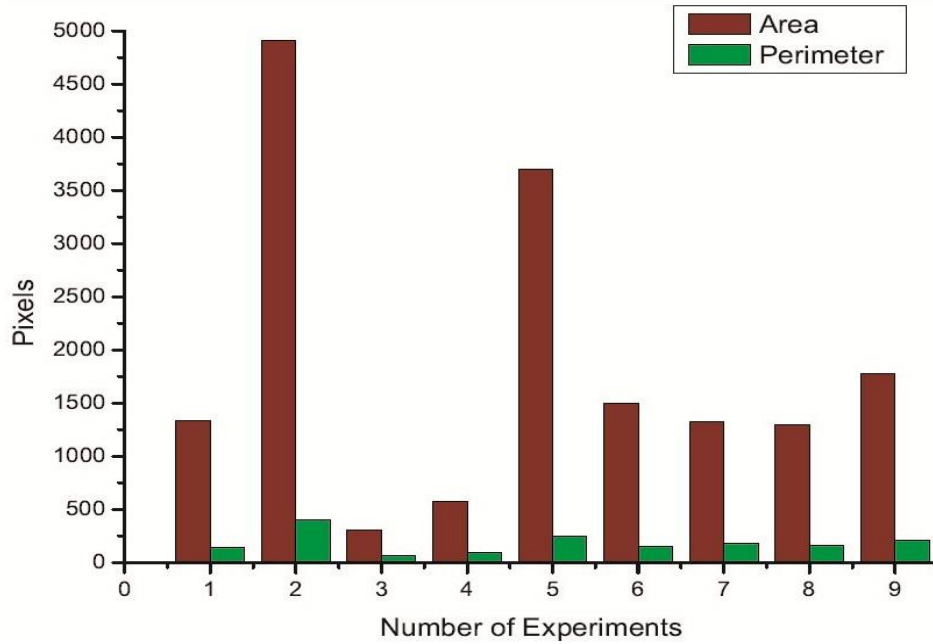


Figure-6 shows $(\text{Perimeter} \times \text{Perimeter}) = (4 \times \text{PI} \times \text{Area})$ bar graph. It is notable that the intensity difference between the parameters decreases in comparison to the previous graph.

Figure-6: Graph of $(\text{Perimeter} \times \text{Perimeter}) = (4 \times \text{PI} \times \text{Area})$

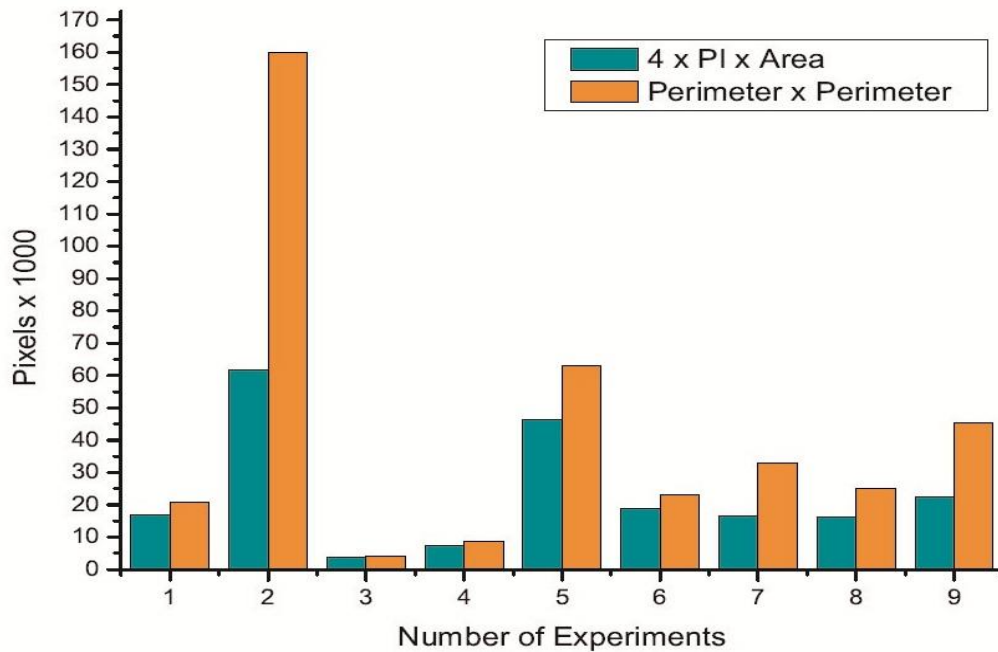


Figure-7 illustrates the characteristics of K value. The graph depicts that K tends to achieve value within a range from 1 to 3.

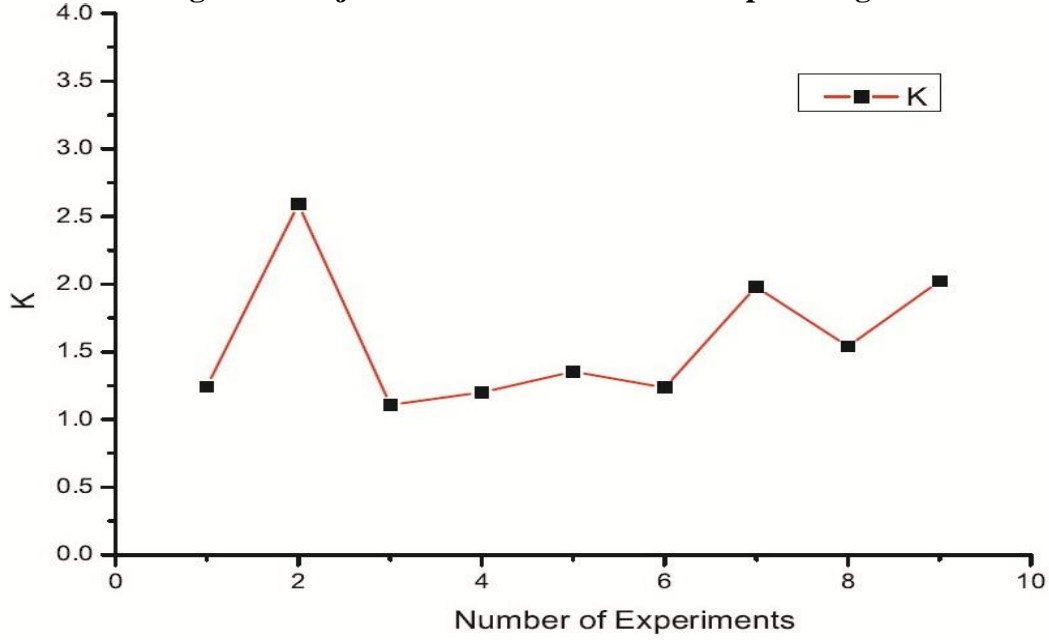
Figure-7: Adjustment of K for Different Input Images

Table 1 shows the information after calculating the blobs or the connected components and rule out the negligible ones. The Area, Perimeter, K value of each blobs and K value of the stroke portion for some existing method and the proposed method is calculated and shown in Table 1. From this comparison, it is clearly understandable that the proposed method can detect more number of brain stroke in compared with the existing methods.

Table 1: Comparison among Existing and Proposed Methods of Brain Stroke Detection

Method	Blob No.	Area	Perimeter	K_n	K
Existing ⁶	Blob 1	585.00	271.3625	10.0169	1.2418
	Blob 2	1333.00	144.2254	1.2418	
	Blob 3	170.00	126.3675	7.4750	
Existing ⁷	Blob 1	721.00	249.2203	6.8552	1.2358
	Blob 2	1495.00	152.3675	1.2358	
	Blob 3	506.00	266.2914	11.1520	
Existing ⁸	Blob 1	3702.00	250.8528	1.3527	1.3527
	Blob 2	294.00	103.3553	2.8914	
	Blob 3	169.00	71.7990	2.4274	
Proposed	Blob 1	793.00	308.1909	9.5314	1.9794
	Blob 2	9.5314	181.3381	1.9794	
	Blob 3	405.00	139.6812	3.8336	

Conclusion

This paper provides a structured system for proper analysis of connected components and detection of brain stroke. The proposed system is tested with multiple CT scan brain images with different types of brain stroke. From the experimental results it can be said that, the performance and efficiency of the system is satisfactory. The project provides an interactive analytical method. This method enables the users to detect stroke from CT scan images of brain quickly and efficiently. The research has important contribution in the field of image analysis and stroke detection. The contribution of the research can be summarized as follows-

- A moderate method for CT scan image enhancement to remove noise and unnecessary particles.
- A novel approach for calculating connected components in a binary image.
- An efficient method that takes decision based on the analysis of regional properties.
- A powerful method for proper detection of brain stroke.
- A new and working method that can help in stroke detection and diagnosis.

In this research, Area and Perimeter of connected components are mainly used to detect the stroke portion. The targets of future works include improving the user interface of the system.

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Exact solutions for nonlinear evolution equations using the modified F-expansion method with Riccati equation

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Abstract: In this article, the modified F-expansion method with Riccati equation is recommended to seek exact solutions of the nonlinear evolution equations. With the aid of symbolic computation, the Hirota-Satsuma equation with a source is used to demonstrate the validity and advantages of the proposed method. By means of this method, three classes of solutions—hyperbolic, trigonometric and rational solutions with some free parameters—have been explored. When the parameters are taken as special values, the solitary wave solutions are obtained from the exact travelling wave solutions. This method is straightforward, concise and is a promising and powerful method for other nonlinear evolution equations in mathematical physics and engineering.

Keywords: Improved F-expansion method; modified F-expansion method; conformable fractional derivative; Hirota-Satsuma equations.

Mathematics Subject Classifications Primary 35C07, 49K15, 35R11, 35K99.

1. Introduction:

In the recent years, nonlinear evolution equations play significant roles for accepting qualitative as well as assessable features of many phenomena and relations to construct exact travelling wave solutions. Exact solutions visually disclose and make it promising to grow the instrument of complex nonlinear properties. Nonlinear wave phenomena appear in various systematic and engineering fields such as optical fibers, biology, solid state physics, chemical physics and geochemistry.¹ With the progress of the symbolic computation software like Maple, many powerful and effective methods to find analytical and numerical solutions of nonlinear evolution equations still have drawn the various attentions by different groups of investigators.

Many powerful methods for searching for exact solutions of non-linear evolution equations (NLEEs) have been established, such as Hirota's bilinear method,² Backlund transformation,³ Homogeneous balance method,⁴ modified generalized Riccati equation method,⁵ the improved F-expansion method,^{7,8} conformable time fractional derivatives,^{9,10,11} the tan $(F(\xi)/2)$ -expansion method,¹² bifurcation of the time-fractional,¹³ variant Bussinesq equations,^{6,14,15,16} and so on.

In this paper the objective is to look for new study concerning to the modified F-expansion method combined with Riccati equation to analyze exact Travelling wave solutions to the Hirota-Satsuma equation. This application shows the straightforwardness, efficacy and effectiveness of the modified F-expansion method.

The agreement of this article is systemized as follows. In unit 2, description of modified F-expansion method has been given. In unit 3, this method applied to the Hirota-Satsuma equation. In unit 4, graphical illustration of some obtained solutions has been discussed. In unit 5, briefly made the summary of the results have been obtained.

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2. Preliminaries:

Definition 2.1: (Conformable derivative operator).

Let $\alpha \in [0,1]$. A differential operator D^α is conformable if and only if D_t^0 is the identity operator and D_t^1 is the classical differential operator. Specifically, D_t^α is conformable if and only if for a differentiable function $u = u(t)$, $D_t^0 u(t) = u(t)$ and $D_t^1 u(t) = \frac{d}{dt} u(t) = u'(t)$.

Note that under this definition the operator given via (ii) is not conformable.

Theorem 2.1: Let $\alpha \in (0,1)$ and suppose $u(t)$ and $v(t)$ are α -differentiable at $t > 0$.

Then

- a) $D_t^\alpha (t^r) = r t^{r-\alpha}$, for all $r \in \mathbb{R}$.
- b) $D_t^\alpha (s) = 0$, for all constant function $u(t) = s$.
- c) $D_t^\alpha (su(t)) = s D_t^\alpha (u(t))$, for all s constant.
- d) $D_t^\alpha (qu(t) + rv(t)) = q D_t^\alpha (u(t)) + r D_t^\alpha (v(t))$, for all $q, r \in \mathbb{R}$.
- e) $D_t^\alpha (u(t)v(t)) = v(t) D_t^\alpha (u(t)) + u(t) D_t^\alpha (v(t))$.
- f) $D_t^\alpha \left(\frac{u(t)}{v(t)} \right) = \frac{v(t) D_t^\alpha (u(t)) - u(t) D_t^\alpha (v(t))}{v^2(t)}$, $v(t) \neq 0$.
- g) If, in addition to $u(t)$ differentiable, then $D_t^\alpha u(t) = t^{1-\alpha} \frac{du}{dt}$.

Definition 2.2: (Conformable derivative).

There are many exact hyperbolic function solutions for the time fractional variant bussinesq equations are created using the modified extended tanh expansion method in the sense of the newly devised fractional derivative called the conformable fractional derivative by ⁶.

Let $u: [0, \infty) \rightarrow \mathbb{R}$ be a function. The α 's order conformable derivative of u is defined by

$$D_t^\alpha u(t) = \lim_{\varepsilon \rightarrow 0} \frac{u(t + \varepsilon t^{1-\alpha}) - u(t)}{\varepsilon} \quad (1)$$

for all $t > 0$ and $\alpha \in (0,1)$. See also.⁹

Theorem 2.2: Let $\alpha \in (0,1)$ such $u(t)$ is differentiable and also α -differentiable

Let $v(t)$ be a function defined in the range of $u(t)$ also differentiable, then

$$D_t^\alpha (u(t) \circ v(t)) = t^{1-\alpha} v'(t) (u'(v(t))).$$

See also.¹⁰

3. Description of modified F-expansion method:

In this section, the description of the modified F-expansion method to obtain the exact solutions of NLEEs will be provided. Now consider the following non-linear fractional differential equation of the form:

$$\Phi(u, D_t^\alpha u, D_x^\alpha u, D_{tt}^{2\alpha} u, D_{xx}^{2\alpha} u, D_t^\alpha D_t^\alpha u, \dots) = 0; \quad 0 < \alpha < 1 \quad (2)$$

Where α is order of the derivative of the function $u = u(x, t)$, P is a polynomial of $u(x, t)$ and its partial derivatives. Also, use the Travelling wave variables,

$$u(x, t) = u(\zeta) \text{ and } \zeta = ax + b \frac{t^\alpha}{\alpha}, \quad (3)$$

Where a and b are non-zero constants. The Travelling wave transformation Eq.(2) transforms Eq. (1) into an ordinary differentiation (ODE) for $u = u(x, t)$:

$$\Psi(u, u', u'' \dots \dots \dots) = 0 \quad (4)$$

Where, ' is a derivative with respect to ζ .

Suppose the solution of equation (3) can be expressed as follows:

$$u(x, t) = u(\zeta) = a_0 + \sum_{i=1}^m \left(a_i F^i(\zeta) + \frac{b_i}{F^i(\zeta)} \right) \quad (5)$$

where $a_0, a_i, b_i, (i = 1, 2, \dots \dots m)$ are arbitrary constants to be determined later; where m is a positive integer determined by balancing the highest order derivative with the highest non-linear terms in the equation and $F(\zeta)$ be satisfy the Riccati differential equation:

$$F'(\zeta) = k + F^2(\zeta) \quad (6)$$

where k is a constant. To establish general solutions of the Riccati Eq. (5), then select the following three cases:

Case-I: When $k < 0$, the general hyperbolic solutions of (5) are:

$$F(\zeta) = -\sqrt{-k} \tanh(\sqrt{-k} \zeta)$$

$$F(\zeta) = -\sqrt{-k} \coth(\sqrt{-k} \zeta).$$

Case-II: When $k > 0$, the general trigonometric solutions of (5) are:

$$F(\zeta) = \sqrt{k} \tan(\sqrt{k} \zeta)$$

$$F(\zeta) = -\sqrt{k} \cot(\sqrt{k} \zeta).$$

Case-III: When $k = 0$, then the normal solution is:

$$F(\zeta) = -\frac{1}{\zeta}.$$

Therefore, putting Eq. (4) and its essential derivatives into eq. (3) gives a polynomial in $F(\zeta)$ collect all terms with the same power of $F(\zeta)$ together. Equating the coefficients of the polynomial to zero, it will get a set of over-determine algebraic equations for $a_0, a_i, b_i (i = 1, 2, \dots \dots m)$, and k with the help of symbolic computation using Maple.

Finally, solving the algebraic equations and above possible solutions of Riccati equation into (3), then find the solution of Eq. (1).

4. Applications:

In this unit, the modified F-expansion method for exact solution to the Hirota-Satsuma equation will be constructed.

$$\begin{aligned} u_t + u_{xxx} + 6uu_x - 6vv_x &= 0 \\ v_t - 2v_{xxx} - 6uv_x &= 0 \end{aligned} \quad (7)$$

Consider the conformable time fractional Hirota-Satsuma equations version of (7) the form

$$\begin{cases} D_t^\alpha u + u_{xxx} + 6uu_x - 6vv_x = 0 \\ D_t^\alpha v - 2v_{xxx} - 6uv_x = 0 \end{cases} \quad (8)$$

$$u(x, t) = u(\zeta) \text{ and } \zeta = ax + b \frac{t^\alpha}{\alpha}, \quad (9)$$

The travelling wave variable (9) permits one converting Eq. (8) into ODEs for $u(x, t) = u(\zeta)$ and $v(x, t) = v(\zeta)$ as follows:

$$\begin{cases} b u' + u''' + uu' - 6avv' = 0 \\ b v' - 2a^3 v''' - 6auv' = 0 \end{cases} \quad (10)$$

Suppose the homogeneous balancing between u''' and vv' , and between v''' and uv' in

Eq. (10) $m_1 + 3 = 2m_2 + 1$ and $m_2 + 3 = m_1 + m_2 + 1$ respectively.

So $m_1 = 2, m_2 = 2$.

Hence the Eq. (8) has a solution of the form:

$$\begin{cases} u(\zeta) = a_0 + a_1 F(\zeta) + a_2 F^2(\zeta) + \frac{b_1}{F(\zeta)} + \frac{b_2}{F^2(\zeta)} \\ v(\zeta) = c_0 + c_1 F(\zeta) + c_2 F^2(\zeta) + \frac{d_1}{F(\zeta)} + \frac{d_2}{F^2(\zeta)} \end{cases} \quad (11)$$

where from equation (7)

$$F'(\zeta) = k + F^2(\zeta) \text{ and } F''(\zeta) = 2(F(\zeta)k + F^2(\zeta)) \quad (12)$$

Now putting the values of Eq. (11) and their necessary derivatives along with Eq. (12) into Eq. (8), yields a set of algebraic equations for $a_0, a_1, a_2, b_1, b_2, c_0, c_1, c_2, d_1, d_2, a, b, k$. These algebraic equations system are obtained as

$$-48a^3c_2 - 12aa_2c_2 = 0$$

$$-6aa_2c_1 - 12a^3c_1 - 12aa_1c_2 = 0$$

$$-80a^3c_2k - 12kaa_2c_2 - 6aa_1c_1 - 12aa_0c_2 + 2bc_2 = 0$$

$$-6kaa_2c_1 - 16a^3c_1k - 12kaa_1c_2 - 12ab_1c_2 + 6aa_2d_1 + bc_1 - 6aa_0c_1 = 0$$

$$\begin{aligned} -32a^3c_2k^2 - 6kaa_1c_1 - 12kaa_0c_2 + 2bc_2k - 6ab_1c_1 + 12aa_2d_2 + 6aa_1d_1 - 12ab_2c_2 \\ = 0 \end{aligned}$$

$$-12kab_1c_2 + 6kaa_2d_1 - 6kaa_0c_1 + 6aa_0d_1 - 6ab_2c_1 + 12aa_1d_2 + bc_1k + 4a^3d_1k - 4a^3c_1k^2 - bd_1 = 0$$

$$-6kab_1c_1 + 12kaa_2d_2 + 6kaa_1d_1 - 12kab_2c_2 - 2bd_2 + 6ab_1d_1 + 32a^3d_2k + 12aa_0d_2 = 0$$

$$6kaa_0d_1 - 6kab_2c_1 + 16a^3d_1k^2 + 12kaa_1d_2 - bd_1k + 6ab_2d_1 + 12ab_1d_2 = 0$$

$$-2bd_2k + 6kab_1d_1 + 80a^3d_2k^2 + 12kaa_0d_2 + 12ab_2d_2 = 0$$

$$6kab_2d_1 + 12kab_1d_2 + 12a^3d_1k^3 = 0$$

$$48a^3d_2k^3 + 12kad_2b_2 = 0$$

By using Maple solving the above system and obtain the cases bellow:

Case 1

$$a_0 = -\left(\frac{1}{6}\right) \frac{16ka^3 - b}{a}, a_1 = 0, a_2 = -4a^2, b_1 = 0, b_2 = -4a^2k^2,$$

$$c_0 = \frac{1}{6} \frac{(-8ka + 16ka^3 - b - ab)\sqrt{4a^3 - 2a}}{a(2a^2 - 1)}, c_1 = 0, c_2 = 2\sqrt{4a^3 - 2a}, d_1 = 0,$$

$$d_2 = 2\left(\sqrt{4a^3 - 2a}\right)k^2$$

Hence the solution is:

$$u_1(x, t) = -\left(\frac{1}{6}\right) \frac{16ka^3 - b}{a} + 4a^2k \tanh^2(\sqrt{-k}\zeta) + \frac{4a^2k}{\tanh^2(\sqrt{-k}\zeta)} \quad (13)$$

$$v_1(x, t) = \frac{1}{6} \frac{(-8ka + 16ka^3 - b - ab)\sqrt{4a^3 - 2a}}{a(2a^2 - 1)} - 2\sqrt{4a^3 - 2a} k \tanh^2(\sqrt{-k}\zeta) - \frac{2(\sqrt{4a^3 - 2a})k}{\tanh^2(\sqrt{-k}\zeta)} \quad (14)$$

Case 2

$$a_0 = -\left(\frac{1}{6}\right) \frac{16ka^3 - b}{a}, a_1 = 0, a_2 = -4a^2, b_1 = 0, b_2 = -4a^2k^2,$$

$$c_0 = \frac{1}{6} \frac{(-8ka + 16ka^3 - b - ab)(-\sqrt{4a^3 - 2a})}{a(2a^2 - 1)}, c_1 = 0, c_2 = 2\sqrt{4a^3 - 2a}, d_1 = 0,$$

$$d_2 = 2\left(-\sqrt{4a^3 - 2a}\right)k^2$$

Thus the solution is:

$$u_2(x, t) = -\left(\frac{1}{6}\right) \frac{16ka^3 - b}{a} + 4a^2k \tanh^2(\sqrt{-k}\zeta) + \frac{4a^2k}{\tanh^2(\sqrt{-k}\zeta)} \quad (15)$$

$$v_2(x, t) = \left(\frac{1}{6}\right) \frac{(-8ka + 16ka^3 - b - ab)(-\sqrt{4a^3 - 2a})}{a(2a^2 - 1)} - 2(-\sqrt{4a^3 - 2a})k \tanh^2(\sqrt{-k}\zeta) - \frac{2(-\sqrt{4a^3 - 2a})k}{\tanh^2(\sqrt{-k}\zeta)} \quad (16)$$

Case 3

$$a_0 = -\left(\frac{1}{6}\right)\frac{16ka^3 - b}{a}, a_1 = 0, a_2 = 0, b_1 = 0, b_2 = -4a^2k^2,$$

$$c_0 = \frac{1}{3}\frac{(-8ka + 16ka^3 - b - ba)}{\sqrt{4a^3 - 2a}},$$

$$c_1 = 0, c_2 = 0, d_1 = 0, d_2 = 2\left(\sqrt{4a^3 - 2a}\right)k^2$$

Therefore, the solution is:

$$u_3(x, t) = -\left(\frac{1}{6}\right)\frac{16ka^3 - b}{a} + \frac{4a^2k}{\tanh^2(\sqrt{-k}\zeta)} \quad (17)$$

$$v_3(x, t) = \frac{1}{3}\frac{(-8ka + 16ka^3 - b - ba)}{a(2a^2 - 1)} - \frac{2(-\sqrt{4a^3 - 2a})k}{\tanh^2(\sqrt{-k}\zeta)} \quad (18)$$

Case 4

$$a_0 = -\left(\frac{1}{6}\right)\frac{(16ka^3 - b)}{a}, a_1 = 0, a_2 = 0, b_1 = 0, b_2 = -4a^2k^2,$$

$$c_0 = \frac{1}{3}\frac{(-8ka + 16ka^3 - b - ba)}{(-\sqrt{4a^3 - 2a})},$$

$$c_1 = 0, c_2 = 0, d_1 = 0, d_2 = 2\left(-\sqrt{4a^3 - 2a}\right)k^2$$

Also, the solution is:

$$u_4(x, t) = -\left(\frac{1}{6}\right)\frac{16ka^3 - b}{a} + \frac{4a^2k}{\tanh^2(\sqrt{-k}\zeta)} \quad (19)$$

$$v_4(x, t) = -\left(\frac{1}{3}\right)\frac{(-8ka + 16ka^3 - b - ba)}{\sqrt{4a^3 - 2a}} + \frac{2(\sqrt{4a^3 - 2a})k}{\tanh^2(\sqrt{-k}\zeta)} \quad (20)$$

The above Cases 1-4, already use $k < 0$ to get those solutions which containing hyperbolic functions from Equation (7); but if taken $k > 0$ expected to change to trigonometric functions, which explained in sect. 3. Here the value of ζ in the cases 1-4 is given by

$$\zeta = ax + b\frac{t^\alpha}{\alpha}. \quad (21)$$

5. Results and comparison: Bekir and Boz¹⁷ obtained only one exact wave solution through the exp-function method by using the nonlinear Klein–Gordon (nKG) equation. On the other hand, in this article by means of the modified F-expansion method, we achieved abundant exact wave solutions to the Riccati equation. By means of this method, we have explored three classes of explicit solutions, as for instance the hyperbolic, trigonometric and rational solutions with free parameters. A comparative table between the solutions obtained by the two different methods is given below:

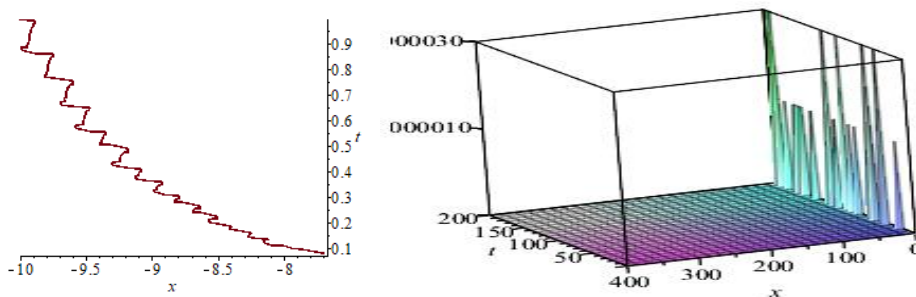
Solutions obtained in Bekirr and Boz ¹⁷	Solutions obtained in the article
<p>In Bakir and Boz (2008) obtained general solution is:</p> $u(x, t) = \frac{\exp(kx + wt) - \frac{b_0^2}{4} \exp(-(kx + wt))}{\exp(kx + wt) + \frac{b_0^2}{4} \exp(-(kx + wt))} \quad (i)$ <p>Where b_0 is an arbitrary constant, when $b_0=2$, the solution is</p> $u(x, t) = i(\csc(kx + wt) - \tan(kx + wt))$	<p>In this article obtained general solutions are:</p> $u(\zeta) = a_0 + a_1 F(\zeta) + a_2 F^2(\zeta) + \frac{b_1}{F(\zeta)} + \frac{b_2}{F^2(\zeta)} \quad (ii)$ $v(\zeta) = c_0 + c_1 F(\zeta) + c_2 F^2(\zeta) + \frac{d_1}{F(\zeta)} + \frac{d_2}{F^2(\zeta)} \quad (iii)$ <p>where $a_0, a_1, a_2, b_1, b_2, c_0, c_1, c_2, d_1, d_2, a, b, k$ are arbitrary constants.</p> <p>For case 1: If we put $k = -1$,</p>

From the table, we warning that the general solution (i) contains only one arbitrary parameter say b_0 , on the other hand from the general solution (ii) and (iii), we observe that it contains four arbitrary parameters. Therefore, for set 1, we obtain five solutions in which two are hyperbolic solutions, two are trigonometric and one is rational function solution. For the other four sets of solutions, in the same way we obtain abundant wave solutions to the nonlinear evaluation equation.

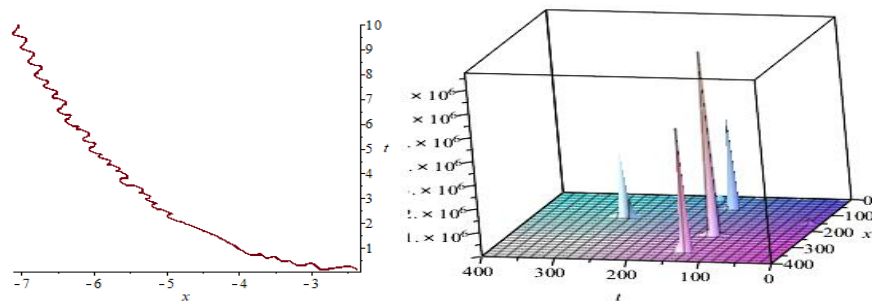
6. Graphical illustrations of the obtained solutions:

Graphical illustration is an operative tool for communication and it represents clearly the solutions of the problems. In this section, the physical meaning of some achieved solutions by using the mathematical software Maple will be illustrated. For further realization, the physical meaning of the solutions represented 2D and 3D. For different values of α ; some graphical illustrations of the non-linear evolution equations at different time levels of $u(x, t)$ are given in figure-1 while their equivalent results of $v(x, t)$ are given in figure-2 respectively in bellow:

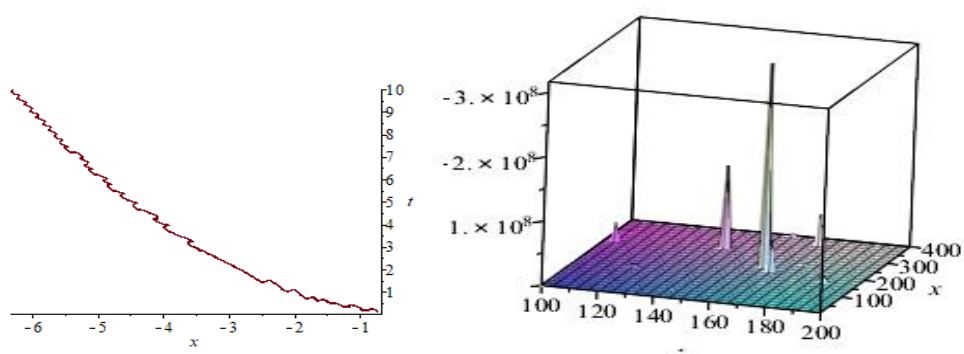
$$\alpha = 0.1, k = -5$$



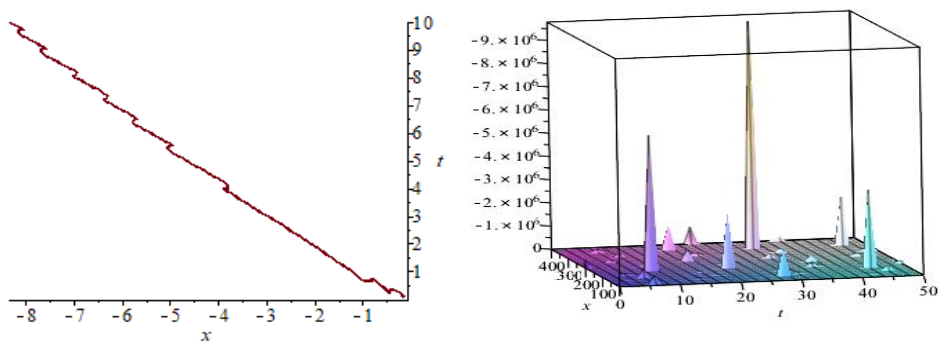
$$\alpha = 0.25, k = 0.5$$



$$\alpha = 0.5, k = 2$$



$$\alpha = 0.85, k = 2$$



$$\alpha = 1, k = 5$$

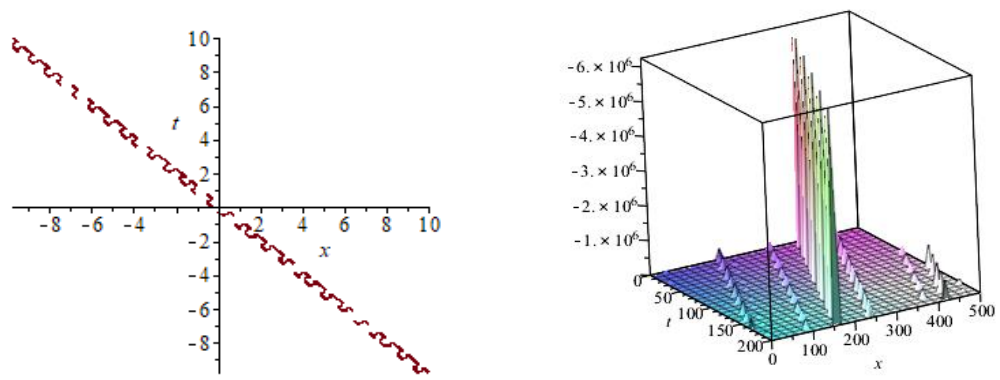
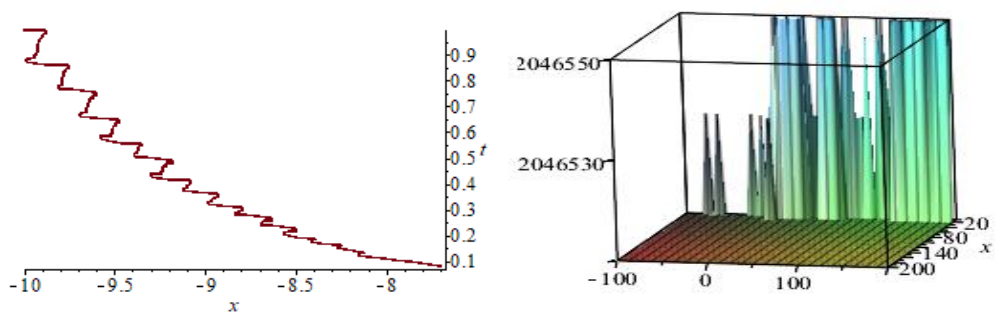
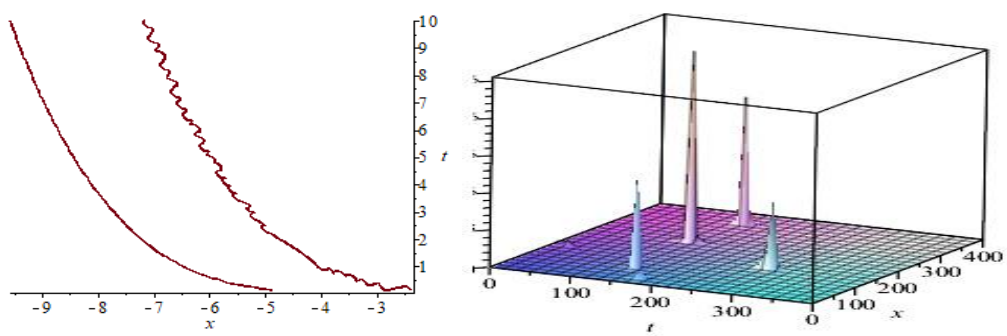


Figure-1 Profiles of $u(x, t)$ at different time levels

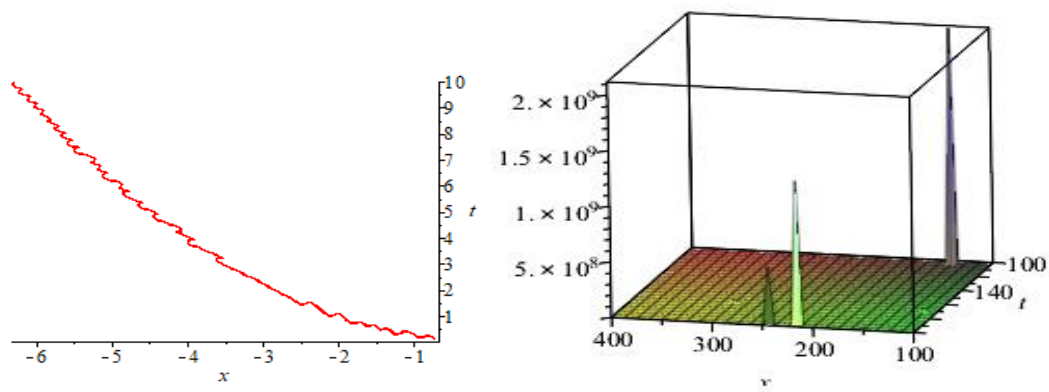
$$\alpha = 0.1, k = -5$$



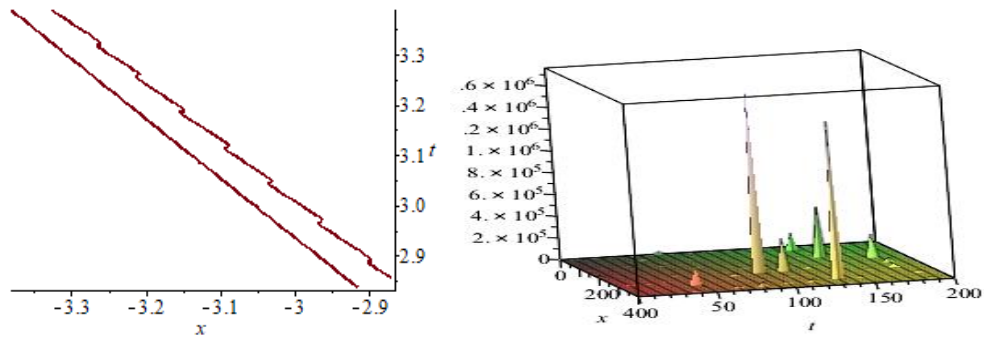
$$\alpha = 0.25, k = 0.5$$



$$\alpha = 0.5, k = 2$$



$$\alpha = 0.85, k = 2$$



$$\alpha = 1, k = 5$$

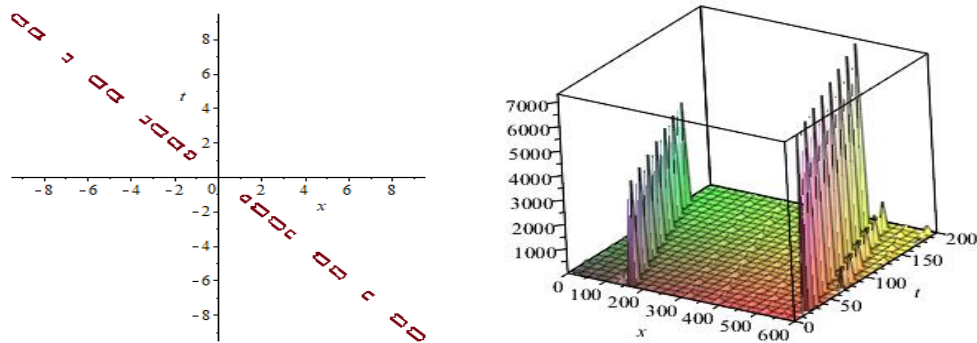


Figure-2 Profiles of $v(x, t)$ at different time levels

7. Conclusion

In this work, for finding the exact Travelling wave solutions of some nonlinear evolution equations have been used modified F-expansion method connected with Riccati equation which is recently established. Here effectively obtained some exact Travelling wave solutions of several nonlinear evaluation equations with some free parameters. New explicit solutions are revealed in terms of hyperbolic, trigonometric and rational function solutions to the studied equations through the modified F-expansion method combined with Riccati equation. The calculation process of this method is easy, straightforward, user friendly, and by computer algebra the method can be suitably conducted. Thus the

modified F-expansion method combined with Riccati equation can be further use to solve many other nonlinear evolution equations which often arise in various scientific real time application fields.

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Redesigning Teaching Learning Environment: A study at Tertiary Level Education in Bangladesh

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Abstract: The quest for effective teaching-learning remains a demanding yet complex task. This paper emphasizes the concept of teaching, the teacher, student learning, and stresses various teaching methods that can be used in the classrooms. Descriptive research design is used in the present study which is qualitative in nature. The researcher included several public and private universities in the sample by using convenience sampling technique. The data were collected with structured questionnaire and are analyzed using appropriate statistical techniques especially descriptive statistics. The hypothesis has been tested by using appropriate statistical tools. The paper further discussed curriculum implementation and its implication for teaching methods. The findings indicated that, teaching learning in modern era requires more innovative approaches and need a holistic view to meet the expectations of different stakeholders. Therefore, some recommendations have been put forward for an effective use of teaching-learning.

Keywords: Teacher, Teaching Methods, Curriculum, Learning, Student, Institution.

Introduction

Faced with pressure of an increasing number of students, education quality has been a central concern for the universities and society at large in Bangladesh. Educationists are concerned that higher education, in its current form, may not be able to supply sufficient numbers of highly trained and motivated individuals to meet the challenges of the twenty-first century. Such worries are not completely groundless. At many universities, facilities and equipment such as laboratories, libraries, equipment, journals etc. were often in short supply or outdated. Education is the essential basis for the formation of a citizen because it provides conditions for the development of skills such as reflection, creation and critical thinking. The objectives of Higher Education Institutions go beyond the formation of a citizen; their responsibility also includes the dissemination of knowledge, training of researchers and professionals, in addition to providing services to the community.

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In the context of Bangladesh, tertiary level teaching and learning is a major concern for the policy maker which they need to reform in a way that will help producing professionals of that quality which can meet the national along with international demand. It is high time we transform the traditional educational system into participative and modern phase. However, the government has already taken some steps through different projects to minimize the impediments and maximize the opportunities for effective implementation of participatory approach. Undoubtedly these are the positive steps towards quality teaching and learning for the better implementation of modern approach. This study has the objective to identify the factors that influence the process of teaching and learning from the perspective of Higher Education Institution in Bangladesh by analyzing different stakeholders.

Literature Review

Research on academic development, teaching, learning and student outcomes as discrete topics is extensive. However, there is little research evidence on the direct links between academic development and student outcomes. In the context of the of Higher Education, “good teaching” is recognized as a very important academic function. Thus, the establishment of special centers for teaching and staff developing, for promoting research on the “University Teaching”, and for establishing friendly teaching and learning environments was financed in many universities like North South University, American International University-Bangladesh, University of Asia Pacific-Bangladesh , Jagannath University in particular. The extension of higher education, the growing diversity of student population, and the competition between institutions puts pressure in the quality dimension of higher education.¹ Given the importance of education in the lives of individuals and the progress of societies, university teachers’ response to new requirements is often presented as a dilemma: university teaching will either continue to follow the traditional, largely ineffective, ways, or will try innovative practices to improve the quality of teaching and learning.² As learning experiences important for students are now identified those which are concerned with both the processes and the products of learning. Criteria for the first are the high degree of motivation of the audience during the teaching and active participation in learning, while for the latter the value for the personal lives of students, for their work, for their involvement in the community, etc., as well as the achievement of remarkable changes in their attitudes and in modes of thinking.³ It is argued that a modern university must tend to create “communities of learning, dialogue, research, and practice”.⁴ Too often the ineffectiveness of teacher instruction is not regarded as influential in ineffective learning within the professional culture of teaching it is commonly believed that if something is taught it is automatically learned. If it is not learned, then the problem is presumed to lie with the inadequacy of the learner's ability, motivation or persistence.⁵ Assurance of quality in higher education should be the prime objective of the Government of the People’s Republic of Bangladesh .⁶ In the era of globalization, when intellectual capital is more and more valued both by individuals and nations then higher education has become significantly important. Higher education can produce critical thinkers and innovators, as well as healthy, informed and enthusiastic citizens.⁷ In Bangladesh, different Education Commissions have theoretically emphasized on unlocking potential at all levels of the society and creating a pool of highly trained

individuals, who could contribute to the nation building. But in practice the academic standard of Bangladeshi universities are very weak and as such they have failed to bring any positive change.⁸ The improvement of higher education quality may attract foreign students to our country as well as local outgoing students which could generate more government revenues by contributing to national economy.⁹ There is great controversy about the quality of education that private universities provide. Most of the private universities are running their academic activities in rented buildings without enough research facilities. In comparison public universities spend more funds in research purpose. University of Dhaka spends only 2% of its total budget for research purpose which is not satisfactory. The quality of education depends on quality classroom teaching which demands extensive research in teaching learning.¹⁰

Rationale of the Study

Higher education is one of the important parts of the education system. There is much discussion these days about quality in higher education in Bangladesh. But the academics and education specialists do not clearly explain what quality means and why it is needed in the higher education setting. We are experiencing more of a conflicting ideas rather than a conversation about quality. Higher education is recognized today as a capital investment and is of foremost importance for economic and social development of the country. Tertiary education system and the employer expectations in Bangladesh mismatch to a great extent. The curriculum of the universities and the delivery of the content in classroom teaching have been repeatedly proved to be ineffective in student learning. Graduates remain unemployed having degrees in relevant disciplines. The study would help the education policy planners to make suitable policy measures for higher education in Bangladesh. Finally, the study would break new ground in the field of teaching and learning at tertiary level education in Bangladesh.

Statement of the Problem

Quality dimension of teaching-learning at tertiary level education in Bangladesh has never been researched with critical point of view. Through this study, the idea of teaching-learning has been redefined. So, this study is a type of descriptive in nature. The focus of the research is to find out those factors which significantly influence the teaching- learning of the students. Several universities have studied by the researcher to find out the factors contributing to the higher education quality of teaching and learning. In the process of researching the problems the researcher has tried to cover the gap of previous studies and laid the foundation of future research.

Objectives of the Research

The broad objective of this research paper is to redefine teaching and learning. The very objective can be achieved with the concise discussion on the following areas:

- Teaching and learning.

- Effective curriculum implementation at tertiary level education.
- Understanding different teaching and learning methods and the challenges to apply them in higher education.

Specific Objectives

- To study the effect of teacher factor in the process of student learning.
- To study the effect of teaching methods in the process of student learning.
- To study the effect of Curriculum in the process of student learning.
- To study the effect of educational institution's infrastructural development in the process of student learning.
- To study the effect of individual student as a factor in the process of learning.

Methodology

This is a descriptive, qualitative research in which quantitative method has been used. Several universities have been taken for sample from the population. The respondent consists of full time faculty members, students, top management and education specialists. The convenient sampling technique is used to choose the sample. The sample included 20 teachers, 10 management body, 10 education specialists and 40 students. In this study both primary and secondary data has been used. Primary data are collected by administering teaching-learning questionnaire to the stakeholders. Five point Likert's Scale is used to measure the effect of independent variables on dependent variable. Secondary data are collected through books, journals, websites and office records of the organizations. The data collected are analyzed using appropriate statistical techniques such as frequencies, Arithmetic Mean, Standard Deviation, ANOVA, Pearson Product Moment Correlation Coefficient and Regression Analysis.

Sample Selection

The population of the research is the Public and Private Universities of Bangladesh. The sample for the research is as follows:

Table 1: Sample selection with specifications

<i>Sector</i>	<i>Number of Universities selected as sample</i>	<i>Number of respondents</i>
Public Universities	5	30
Private Universities	15	50
Total	20	80

Source: Developed by Researcher

Data Sources

The data used in the research is mostly primary type. The major source of information for the research work is the direct responses of the respondents. The literature of the research is developed from prior related research work by various researchers.

Research Hypotheses:

H₀: The **Teacher** factor will not have any significant impact on student learning.

H₀: The **Teaching Methods** will not have any significant impact on student learning.

H₀: The **Curriculum Design** will not have any significant impact on student learning.

H₀: The **Institutions** factor will not have any significant impact on student learning.

H₀: The **Student** factor will not have any significant impact on learning.

Research Model

To test the hypothesis, following regression model is being used-

$$SL = a + b_1T, TM, CD, I, S + \varepsilon$$

Where,

SL= Student Learning

a= Constant;

*b*₁= Regression Co-efficient

T= Teacher, **TM**= Teaching Methods, **CD**= Curriculum Design, **I**= Institutions, **S**= Student

ε = Error

Theoretical Model of the Study

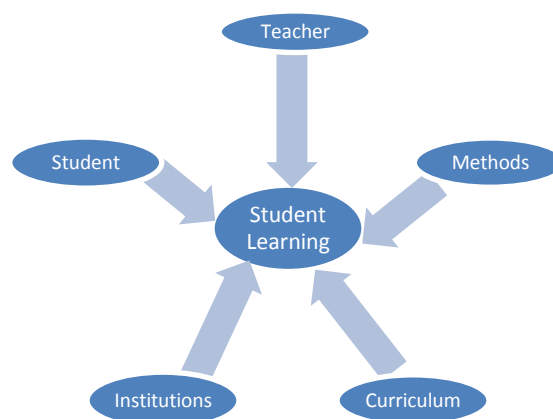


Figure: 1 Framework of data analysis

Source: Developed by Researcher

It is observed from the above figure that the researcher used independent variable to measure the dependent variable. Here in this model student learning is dependent on various factors.

Literature Supporting General Objectives of the Study

The Concept of Teaching

Teaching is an attempt to bring about desirable changes in human learning, abilities and behavior in order to contribute to better living. Teaching helps people to gain the knowledge, skills and attitudes they need to be responsible citizens. It is also a means of passing knowledge to the next generation. Awotua-Efebo ¹¹ sees teaching as an interaction between a teacher and a student under the teacher's responsibility, in order to bring about the expected change in the students behavior. The purpose of teaching, are to help students to:

- Acquire, retain and be able to use knowledge
- Understand, analyze, synthesize and evaluate skills
- Establish habits and
- Develop attitudes

Concept of Learning

Learning is about a change: the change brought about by developing a new skill, understanding a scientific law, changing an attitude. The change is not merely incidental or natural in the way that our appearance changes as we get older. Learning is a relatively permanent change, usually brought about intentionally.

Teaching Methods

Simply, teaching method is any teaching maneuver that can be used to facilitate students learning and satisfaction. Different teaching methods may elicit different types of changes in learning outcomes. Teaching methods are many and varied and could be used in different ways, considering among others the age of the learners, body configuration or physique of learners, (able or disabled learners). Academic ability/intelligence of the learners, number of learners and of course the type of curriculum discipline which recognizes the fact that certain teaching methods are much more suitable to some disciplines than others. Vikoo ¹² identified teaching methods that could be presented under three main categories:

1. Cognitive Development Methods

Here, if the focus of the instructional objectives is to develop intellectual skills in learners, then the cognitive development methods of teaching are recommended. This method helps learners to comprehend, analyze, synthesize and evaluate information. It helps learners develop good cognitive abilities.

2. Affective Development Method:

This domain includes objectives which describe changes in interest, attitudes and values. It further deals with the development of appreciation and adequate adjustment. Education has a lot to give the learner in order to assist him/her develop in these areas, hence teachers are encouraged to include learning experiences that are worthwhile, teach in ways that arouse interest and develop proper attitude in learners. In this method of teaching student's feelings or opinion are aroused.

3. Psychomotor Development Methods

These are activity based methods of teaching that aim at motor skills development in learners. This method requires that learners are able to illustrate, demonstrate, or perform certain skills using their manual dexterity. It is a heuristic method of teaching that involves inquiry and discovery methods of teaching. It is a more student activity based method.

Challenges in Applications of Modern Teaching Methods in Bangladesh

- Reluctant stand of the public university authority about quality standard.
- Top management is unaware of the knowledge of modern technology support which aid in the process of effective delivery of teaching.
- Teachers don't adjust themselves in adapting the participative approach of teaching.
- Classroom setting and seating arrangement of student is ignored in most of the universities.
- Lack of infrastructural support like; teacher lounge, desk, computer facilities, internet connection, shortages of paper, multimedia projector etc.

Implementing the Curriculum through Effective Teaching Methods

To Tanner and Tanner¹³ Curriculum is the planned and guided learning experiences and intended learning outcomes formulated through systematic reconstruction of knowledge and experiences for learners under the premises of an institution. Curriculum to Offorma¹⁴ is a structural series of learning experiences intended for the education of the learners under the guidance of the teacher. The ability to put curriculum content and other instructional guidelines into practice inside the classroom can be referred to as curriculum implementation. Ivowi¹⁵ viewed curriculum implementation as the process of putting all that have been planned as a curriculum process into practice in the classroom through the combined efforts of the teacher, learner, administrator as well as the interaction with the physical facilities, instructional materials, psychological and social environment. Teachers carry out the task of providing learning experiences by providing instruction; these instructions can be achieved through the use of various teaching methods that are made available. Fundamentally, teaching is concerned with the attainment of maximum beneficiary learning for the learner. The teacher's major task among others is to ensure that learning is effective and efficient. Teaching methods known as patterns of interaction between the learners and the teachers are intended to lead to a change in the learner's behavior. There are a variety of teaching methods, and it is through the use of such teaching methods that teachers are able to implement the curriculum. In situations where teachers fail to use appropriate teaching methods, a good curriculum plan could turn out to be damaged. The main purpose of

curriculum implementation is to translate the ideas into a workable blueprint, and this can be achieved basically by using appropriate teaching methods in class. The curriculum as planned learning experiences is provided to assist the learners in attaining the designated learning outcomes that can be attained by the use of effective teaching methods. The teacher through his teaching methods makes direct use of the curriculum, thereby implementing it. The teacher uses the appropriate teaching methods and resources to achieve learning. Whenever a teacher is teaching a lesson through the means of various teaching methods, he is implementing the curriculum.

Research Analysis and Discussion

A total number of twenty organizations have been researched. The sample selection is influenced by the objectives of the study and is constrained by the availability of the time and access. The research methods involved a primary scrutiny of the student learning factors. The responses were carefully examined and analyzed to find out the actual level of learning. Given the time and resource constraints, the nature of the study tends to be mainly exploratory and descriptive.

Respondent Demographics

The following table is the demographic details of the respondents:

Table 2: Demographic Information

Demographics	Category	Frequency	Percentages (%)
Gender	Male	48	60
	Female	32	40
Age	18-30years	59	73.75
	31-above	21	26.25
Type of organization	Public	5	25
	Private	15	75
Education	Masters	30	37.5
	Phd.	5	6.25
	Undergraduates	45	56.25
Position	Mid-level	55	68.75
	Top level	25	31.25
Total		N=80	100%

Source: Field work, 2018-2019

It is evident from the above table that among the respondent both the male and female are present. It can also be inferred that mid-level employees outnumber others. It can also be observed that both public and private organizations have been researched.

Descriptive Analysis of the Study:

Table 3: The following table describes the general statistics of teaching learning at tertiary level education in Bangladesh.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
1. Instruction in English lecture	80	2.00	5.00	4.1375	.32655
2. Student like materials than text book	80	4.00	5.00	4.1175	.34655
3. Student like duration of less than 90 minutes	80	3.00	4.00	3.8625	.34655
4. Teacher recognition is important	80	3.00	5.00	4.7250	.69309
5. Your university has excellent library	80	2.00	4.00	2.2750	.69309
6. Organization has enough research facilities	80	2.00	4.00	2.2950	.69309
7. Has enough refreshment facilities	80	2.00	4.00	2.2750	.69309
8. Do you get enough breaks	80	2.00	3.00	2.1375	.34655
9. I love to speak in English and give presentation	80	3.00	4.00	3.1375	.34655
10. Prepare lesson at home regularly	80	1.00	3.00	1.2750	.69309
11. Teacher get enough autonomy	80	3.00	4.00	3.8525	.34655
12. I am treated with honor by all	80	2.00	4.00	2.2850	.69309
13. Student must take own responsibility	80	3.00	4.00	3.8625	.34655
14. Student attitude has gone lower	80	2.00	4.00	3.7250	.69309
15. I come in the class for proper learning	80	3.00	4.00	3.1375	.34655
16. I am a good listener	80	2.00	3.00	2.8625	.34655
17. I am a good student	80	2.00	4.00	2.2950	.69309
18. I am a devoted teacher	80	3.00	4.00	3.1375	.34655
19. Valid N (listwise)	80				

Table 3 illustrates the descriptive statistics of data collected from respondents. It is observed from the table that our educational institutions at tertiary level are not providing students and faculties enough infrastructural and logistics support for creating an effective learning environment. Because, the result shows a very poor mean score of just above 2 on library (2.27), research (2.29), and refreshment (2.27). It is also notable that students lack motivation

and not confident enough in their learning. Thus, our study reveals some poor score on student presentations skill (3.13), English speaking (3.13), preparing lesson (1.27), purpose (3.13), listening to lecture (2.27), and behavior (2.29). However, some educational experts, faculties, and students confessed that use of English language in instruction should be preferred (4.13), prepared materials are more useful for student learning (4.11), class duration need to be reduced (3.86), teacher autonomy is must (3.85), students must take responsibilities of their learning (3.86). The study also indicates some strange statistics on the part of teacher and student like, teacher confess that they are not receiving enough honor, respect and authority from the society especially in private sector (2.28). Students also surprised the researcher by not having any clear intention to come in the class (3.13).

Regression Model Summary and Discussion

1. Teacher Factor

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.728 ^a	.634	.588	.04027

Table 5: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	15.122	4	3.85	32.586	.000 ^a
Residual	13.463	75	.278		
Total	28.585	79			

a. **Predictors:** (Constant), good relation with student, subject knowledge of teacher, work load, class management skill of teacher.

b. **Dependent Variable:** Student Learning

The correlation as indicated by $R = 0.728$ tells that the dependent variable is positively correlated with all the 4 independent variables. This means teacher factor and the student learning would move in the same direction. The R- Square value is 0.634, which indicates the coefficient of determination shows that 63.4% data can be explained by the dependent variable. Hence a very significant proportion of the level of student learning depends on the teacher factor. ANOVA table reveals that the p value 0.000 is lower than the significance level of 0.05 adopted for the test. So, it can be inferred that the null hypothesis in this case cannot be accepted. Therefore, it can be concluded that the teacher factor positively impacts the learning of student at tertiary level.

2. Teaching Method

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.528 ^a	.436	.412	.06024

Table 7: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.125	3	2.77	16.456	.000 ^a
Residual	10.466	76	.378		
Total	22.591	79			

a. **Predictors:** (Constant),
teaching method nurture
intellect, attitude and skill,
implementing curriculum,

b. **Dependent Variable:** Student
Learning

The correlation as indicated by $R = 0.528$ tells that the dependent variable is positively correlated with all the 3 independent variables. This means teaching method and the student learning would move in the same direction. The R- Square value is 0.436, which indicates the coefficient of determination shows that 43.6% data can be explained by the dependent variable. Hence a significant proportion of the level of student learning depends on the teaching method. ANOVA table reveals that the p value 0.000 is lower than the significance level of 0.05 adopted for the test. So, it can be inferred that the null hypothesis in this case cannot be accepted. Therefore, it can be concluded that the teaching methods positively impact the learning of student at tertiary level.

3. Curriculum Design

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.425 ^a	.335	.218	.05032

Table 9: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	2.125	3	1.65	24.456	.000 ^a
Residual	10.334	76	.178		
Total	12.459	79			

a. **Predictors:** (Constant),
industry linkage, learning
outcomes, need of stakeholders

b. **Dependent Variable:** Student
Learning

The correlation as indicated by $R = 0.425$ tells that the dependent variable is positively correlated with all the 3 independent variables. This means curriculum design and the student learning would move in the same direction. The R- Square value is .335, which indicates the coefficient of determination shows that 33.5% data can be explained by the dependent variable. Hence a good proportion of the level of student learning depends on the curriculum design. ANOVA table reveals that the p value 0.000 is lower than the significance level of 0.05 adopted for the test. So, it can be inferred that the null hypothesis in this case cannot be accepted. Therefore, it can be concluded that the effective curriculum design positively impacts the learning of student at tertiary level.

4.The Institution

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.405 ^a	.218	.126	.07032

Table 11: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4.125	3	1.163	18.388	.000 ^a
Residual	22.313	76	.578		
Total	26.438	79			

a. **Predictors:** (Constant),
teaching aids, organized
classroom, infrastructure design,

b. **Dependent Variable:** Student
Learning

The correlation as indicated by $R = 0.405$ tells that the dependent variable is positively correlated with all the 3 independent variables. This means institution factor and the student learning would move in the same direction. The R- Square value is 0.218, which indicates the coefficient of determination shows that 21.8% data can be explained by the dependent variable. Hence a relatively small proportion of the level of student learning depends on the

institutional factor. ANOVA table reveals that the p value 0.000 is lower than the significance level of 0.05 adopted for the test. So, it can be inferred that the null hypothesis in this case cannot be accepted. Therefore, it can be concluded that the institution factor positively impacts the learning of student at tertiary level.

5.The Student

Table 12: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.415 ^a	.238	.149	.05036

Table 13: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	13.165	3	3.124	26.452	.000 ^a
Residual	14.312	76	.249		
Total	27.477	79			

a. **Predictors:** (Constant),

Student conditions, background knowledge, good relation with teacher,

b. **Dependent Variable:** Student Learning

The correlation as indicated by $R = 0.415$ tells that the dependent variable is positively correlated with all the 3 independent variables. This means student factor and the learning of student would move in the same direction. The R- Square value is 0.238, which indicates the coefficient of determination shows that 23.8% data can be explained by the dependent variable. Hence a small proportion of the level of learning depends on the student factor. ANOVA table reveals that the p value 0.000 is lower than the significance level of 0.05 adopted for the test. So, it can be inferred that the null hypothesis in this case cannot be accepted. Therefore, it can be concluded that the student factor positively impacts their learning at tertiary level.

Conclusion

Quality education has been identified as one of the significant issues. Quality in education is very tough to achieve. It depends on many factors such as quality teachers, training, methods used in teaching, assessment system, teaching aids, use of technology, and so on. The researcher point out that Bangladesh education system puts emphasis on rote memorization rather than critical thinking while teaching in the classrooms. The research findings clearly describe the limitations of our education system and identified the contributory factors which

influence the teaching and learning process at tertiary level education in Bangladesh. The research is mainly to realize the need of reformation of higher education system in our country.

Recommendations

1. Teachers should be adaptive in their instructions by using modern teaching aids and methods to make the learning process more effective and practical.
2. Respective authorities such as top management, Government, UGC and department head must aid modern teaching methods to implement the curriculum properly.
3. Curriculum design should be based on identifying different stakeholders need.
4. Educational institutions should invest more money, time and effort to make a conducive educational environment.
5. Graduates must take the responsibility of learning which leads to creativity and innovation.

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Appendix-1: Questionnaire

The questionnaire is designed to investigate student learning on different indicators at tertiary level education in Bangladesh. The information disclosed in response to the following questions will be confidential and will be used solely for academic purpose.

Please, respond to all items given below by putting a **tick (✓)** in the appropriate space.

No.	Personal Information	Response				
1.	Gender	Male		Female		
		()		()		
2.	Age	18-30 (yrs)		31-Above (yrs)		
		()		()		
3.	Name of the organization					
4.	Type of organization	Private		Public		
		()		()		
5.	Designation	student	Lower level	Mid Level	Top Level	
		Be Specific:				
6.	Educational Qualification	Under Graduates		Masters		Phd.
		()		()		()

Teacher (IV)						
No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Good relationship and positive attitude towards students is conducive for student learning.	1	2	3	4	5
2.	Thorough subject knowledge is inevitable for learning.	1	2	3	4	5
3.	Teacher work load significantly hamper student learning.	1	2	3	4	5
4.	Teacher Classroom Management skill helps good learning environment	1	2	3	4	5
5.	I believe Teacher is the most important factor in student learning process. (DV)	1	2	3	4	5
Teaching Methods (IV)						
No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Teaching method can nurture intellect of students	1	2	3	4	5
2.	Teaching method can develop positive attitude and skills of students	1	2	3	4	5
3.	Teaching method helps implementing curriculum properly	1	2	3	4	5
4.	I believe Teaching Methods is a considerable factor in student learning process. (DV)	1	2	3	4	5
Curriculum Design (IV)						
No.	Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Curriculum should reflect industry demands.	1	2	3	4	5
2.	Learning outcomes helps student apply their knowledge.	1	2	3	4	5
3.	Curriculum should satisfy the need of all stakeholders.	1	2	3	4	5
4.	I believe Curriculum Design is an important factor in student learning process. (DV)	1	2	3	4	5
Institutions (IV)						
1.	Modern teaching aids reinforces student learning	1	2	3	4	5
2.	Well organized classroom makes student learning more enjoyable	1	2	3	4	5
3.	Outer and inner construction design of Institution attract student and facilitate learning.	1	2	3	4	5
4.	I believe Institution environment is an important factor in student learning process. (DV)	1	2	3	4	5
Student (IV)						
1.	Student's intellectual, mental and social conditions greatly affect learning.	1	2	3	4	5
2.	Background knowledge is the precondition of learning	1	2	3	4	5
3.	Good relationship with teacher foster student learning	1	2	3	4	5
4.	I believe Institution environment is an important factor in student learning process. (DV)	1	2	3	4	5

No.	General Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Do you prefer lectures in classroom to be delivered in thorough English?	1	2	3	4	5
2.	Do you think prepared materials by teacher makes student learn more quickly and effectively instead of Text Book?	1	2	3	4	5
3.	Do you think class duration of 90 minutes should be reduced to 60-70 minutes?	1	2	3	4	5
4.	Do you want that teacher should be recognized as most important element in your organization?	1	2	3	4	5
5.	Your organizations have excellent library resources	1	2	3	4	5
No.	General Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6.	Your organization provides research facilities properly	1	2	3	4	5
7.	Does your organization provide adequate refreshment and recreational facilities?	1	2	3	4	5
8.	Do you get enough breaks between classes?	1	2	3	4	5
9.	Can you speak English properly and love to give presentations before audience?	1	2	3	4	5
No.	General Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.	Do you prepare your lesson at your home regularly?	1	2	3	4	5
11.	Teacher should have maximum autonomy in his decisions	1	2	3	4	5
12.	As a teacher you are treated with respect, honor by authority, student and society as a whole.	1	2	3	4	5
13.	Do you think that students must take own responsibility of their learning?	1	2	3	4	5
14.	Do you think student attitude toward teacher has gone down to an extreme level?	1	2	3	4	5
15.	Can you honestly say that you really come in the class to learn new knowledge, skill and attitude?	1	2	3	4	5
16.	Do you believe that you are really an empathetic/good listener?	1	2	3	4	5
17.	Do you think that you are a good student in behavior and learning?	1	2	3	4	5
18.	Do you think that you are a devoted teacher?	1	2	3	4	5

Appendix-2: List of Universities Researched

SL.	Name of the University	Category
1.	University of Dhaka	Public
2.	Jahangirnagar University	Public
3.	Bangladesh University of Professionals	Public
4.	Jagannath University	Public
5.	Comilla University	Public
6.	BRAC University	Private
7.	East West University	Private
8.	North South University	Private
9.	American International University-Bangladesh	Private
10.	Independent University, Bangladesh	Private
11.	Bangladesh University of Business and Technology	Private
12.	Hamdard University Bangladesh	Private
13.	University of Asia Pacific (Bangladesh)	Private
14.	Notre Dame University Bangladesh	Private
15.	Asian University of Bangladesh	Private
16.	Bangladesh University	Private
17.	City University, Bangladesh.	Private
18.	Daffodil International University	Private
19.	Sonargaon University	Private
20.	Prime University	Private

Implementation Status of Graphic Health Warnings as per Tobacco Control Law on the Packets of Tobacco Products in Bangladesh

Md. Bazlur Rahman*

Abstract: Bangladesh is the first signatory countries of WHO FCTC. Bangladesh signed on 16 June 2003 and ratified on 14 June 2004. The government of Bangladesh has taken several initiatives to reduce tobacco use. Bangladesh government has enacted tobacco control law in 2005 and amended in 2013 along with notification of the revised rules in 2015. As per law and rules Graphic Health Warnings (GHW) has been implemented from 19 March 2016. Health warnings on packages of tobacco products are a highly cost-effective means of health communication. Pictures are particularly significant for individuals who are illiterate or who have low literacy. As per population census 2011 the overall 49% people are illiterate in Bangladesh. So, half of the population in Bangladesh was out of the target beneficiaries from text warnings. The purpose of the study was to find out the gap of effective implementation of graphic health warnings on all tobacco products. Cross sectional study design, quantitative and qualitative approach, observational methods, semi-structured questionnaire and purposive sampling method were used to conduct the study. For monitoring the compliance, 430 tobacco packs were investigate and the research team founds that the different size, shapes, structures ingredient, without packaging tobacco, single sticks and absence the date of manufacturer & complete address were the major barriers for effective implementation of GHWs. Tobacco control is considered a low priority issue compared to other health-related programs and these types of research has historically not been a popular topic within the different research communities in Bangladesh. So, it must be needed to develop the policy interventions that provides positive message to the society and government regarding poverty, health care, and the economic status.

Key Ward: Graphic Health Warnings, Tobacco, Health, Tobacco Control Law, Smoking Tobacco, Smokeless Tobacco

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Introduction

Bangladesh government passed the tobacco control (TC) law in 2005 and amended in 2013 and also passed the rules in 2015. According to the TC law and rules Graphic Health Warnings (GHW) has been implemented from 19 March 2016. GHW implementation was much challenged. In Bangladesh, there are many small and large tobacco companies traditionally who bypassed and ignore the rules and regulation of TC law in different ways. Suppose that the government has ordered on 4th July 2017 to tobacco companies in Bangladesh to print GHWs on the upper half of tobacco packs from September 19 and changing the earlier order but the tobacco companies file a case on the high court to stay the order and court issued an order to print GHWs on the lower side on the tobacco packets.

The area of the country is 56,977 sq. miles or 1, 47,570 sq. k.m. As per population census 2011 report the population of the country stood at 149.77 million in 2011. The male population was 74.98 million and female was 74.79 million.¹

The Who Global Adult Tobacco Survey (GATS) 2017 found that in Bangladesh, 46% of men and 25.2% of women who were 15 years and older used tobacco.² This made the overall population level use of this age group is 35.3%. Overall prevalence of smoking is 18% among these 36.2% are men and 0.8% are women. Overall consumption of smokeless tobacco is 20.6%. Its use in women (24.8%) was more than in men (16.2%). Consumption was higher in older age groups and this trend was more prominent in women.²

Health warnings on packages of tobacco products are a highly cost-effective means of health communication. Package warnings reach every smoker (and consumers of other tobacco products) every day. Warnings are always working 24 hours per day, 7 days per week. A pack a day smoker would take his or her pack out 20 times per day, 7300 times per year.³ Warnings are also seen by those around the consumers, such as family, friends and co-workers. Pictures can convey a message with far more impact than can a text-only message. A picture really does say a thousand words. Pictures are particularly significant for individuals who are illiterate or who have low literacy, an aspect especially important in many countries. As per population census 2011 the overall 49% people are illiterate in Bangladesh.¹ So, half of the population in Bangladesh was out of the target beneficiary from text warnings. Even pictures are also important to immigrants, temporary workers as well as individuals from minority language groups who may not yet be able to read the national language. Effective health warning labels provide direct health messages to smokers, raising awareness of their health risks and increasing the likelihood that they will reduce or quit tobacco use.⁴ Large graphic warnings that cover at least half of both primary tobacco package surfaces (front and back) are more effective than smaller warnings or those that contain only text.^{4,5}

Tobacco expenditures exacerbate the effects of poverty and cause significant deterioration in living standards among the poor. This aspect of tobacco use has been largely neglected by government and the development worker. For this reason they became the trap in poverty cycle.

Objectives of the Study

The major purpose of the study was to identify the implementation status as per law and measures the gap for effective implementation of graphic health warnings on all tobacco products. The specific objectives of the study are to find out the challenges the implementation of GHW and how to meet these challenges.

Methodology

Study Design

Cross sectional study design was followed to complete the research. Both Quantitative and Qualitative approach have been used to conduct the study. Observational methods and in-depth interview were conducted among the shop keepers to collect qualitative data and semi-structured questionnaire were developed to collect the primary data. Questionnaire was developed on the basis of section 10 of Smoking and Tobacco Products Usages (Control) Act-2005 in Bangladesh. All types of tobacco products (all Variety and unique pack as per availability) were observed for GHW implementation as per law. Three retail shops and three wholesale shops were selected in a big market area (Mostly Public Gathering Place) from a district. Principal Investigator/Author observed and conducted in-depth interview from the shop keepers. Heterogeneous Purposive sampling methods was followed and 8 (Eight) districts and a sub-districts of every districts from all 8 (Eight) divisions were select for monitoring the compliance.

Study Area & Period

The study area was a district from a division and it covered all 8 divisions in Bangladesh. The selective districts were Dhaka, Chitagong, Rajshahi, Barishal, Sylhet, Rangpur, Mymensingh, Kushtia. The compliance study was conducted from 19 September 2017 to 18 December 2017 for investigating and cover the GHWs implementation as well as to measure section 10 of tobacco control law on all tobacco products.

Target Objects/Compliance Issue

All types of tobacco products (as per availability and unique pack) were observed for GHW implementation as per law and at least three retail shops and three wholesale shops were selected in a big market area from each district.

Cigarette Packet

In Bangladesh mostly 10, 12 and 20 stick size and paper packet using for cigarette manufacturing. The following points were consider for measure the compliance issues for cigarette-

- ❖ Types and size of Packets-
Paper Packet, Tin Casket/Box, Plastic Casket/Box, Poly Packet, Large Packet (6/12), Carton
- ❖ Is the GHWs Implemented or Not on the packet?
- ❖ Is the image of GHWs as per law or not?
- ❖ Image quality is proper and clearly understood;
- ❖ Image is Colorful or not;
- ❖ GHWs is the Rotational period;
- ❖ GHWs implemented on 50% Principal Display Area on Both Sides;
- ❖ Images with Text Warnings;
- ❖ Printed only Sales in Bangladesh on the Packets;
- ❖ Brand elements (such as: light, mild, low-tar, extra, ultra, etc.) on Tobacco Pack.

Bidi Packet

In Bangladesh mainly 20 and 25 sticks filter and non-filter and normal paper round shape packets used for bidi packaging. The following points were consider for measure the compliance issues for bidi-

- ❖ Types and size of Packets- Paper Packet, Large Packet (6/12), Carton
- ❖ Is the GHWs Implemented or Not on the packet?
- ❖ Is the image of GHWs as per law or not?
- ❖ Image quality is proper and clearly understood;
- ❖ Image is Colorful or not;
- ❖ GHWs is the current rotational period;
- ❖ GHWs implemented on 50% Principal Display Area on Both Sides;
- ❖ Images with text warnings with the ration of 6:1 in white letters on black background;
- ❖ Printed only Sales in Bangladesh on the Packets;
- ❖ Is GHWs covered by tax/band roll.

Jordha/Zordha Packet

GHWs implementation and monitoring is very complex because different size, shapes, structures and ingredients of the packet used for Jordha/Zordha packaging in Bangladesh. The following points were consider for measure the compliance issues for Jordha/Zordha-

- ❖ Types and size of Packets- Paper Packet, Tin Casket/Box, Plastic Casket/Box, Poly Packet, Large Packet (6/12), Carton
- ❖ Is the GHWs Implemented or Not on the packet?
- ❖ Is the image of GHWs as per law or not?
- ❖ Image quality is proper and clearly understood;
- ❖ Image is Colorful or not;

- ❖ GHWs is the current rotational period;
- ❖ GHWs implemented on 50% Principal Display Area on Both Sides;
- ❖ Images with text warnings with the ration of 6:1 in white letters on black background;
- ❖ Printed only Sales in Bangladesh on the Packets;
- ❖ Is GHWs covered by tax/band roll.

Gul

Gul is a tobacco product which is made by the powder of tobacco leaf. Effective GHWs implementation is very challenged because of the small size, structure and ingredients of the packets. The following points were consider for measure the compliance issues for Gul-

- ❖ Types and size of Packets- Paper Packet, Tin Casket/Box, Plastic Casket/Box, Poly Packet, Large Packet (6/12), Carton
- ❖ Is the GHWs Implemented or Not on the packet?
- ❖ Is the image of GHWs as per law or not?
- ❖ Image quality is proper and clearly understood;
- ❖ Image is Colorful or not;
- ❖ GHWs is the current rotational period;
- ❖ GHWs implemented on 50% Principal Display Area on Both Sides;
- ❖ Images with text warnings with the ration of 6:1 in white letters on black background;
- ❖ Printed only Sales in Bangladesh on the Packets;
- ❖ Is GHWs covered by tax/band roll.

Result and Discussion: *Comprehensive Compliance of Graphic Health Warnings*

Table 1: shows the Compliance issue of Section 10 of Tobacco Control Law in Bangladesh. Total 430 tobacco packs were investigate among these 42% (182) was cigarette 5% (22) was Bidi, 47% (201) was Zordha and 6% (25) was Gul. Research question was designed on the basis of 14 criteria of section 10 of Smoking and Tobacco Product Usages (Control) Act 2005 (Amended-2013) (TC Law). Different types of packets were considered for measuring the compliance study among these 37% was paper packet, 17% was tin casket/box, 21% was plastic casket/box, 11% was poly packet and 5% was considered large packet (6/12) and another 9% was big carton. Survey report shows that 73% tobacco packs implement the GHWs but among these 7% GHWs was not supported by the TC law. GHWs was unclear on 9% tobacco packs and another 7% GHWs was not color, so that the appeal of GHWs was not effective. In-terms of 50% principal display area of GHWs, 32% tobacco pack was not implement GHWs in 50% principal display area and 45% tobacco pack was not implementing GHWs on both sides of the packets. 58% packets were not printing the provision of “Permitted to sales only in Bangladesh” on the packets. On the other hand 17% tobacco products use Brand Element (such as: light, mild, low-tar, extra, ultra, etc.) on Tobacco Pack, which is completely violation of tobacco control law section 10 (4).

Table-1: Compliance issue of Section 10 of Tobacco Control Law in Bangladesh

Types of Tobacco Products		Cigarette	Bidi	Zordha	Gul	Total Sample	Percentage On Overall Tobacco Products
Types of Packets	Paper Packet	86%	13%	1%	0%	161	37%
	Tin Casket/Box	0%	0%	100%	0%	72	17%
	Plastic Casket/Box	0%	0%	77%	23%	92	21%
	Poly Packet	0%	0%	98%	2%	46	11%
	Large Packet (6/12)	46%	0%	40%	14%	22	5%
	Carton	92%	0%	8%	0%	37	9%
Is the GHWs Implemented or Not on the packet?	Yes	78%	90%	67%	68%	314	73%
	No	22%	10%	33%	32%	116	27%
Is the image of GHWs as per law or not?	Yes	100%	100%	87%	76%	293	93%
	No	0%	0%	13%	24%	21	7%
Image quality is proper and clearly understood	Yes	100%	75%	88%	59%	287	91%
	No	0%	25%	12%	41%	27	9%
Image is Colorful or not	Yes	100%	75%	90%	76%	292	93%
	No	0%	25%	10%	24%	22	7%
GHWs is the Rotational period	Yes	97%	80%	70%	70%	261	83%
	No	3%	20%	30%	30%	53	17%
GHWs implemented on 50% Principal Display Area	Yes	99%	80%	38%	23%	213	68%
	No	1%	20%	62%	77%	101	32%
GHWs on Both Side	Yes	100%	0%	18%	35%	173	55%
	No	0%	100%	82%	65%	141	45%
Images with Text Warnings	Yes	100%	75%	94%	76%	297	95%
	No	0%	25%	6%	24%	17	5%
Printed only Sales in Bangladesh on the Packets	Yes	77%	0%	18%	16%	182	42%
	No	23%	100%	82%	84%	247	58%
Brand elements (such as: light, mild, low-tar, extra, ultra, etc.) on Tobacco Pack	Yes	29%	0%	9%	13%	73	17%
	No	71%	100%	91%	87%	356	83%
Total Percentage %		42%	5%	47%	6%	100%	
Total Tobacco Products		182	22	201	25	430	

Compliance on Types of Packets Carton, Boxes

Smoking Tobacco

Fig-1: shows the Graphic Health Warnings implementation status of smoking tobacco in Bangladesh. Total 204 smoking tobacco products were analyzed to measure the compliance, among these 182 was cigarette and bidi (Filter & Non Filter) was 22. Different types of packets were considered for measuring the compliance study among these 78% was paper packet, 5% was considered large packet (6/12) and another 17% was big carton. Total 79% smoking tobacco was implement the GHWs. . 31% smoking tobacco packets were not printing the provision of “Permitted to sales only in Bangladesh”.

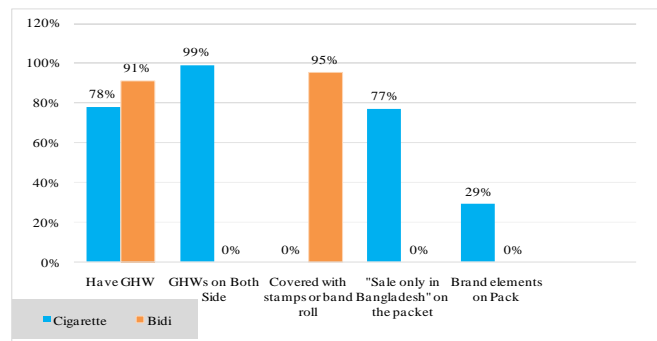


Fig-1: GHWs implementation on Smoking Tobacco

Cigarette

Most of the time it is seen that the cigarette company 100% compliance the GHWs but when the research team measure the big packet (6/12 Size) and carton then the scenario has been changed. As per Tobacco Control Law Section 10 (1) Health warnings shall be printed on both sides of the **packet, cover, carton or box** of tobacco products, covering at least 50% of the total area of each main display area or if the packets do not have two main sides in that case covering at least 50% of the main display area, with colored pictures and accompanying text, according to the act, about the harms caused by the use of tobacco products and these shall be printed in Bengali. The research team were collected the total sample of 182 pack among this 138 was cigarette (76%), 10 was big packet (6/12 Size) and 34 was carton (19%). Total GHWs rate has changed when the research measure the GHWs on the Carton because 100% carton was violate the GHWs provisions. Another 29% tobacco products used different brand element (such as: light, mild, low-tar, extra, ultra, etc.) which was totally violation of Tobacco Control Law of Section 10 (4).

Bidi

Total 22 Bidi was investigate to measure the compliance survey, among these 91% pack was implement the GHWs but 75% was unclear and most of the GHWs image cover by the packaging paper that's why the image of GHWs was out of display. Some of the image was seen half of the size and 95% was cover by the band/tax roll and 80% was not printing the text warnings with the black letter with white background. 100% violate to GHWs implement on both side of the packets and Permitted to Sales only in Bangladesh provisions of tobacco control law.

Smokeless Tobacco

WHO South-East Asia Region (SEAR) is home to about one fourth of the world's population. It is estimated that there are 246 million smokers' and 290 million smokeless tobacco users in WHO SEAR.⁶ This means that one fourth of the world's smokers and over 80% of the world's smokeless tobacco users reside in this region.⁶ In Bangladesh 35.3% of adults (37.8 million) are using tobacco in smoking and/or smokeless form among the 22 million adults (20.6%) of smokeless tobacco users, there are more women (24.8%) than men (16.2%).² Smokeless tobacco is tobacco or a tobacco product that is used by means other than smoking. Smokeless tobacco products are produced in various forms, such as chewing tobacco, snuff, snus, and dissolvable tobacco products.⁷

Fig-2: shows the Graphic Health Warnings implementation status on smokeless tobacco in Bangladesh. Total 226 Smokeless tobacco products was investigate in the survey among these

89% was Zordha/Jordha and 11% was Gul. Different types, shape and sizes of pack size was found in this research among these 32% was tin casket/box, 41% was plastic casket/box, 20% was poly packet and 5% was considered large packet (6/12) and another 1% was big carton. Research found that only 67% print GHWs on their packets but among these 14% GHWs was foreign image

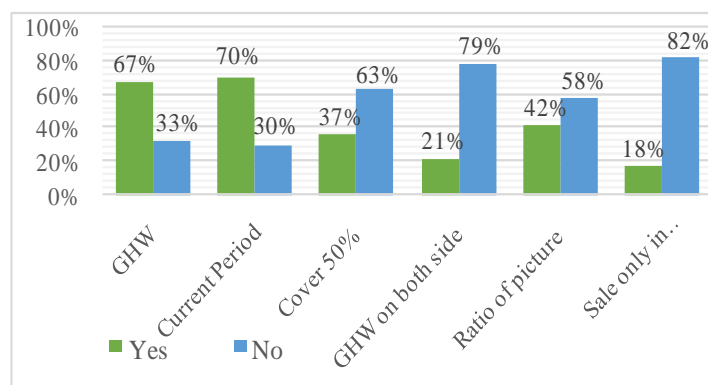


Fig-2 GHWs implementation on Smokeless Tobacco

which was completely violation of the law. 15% image was unclear and 11% was not clear and 30% was not current rotational image. 63% image was not cover 50% principal display area as per law and 79% products was not printing the both side of the packets. 58% products violate the 6:1 ration of image and text warnings and 82% tobacco products was not print "Permitted to Sales only in Bangladesh" provisions of Tobacco Control Law.

Zordha/Jordha

Different size, shape, structures and ingredients of the pack and using same brand name but sales by different manufacture were the major barrier for effective implementation of GHWs. even some company print GHWs in additional sticker paper and attached with the tobacco pack. Total 201 packs were collected among these 1% was paper pack, 36% was tin casket/box 35% was plastic casket/box, 22% was poly packet and 4% was considered large packet (6/12) and another 2% was big carton. Research found that 67% pack presents the GHWs but among these 13% image was not cover the Bangladeshi law. 11% image was unclear and 10% pack was used black

and white picture, 30% image was not current rotational period. 61% GHWs was not cover the 50% principal display area and 81% Jordha/Zordha pack violate the provision of print GHWs on both side of the packet. 40% pack violate the provision of the ration of 6:1 between the graphic and text warnings and 82% pack was not print “Permitted to Sales only in Bangladesh” provisions of Tobacco Control Law.

Gul

Total 25 Gul packs were collected for measuring the GHWs implementation, among these 84% was plastic casket/box, 4% was poly packet and 12% was considered large packet. Research team found that 68% Gul pack present the GHWs but among these 24% image of GHWs was foreign image, 41% was unclear and 24% was not color image. 29% image was not current rotational period and 76% GHWs was not cover 50% principal display area of the packet and 35% GHWs was not print both side of the packet. 59% gul pack violate the provision of the ration of 6:1 between the pictorial and text warnings and 83% pack was not print “Permitted to Sales only in Bangladesh” provisions of Tobacco Control Law.

Major Challenges

1. Different size, shapes, structures and ingredient of the packets were one of the major barriers for effective implementation of GHWs on smokeless tobacco and bidi.
2. Single sticks of the cigarette do not convey the health message and Sales single sticks was the major barrier of effective GHWs implementation.
3. Still now out of monitoring process of using without packaging (Sada Pata/Raw Tobacco) tobacco, so that GHWs is not possible to implement on open tobacco.
4. Absence the date of manufacturer is another major obstacle to measure the rotational change of the GHWs on all tobacco packs.
5. Absence of the complete address of the manufacturer is challenges to make under monitoring system.
6. Using same brand name, logo, colour, shape and packaging by different manufacturers create complex situation to measure the GHWs implementation.
7. Illicit trade is one of the major obstacles to implement GHWs on foreign tobacco products.

Conclusion and Recommendations

Conclusion

In Bangladesh, tobacco control is considered a low priority issue compared to other health-related programs. Tobacco control-related research has historically not been a popular topic within the different research communities in Bangladesh. It must be needed to develop or strengthen tobacco control policy interventions in Bangladesh. This research provides the message to the society and government and grows up attention regarding the eradication of

poverty, ensure health care, and develop the economic status. Strong tobacco control measures able to immediate impact on the health and economic factors of the low income community by decreasing tobacco expenditures and thus significantly increasing the savings of the poor.

Recommendations

Graphic Health Warnings is the proven indicator for tobacco control issues, so that the government and tobacco control activists should take initiative to implement the following activities-

1. Government should enact the uniform packaging because very small, round shape, paper pack/very weak pack is not suitable for effective implementation the GHWs.
2. Government should amended the law and include the provision of “Stop sales single stick and open tobacco because single stick and without packets does not convey the harmful message of tobacco.
3. All the enforcement agency (BSTI, DNCRP, DG Health, Narcotic Department, NTCC Etc) should work together and they should include the tobacco control as priority with their regular work.
4. Government should increase to conduct mobile court against the violation of GHWs implementation.
5. Government should take initiative to take under licensing system of Local and small tobacco company by local administration as they become monitoring system.
6. Government should ban to sales open tobacco (Sada Pata).
7. National Tobacco Control Cell (NTCC) and Bangladesh Standard Testing Institutions (BSTI) should take initiative to print date of manufacture on all tobacco products under the packaging act.
8. Smokeless tobacco sector is totally uncontrollable (Most of the company has no legal permission to produce tobacco products) that’s why different manufacturers produce a single brand. So Government/NBR to take initiative to create list of the products and manufacturer.
9. Government should take initiative to stop illicit tobacco trade trough Ministry of Commerce and Customs Intelligence and Investigation Directorate (CIID) and other enforcing agency.

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Impact of Work Enjoyment on Employee Retention Strategy

Tarana Tabassum*

Abstract: The purpose of the study is to know reasons that make employees stay at their job, and the relationship between work enjoyment and employee retention. The study is descriptive in nature based on extensive review of relevant studies done earlier. The secondary sources of information have collected from various publications, journals, books and websites about motivation, job enjoyment, and workforce retention strategy. However it is found that work enjoyment is mainly related to intrinsic motivation, which has the strong relationship with employee retention strategy. Publicly acknowledging the sacrifices and dedication of staff of any level is likely to increase worker enjoyment and create a positive team environment. Engaged employees are happier and more productive. Employees who reported higher levels of work engagement were also likely to have higher levels of job performance and career satisfaction. By matching the right personality with the right job company workers can achieve better synergy and avoid pitfalls such as high turnover and low job satisfaction. The findings suggest that organizations can give concentration on intrinsic motivational factors such as job enrichment, job involvement, empowerment, challenging work, and career development etc to facilitate work enjoyment and employee retention strategy.

Key words: Work Enjoyment, Employee Retention, Motivation

Introduction

The enjoyment of work motive is an effective and desirable motive to cultivate in managers. Without it employee retention strategy does not work. So the organizations should understand the employee's needs wants and how to meet them then they can be on the way to the talent retention in the long run in their organizations¹. Two types of motivation that have emerged in recent years are the driven to work and enjoyment of work while enjoyment of work motive emphasizes intrinsic motivation and personal enjoyment of the work itself².

Employee retention refers to the ability of an organization to retain its employee. Retention strategies are important because they help create a positive work environment and strengthen an employee's commitment to the organization. Employee retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time. Employee retention is beneficial for the organization as well as the employee³.

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Employees today are different. When they get dissatisfied, they move to other organizations. It is the responsibility of the employer to retain their best employees, if not; the organization will lose the star performers (good employees)⁴.

Effective retention management requires ongoing diagnosis of the nature and causes of turnover, a strategic approach to determining in what human capital markets retention has the largest impact on organizational success, and the development of an appropriately targeted and organized bundle of retention initiatives⁵.

The potential benefit of enjoyment is the positive emotions (e.g., fun, interest) that are derived from working for enjoyment. The study attempts to find out the impact of work enjoyment on employee retention. This research did not lay enough emphasis on the category of employees, the sector of the economy and the type of businesses.

Rationale of the study

Enjoying the work is an example of what researchers call "intrinsic" incentives because they come from within. On the other hand, getting stronger is an example of an "extrinsic" incentive, or a reward that comes after pursuing the activity. It is found by researcher that intrinsic motivation is much more important than extrinsic motivation. Intrinsic motivational factors have great impact on work enjoyment, and employee retention. This research paper is based on identifying relationship between work enjoyment and employee retention. By this study, employer will be benefited to focus on each employee that ultimately generates a great scope of talent retention.

Objectives of the study

The major objective of this study is to know impact of work enjoyment on employee retention strategy and the more specific objectives are:

- to know reasons that make employees stay at their job;
- to know the relationship between work enjoyment and employee retention; and
- to provide some recommendations against present problem.

Methodology of the Study

The study is descriptive in nature and adopts qualitative analysis methods using secondary data. The secondary data was collected from various publications, journals, books and websites. Literature reviews were gone through regarding motivation, job enjoyment, and workforce retention strategy.

Literature Review

In the study of job satisfaction and turnover intention of private commercial bank employees' in Bangladesh researchers identified there is strong relationship between job satisfaction and employees' turnover. Their study reveal that job satisfaction and turnover happen due to job security, professional development, promotional opportunity, work enjoyment, working environment, compensation package, and financial benefits⁶.

Enjoyment of work is the degree to which individuals work because they find the work itself intrinsically interesting or pleasurable⁷. Managers seek pleasure or interest from the nature of the work rather than the act of working⁸. Intrinsic motivation is a key aspect of enjoyment of work. Although enjoyment of work contains affective components (i.e., pleasure, interest), it differs from general positive affect toward one's job or organization (e.g., job satisfaction, organizational commitment). Intrinsic motivation involves freely engaging in an activity, because that activity is personally interesting or enjoyable^{9, 10}.

Workaholism scholars typically view the enjoyment motive positively, connecting it to notions such as passionate involvement and fulfillment¹¹. The results of their research link enjoyment of work to reduced stress and enhanced emotional well-being and to more favorable attitudes toward colleagues, job, and career.

Retention management has become a major source of competitive advantage in the modern and rapidly globalizing business world¹². Promotion, training practices directly influence employee's retention where as compensations and recognitions positively decrease turnover rates of the employees¹³. The findings of a survey reported that good employees leave primarily because of limited opportunities for advancement, unhappiness with management, and lack of recognition. The motivational factors that are crucial in influencing employee retention are noted to be financial rewards, job characteristics, career development, recognition, management, and work-life balance¹⁴.

Analyses and Findings

Theoretical Concept

Self-esteem and intrinsic motivation both effects work enjoyment. Hierarchy of needs theory and two- factor theory are related to job satisfaction and employee retention. In the human motivation literature, Maslow's needs hierarchy theory was one of the first theories to examine the important contributors to job satisfaction. The theory suggests that human needs form a five-level hierarchy consisting of: physiological needs, safety, belongingness/love, esteem, and self-actualization.

Figure 1 shows Hierarchy of Needs suggested by Abraham Maslow.

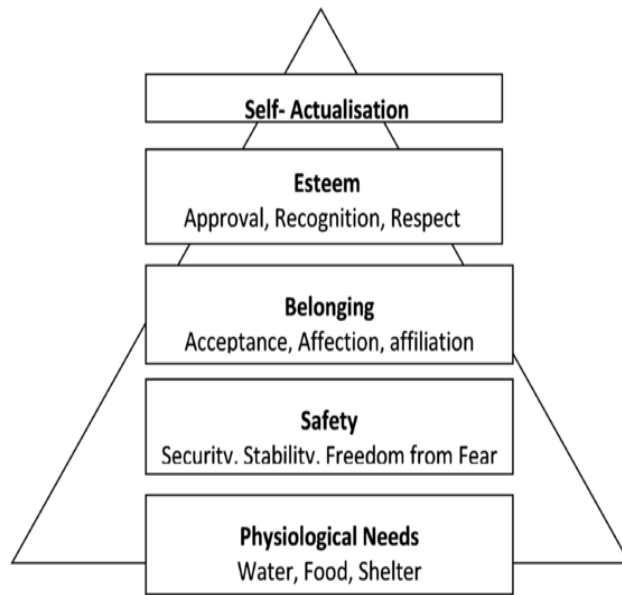


Figure 1: Maslow's Hierarchy of Needs¹⁵

Maslow's hierarchy of needs postulates that there are essential needs that need to be met first (such as, physiological needs and safety), before more complex needs can be met (such as, belonging and esteem). When lower order need is satisfied, employee's can focus on feeling as though they belong to the workplace. This can come in the form of positive relationships with colleagues and supervisors in the workplace, and whether or not they feel they are a part of their team/ organization. Once satisfied, the employee will seek to feel as though they are valued and appreciated by their colleagues and their organization. The final step is where the employee seeks to self-actualize; where they need to grow and develop in order to become everything they are capable of becoming¹⁵.

In the two- factor theory also called motivation- hygiene theory, Herzberg investigated the questions, "What do people want from their jobs?" From the categorized responses, Herzberg concluded that certain characteristics tend to be consistently related to job satisfaction and others to job dissatisfaction.

Intrinsic factors, such as advancement, recognition, responsibility and achievement seem to be related to job satisfaction. However dissatisfied respondents tended to cite extrinsic factors, such as supervision, pay, company policies, and working condition.

Figure 2 shows Herzberg's Two- Factor Theory.

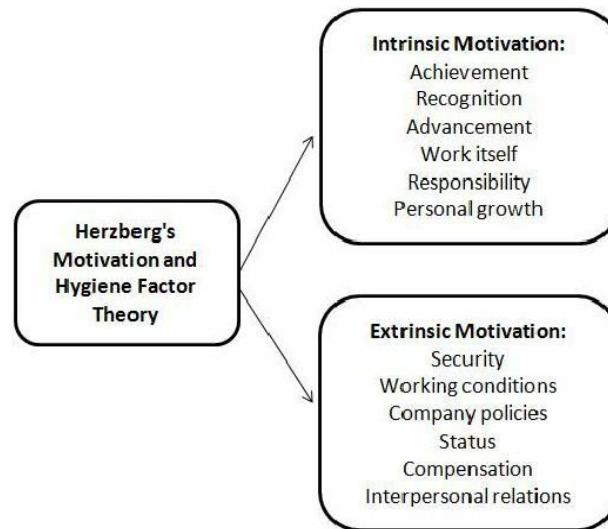


Figure 2: Herzberg's Two- Factor Theory¹⁶

Factors Related to Employee Retention Strategy

Work- life Fit: Work–life balance is a concept including the proper prioritization between work (career and ambition) and lifestyle (health, pleasure, leisure, family). The Workforce Retention Survey, which was conducted among employed adults age 18 and older, examined the factors that contribute to employee retention. Although 60 percent of working Americans said they remain with their current employers because of benefits and 59 percent reported staying because of the pay, more than two-thirds (67 percent) said they choose to stay because their jobs fit well with the other aspects of their lives. The same percentage said they stay at their current jobs because they enjoy the work they do. Even with the slow economic recovery and relatively high unemployment, only 39 percent of respondents cited lack of other job opportunities as a reason for staying with their current employers.

Work Engagement: Engagement is the degree to which people actively self- managed in their work. Self management is one of the roots of intrinsic motivation. Employees who are satisfied with their jobs, enjoy their work and the organization, believe their job to be more important, take pride in the company and feel their contributions are impactful are five times less likely to quit than employees who were not engaged. Engaged employees give their companies crucial competitive advantages, including higher productivity and lower employee turnover.

Work engagement is positively related to job characteristics that might be labeled as resources, motivators, or energizers, for instance, social support from coworkers and one's superior, performance, task variety, feedback, job autonomy, coaching, and training facilities. Work engagement concerns the degree to which individuals make full use of their cognitive, emotional, and physical resources to perform role-related work. In a study it is found that work engagement was significantly associated with work ability even after adjusting for various factors, indicating

its importance in promoting work ability. Thus, employees who are engaged in their work have an energetic, enjoyable, and effective connection with their work¹⁷. Giving employees more job autonomy might increase their intrinsic and identified regulation and may therefore lead to more energetic, enthusiastic, and dedicated engagement with their jobs.

Employee Recognition: People continue to do what they are praised and rewarded for. Therefore it is important for an organization to identify the desired behaviors that directly align with corporate culture, values, and goals and convey these desired behaviors to their employees. For recognition to be effective, employees have to be able to connect the dots between the recognition received and the organization's desired behaviors. Behaviors that align with innovation in one organization are: contributing to a new idea, helping others think outside the box, undertaking a task or challenge that has never been done before.

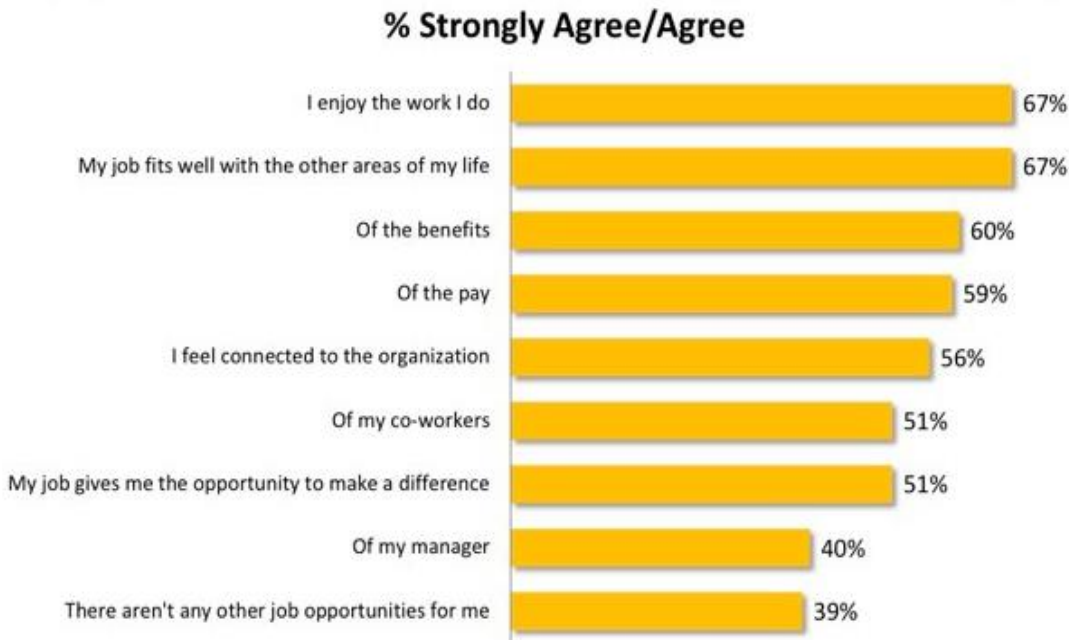
Person- Job Fit: Person- job fit means the fit between individual's cultural values and those are required to do the actual job. Employees who experience great level of person-job (P-J) fit and person-organization (P-O) fit may actively engage in their jobs and perform organizational citizenship behaviors at organization (OCB-O) and individual (OCB-I) level. By matching the right personality with the right job, company workers can achieve a better synergy and avoid pitfalls such as high turnover and low job satisfaction. Employees are more likely to stay committed to organizations if the fit is good.

Retention Program: All employees are different, of course, and each has unique desires and goals. But it's a safe bet to assume that all of them want to know they are being paid at or above market rates and have good benefits. They want to feel that they are appreciated by their employer and treated fairly. They want to be challenged and excited by the job they're asked to do. Programs such as mentoring, leadership development and networking that can help retain top talent and decrease turnover costs. By implementing programs, employees can be more engaged and productive while at work.

Discussion

The APA's Workforce Retention Survey, which examined the factors that contribute to employee retention, found that over two-thirds (67%) of employees chose to stay in their jobs because it was balanced alongside the other aspects of their lives. The same percentage said they stayed at their current jobs because they enjoyed the work they do. 60% said they remained with their current employers because of benefits, while 59% reported staying because of the pay. Only 39% cited a lack of other job opportunities as a reason for staying with their current employers. In this study over 1,000 adults what made them stay at their current jobs. Popular answers included a mix of proper engagement, office environment as well as benefits and pay. The most common responses were work-life balance and enjoyment, with two-thirds of respondents citing both as justifications for staying¹⁸.

Figure 3 shows the reasons for staying with employers.



Source: Field Survey

In this survey, employees who say they plan to stay with their current employers for more than two years, the biggest drivers of expected tenure were enjoying the work, having a job that fits well with other life demands and feeling connected to the organization.

Summary of Findings

Enjoying the workout is an example of what researchers call "intrinsic" incentives because they come from within. There are positive association exists between intrinsic motivation and employee retention. The major findings of this study are:

- Work enjoyment is mainly related to intrinsic motivation, which has the strong relationship with employee retention strategy.
- Promotion, training practices directly influence employee's retention where as compensations and recognitions positively decrease turnover rates of the employees
- Publicly acknowledging the sacrifices and dedication of staff of any level is likely to increase worker enjoyment and create a positive team environment.
- Engaged employees are happier and more productive. It is found that high employee engagement resulted in great attendance, higher productivity and profitability, and lower turnover.

- By matching the right personality with the right job company workers can achieve better synergy and avoid pitfalls such as high turnover and low job satisfaction.

Conclusions

There are many facets to employee retention. It is much more than having appropriate organizational policies. It involves successfully implementing good policies and creating a positive work culture and climate. It requires positive action by team leaders and managers. Employees leave organizations for many reasons; oftentimes these reasons are unknown to their employers. Employers need to listen to employees' needs and implement retention strategies to make employees feel valued and engaged in order to keep them. These retention methods can have a significant and positive impact on an organization's turnover rate. Employee satisfaction is a reliable predictor of employee retention. When employers engage in practices that support good working relationships, employee satisfaction improves because workers tend to believe the company is using their skills and appreciating their service and commitment. In turn, higher job satisfaction generally results in higher levels of employee retention. The findings suggest that working for enjoyment may be "a help" to managerial well-being, career satisfaction, and performance; managers who work for joy appear to experience less strain, report more satisfaction, and perform better than those who do not. Self-esteem appears to be an important antecedent of enjoyment of work. Organizational practices that encourage the enjoyment motive may boost managerial and organizational effectiveness. Due to scarcity of time and resources this study was conducted based on secondary data sources only. In near future another study will be conducted comprising primary data sources along with hierarchy of the organization.

Recommendations

- Organizations can give concentration on intrinsic motivational factors such as job enrichment, job involvement, empowerment, challenging work and career development etc. so it will facilitate work enjoyment and employee retention strategy.
- By providing clear recognition for individuals who meet defined goals, companies may be able to prevent workers from leaving. Personalized certificates, recognition cards and rewards that congratulate achievements throughout a person's career can help make them feel both appreciated and accomplished.
- Besides setting measurable goals for employee, it is important to ask employees what they expect from their manager, employees will feel empowered and valued.
- Hiring right employee for right job is the best way creating work enjoyment and retaining talent.

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Factors affecting Garments Industry in Bangladesh and their Relationships with the Profitability of this sector.

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Abstract

Ready Made Garments (RMG) industry has been making significant contribution and become the lifeline of the economy as it is the largest exporting industry of Bangladesh which accounts for 81% of the country's total export earnings. As a result, more study on this sector is very rationale and it has already captured sheer interest of many researchers to understand the profitability dynamics of RMG industry, factors shaping the entire industry, future prospects and challenges etc. The major objective of the study is to identify the factors affecting garments industry in Bangladesh and their relationships with the sector's profitability. All the data used for analyses and interpretation has been collected from secondary sources. However, Statistical software SPSS have been used for Regression Analysis, ANOVA, Coefficient etc. This study identified some factors i.e. employment in the sector, number of factories, percentage of RMG to total export, foreign direct investment and exchange rate directly are indirectly responsible for the profitability of RMG industry in Bangladesh. Providing some policy recommendations the study concludes with some findings that employment and foreign direct investment have positive correlation while number of factories and percentage of RMG to total export has inverse correlation with the profitability of RMG sector in Bangladesh.

Key words: Ready Made Garment Industry, Profitability.

Introduction

The economy of Bangladesh is mainly agriculture based. After the liberation in 1971, the country's most development plan had been planned staring around agricultural sector. But later on Bangladesh started focusing on the export industry; particularly in jute and tea. As a result throughout late 1970s and 1980s, jute and jute made goods were the most exported products. Thus, apart from agriculture the country took the issue 'growth of export division' with greater significance and considered as the priority area in the country's development policy as a whole.

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Bangladesh have accelerated and changed her exports substantially from time to time. As a third world country, the cheaper labor cost enables Bangladesh to grab the competitive advantage from the market bidding lowest fare to attract the buyer in placing order. Thus, Bangladesh enjoys cost leadership in manufacturing garments across the globe. The garment industry of Bangladesh has been the key export division and a main source of foreign exchange for more than couple of decades. Bangladesh's global market share in RMG rose to 6.4 per cent in 2016, an increase of 0.50 per cent over the previous year¹. Nonetheless enormous opportunities are waiting for country RMG sector if we can seize. The global apparels market is predicted to be \$650 billion by 2020. Global market for clothing products came down to \$444 billion in 2016 from \$450 billion in 2015². The RMG sector emerged through the establishment of several thousand factories. More factories create more employments and thus productivity enhanced which affect the profitability of the sector as well as the economy of the country.

Shortage of uninterrupted power and quality utility services, high score (2.8 in a scale of 5.0) in Fire Risk Index (FRI), shortage of skilled workers, absence of good governance are the common identified hurdles to be addressed connecting to the RMG sector of Bangladesh. A good number of measures already have been taken to tackle these impediments. Establishment of good number of green factories, mass undertakings in infrastructure development by the government, adaption of modern technology and automation etc. are the bright side that Bangladesh can hope with. Despite the problems, there are ample opportunities for Bangladesh to spearhead RMG industry in future and the evident is the constant rise in its market share across the globe.

Literature Review

A good number of studies have been conducted to unfold different issues related to the Ready Made Garment (RMG) industry in Bangladesh. In Bangladesh Garment industry is the highest employer of women in formal manufacturing sector.³ Many changes have happened in the lives of women in Bangladesh with the advent of the ready-made garments industry, that started in the country in the late 1970s.⁴ The ready-made garments (RMG) sector has a greater potential than any other sector in terms of employment and foreign exchange earnings to reduce poverty and make a contribution to the national economy.⁵ NGOs, civil society, trade unions and other stakeholders should work together to adopt the Code of Conduct for a viable and competitive

RMG industry. The industry has contributed to export earnings, foreign exchange earnings, employment creation, poverty alleviation and the empowerment of women⁶. Starting in late 1970s as a small non-traditional sector of export, the Ready-made Garment (RMG) industry has emerged as the largest foreign exchange-earner for Bangladesh. In the earlier stage, Riaz Garments of Mohammad Reaz Uddin started its business with some tailoring shop in the name of Riaz store. In the later, the name turned into Riaz Garments from Riaz store in 1973 and from 1978 the company started exporting products in the abroad by exporting 01 million pieces of shirts in the South Korean Company named “Olanda”⁷.

“Desh Garments” is another pioneer of Bangladesh RMG sector. In 1979, Desh Garments started a joint project with South Korean company “Daewoo”. Desh-Daewoo alliance is a significant milestone in the growth and achievement of Bangladesh's entire garment export industry. The RMG manufacturers are scattered all over Bangladesh. But those who manufacture RMG for exports only are mainly located in Dhaka and Chittagong⁸. A McKinsey survey also tells us that the potential for the garment industry is promising. McKinsey forecasted export-value growth of 7-9 percent annually within the next ten years, so the market will be double by 2015 and nearly triple by 2020 (Daily Star, 22 April 2014)⁹

Rationale of the study

The RMG industry emerged at the time when Bangladesh began its struggle for achieving economic emancipation and leading the country to prosperity with its limited resources. That time jute industry was the major export product, which contributed to the herculean task of rebuilding the war-ravaged country. There are 4363 RMG manufacturers registered with the Bangladesh Garment Manufacturers' and Exporters' Association (BGMEA) till December 2016. The readymade garments industry acts as the backbone of our economy and as a catalyst for the development of our country. We take pride in the sector that has been fetching billions of dollars as export earnings and creating jobs for millions of people in the country. It provides employment to around 4.2 million Bangladeshis, mainly women from low income families. Bangladesh's exports industry alone comprised USD 31.2 billion in FY 2014-15, 81.69% of which was made up by ready-made garments. In fact, Bangladesh is currently the second largest RMG exporting country in the world. Bangladesh exports its ready-made garment products frequently to the European Union and the United States of America. These two destinations

account for more than a 90 per cent share of the country's total income normally come from garment exports. Since, the RMG industry presently earns the most amount of foreign currencies and is considered to be the leading 'growth industry' of Bangladesh, these issues stimulate us to made a particular attempt to identify the factors determining the entire industry's profitability and their level & mode of relationships with the sector.

This paper will be significant for stakeholder's like- public sectors, private sectors, policy makers, analysts etc. for gathering knowledge and further analysis regarding readymade garments sector in Bangladesh.

Objectives of the study

The major objective of the study is to identify the key factors contributing to shape RMG sector in Bangladesh; and the more specific objectives are;

- to determine the degree of relationship between the concerned sector's profitability and those factors identified;
- to suggest some possible avenues in regard to the betterment of RMG sector in Bangladesh.

Methodology

Development of Research Model: Considering most of the factors that may affect the profitability of RMG sector in Bangladesh a model has been developed (Figure 01) to show how each of these factors are responsible to shape the overall profitability of the sector.

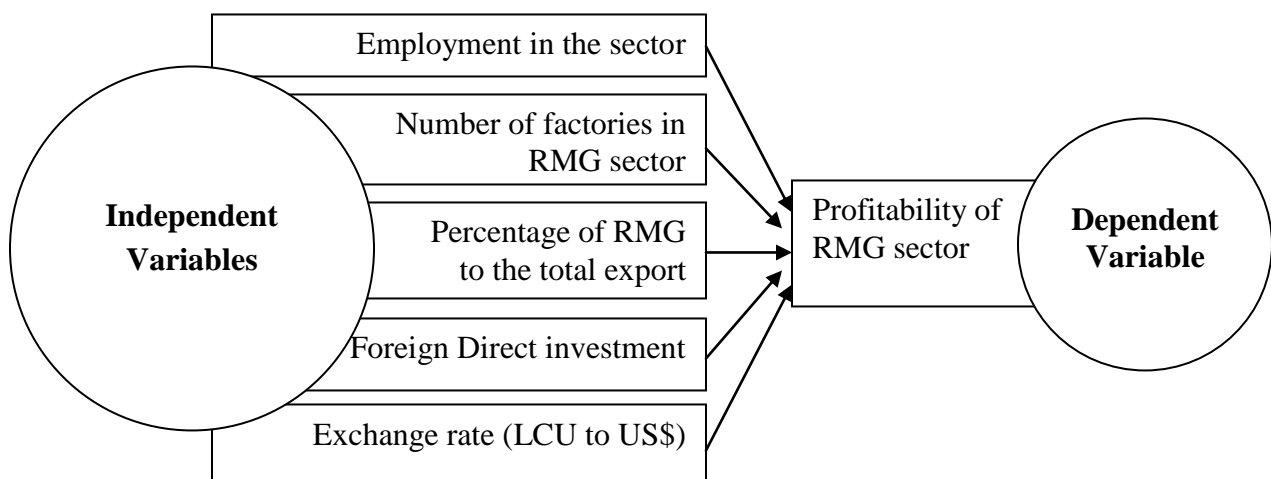


Figure 01: Conceptual Model

Research equation: There have been identified five factors as shown in the conceptual model responsible for change in profitability. Since the Profitability is the dependent variable and the other factors have been deemed as independent variables an equation can be developed to describe the relationship between the variables (dependent and independent). The equation is as follows:

$$PR_i = \beta_0 + \beta_1 EMP_i + \beta_2 NOF_i + \beta_3 PER_i + \beta_4 FDI_i + \beta_5 ER_i + e_i$$

Here,

PR= Profitability of RMG sector

EMP= Employment in the sector

NOF=Number of factories in the RMG sector

PER=Percentage of RMG to total export

FDI=Foreign Direct investment

ER=Exchange rate (LCU to US \$)

e= random error term

Collection of data and Sampling design: Data used for analysis has been collected from secondary sources generated from report compiled by BGMEA for a period of 32 years (1984-2016) where the total history of RMG industry in Bangladesh is for 46 years (1970-2016). Thus the sample size 32 represents 70% (32 out of 46) of the population which is 46. For descriptive research, a minimum acceptable sample size depending on the type of research is considered to be 10 percent of the population⁹. In addition, for the purpose of conception and structuring the research some secondary data were collected from different related websites, articles and publications which are available in the form of literature. After justification only reliable, informative, logical and well-structured papers were considered for reviewing. Data have been analyzed and interpreted by means of Regression Analysis, ANOVA, Coefficient and frequencies using statistical package SPSS 19.

Analyses and Findings

Considering profitability of the RMG sector as the dependent variable and factors affecting this sector as independent variables data has been analyzed. Running the regression analysis considering data shown in appendix using SPSS 19 we get the following outputs:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.970 ^a	.941	.928	1842.08819

a. Predictors: (Constant), ER, PER, FDI, EMP, NOF

b. Dependent Variable: PR

Here, calculated R square is 0.941. It indicates that up to 94.1 percent of the variation in the output is described by the fitted regression equation. Value of the calculated adjusted R square is 0.928. So the presence of irrelevant independent variables is also low and the fit is very good.

Significance of the association of Regression model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.238E9	5	2.476E8	72.970	.000 ^a
	Residual	78045644.94	23	3393288.911		
	Total	1.316E9	28			

a. Predictors: (Constant), ER, PER, FDI, EMP, NOF

b. Dependent Variable: PR

In the above table the significance of F value (F=72.970) indicates that there is zero (0%) chance that the adjusted R square is zero (0%). This also implies the effectiveness of the Regression model.

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	-3541.031	3810.608		-.929	.362	-11423.875	4341.813
EMP	5826.529	1502.907	1.067	3.877	.001	2717.529	8935.530
NOF	-1.110	1.301	-.284	-.853	.403	-3.801	1.582
PER	-82.063	37.883	-.273	-2.166	.041	-160.430	-3.695
FDI	1.763E-7	.000	.020	.164	.871	.000	.000
ER	151.849	143.594	.368	1.057	.301	-145.198	448.896

a. Predictors: (Constant), ER, PER, FDI, EMP, NOF

b. Dependent Variable: PR

Considering only the standardized co-efficient we can write the regression equation in the following ways:

$$PR_i = \beta_0 + \beta_1 EMP_i + \beta_2 NOF_i + \beta_3 PER_i + \beta_4 FDI_i + \beta_5 ER_i + e_i$$

$$\text{Or, } PR_i = \beta_0 + 1.067 EMP_i - 0.284 NOF_i - 0.273 PER_i + 0.020 FDI_i + 0.368 ER_i + e_i$$

Hence, $\beta_1=1.067$ indicates that considering all other independent variables as constant, for per unit increase in employment in the sector, profitability will increase by 1.067. $\beta_2= -0.284$ indicates that for per unit increase in number of factories, profitability will decrease by 0.284. $\beta_3= -0.273$ designates that for percentage of RMG to total export, profitability will decrease by 0.273. $\beta_4=-0.020$ indicates that for per unit increase in Foreign Direct Investment, profitability will increase by 0.020. $\beta_5=0.368$ specifies that considering all other independent variables as constant, for per unit increase in exchange rate (LCU to US\$), profitability will increase by 0.368.

Recommendations

1. Companies, civil society organizations and government agencies should work to improve sustainability in the garment sector under five themes: environmental sustainability, discrimination, working conditions, occupational health and safety and trade unions. These priorities were identified through earlier multi-stakeholder engagements.
2. Government and other related authorities should concentrate on developing such an environment to capture the eyes of foreign investors so that FDI enhanced.
3. Owners are to be encouraged to make their business bigger in size so that the employment opportunities will be increased rather aiming establishing new factories.
4. BGMEA could run several training centers where the fresh operators will be trained up to get satisfactory performance by hiring some highly skilled instructors. BGMEA factories can recruit these people with confidence.
5. Importance should be given on the quality of factory rather than the quantity. A well organized R & D center will be very helpful in developing samples as well as improving quality.
6. Most of our competitors like China, India and Pakistan manufacture their own spare parts as well as some machinery. In general, Bangladesh does not produce any spare parts at all machinery except simple weaving machines like shuttle loom.. Bangladesh is heavily involved with textile business; manufacturing of textile machinery could be a very big and profitable industrial sector.
7. The cost of dyes and chemicals that are incurred in textile processing plants are substantial. We do not have any dyes, chemicals and auxiliaries manufacturing facility in Bangladesh therefore we have to import them using foreign currency. Therefore we should develop our own manufacturing facility to reduce our cost of production.

Conclusion

The RMG sector has experienced a tremendous growth in the last 20 years and consistently securing the first position leading exporting industry in Bangladesh. Bangladesh, which was once termed by cynics a “bottomless basket”, has now become a “basket full of wonders.” RMG is the highest contributor in terms of both gross and net export earnings. Comparing with other items in Bangladesh, the contribution of RMG in national export earnings is more than 76%.¹¹

Readymade garments industry is the single manufacturing sector of Bangladesh from which most of the foreign currency is earned. There's a large number of population are engaged in this sector for their employment purpose. Bangladesh has come a long way and is now one of 10 new emerging countries in the world. The macroeconomic stability, 6% annual average GDP growth, robust performance of remittance and export, strong foreign currency reserve, and remarkable social and human development over the past decade – all reflect our underlying strengths¹².

As the study found that there is relationship exist between the factors identified and the profitability Bangladesh needs a deeper concentration and formulation of right prioritization to have the sweet fruit and prosper in RMG sector. However, like other study this one has been conducted having some limitations. Besides the five factors identified and analyzed in this research there may have some others to be explored. Moreover the research is solely based on secondary which could be considered as a shortcoming. Thus a further study is rationale with an extensive literature survey along with field study for fresh primary data. To broden the scope of the current one a future can be taken into plan to relate the RMG industry with the economic development of Bangladesh.

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Appendix

The table showing data related to PR= total export in million (USD), EMP= employment, NOF= number of factories, PER= percentage of RMG contribution to total export earnings, FDI= amount of FDI, ER= Exchange rate. Source: Export Promotion Bureau compiled by BGMEA¹³.

Year	PR	EMP	NOF	PER	FDI	ER
1984-85	31.57	0.12	384	3.89	553269	25.4
1985-86	116.2	0.2	594	12.44	6660000	28
1986-87	131.48	0.28	629	16.05	2436499	30.4
1987-88	433.92	0.31	685	27.74	3205086	30.9
1989-90	471.09	0.32	725	35.24	1838243	31.7
1990-91	866.62	0.4	159	36.47	247908	32.3
1991-92	1182.6	0.58	834	32.45	3238781	34.6
1992-93	1445	0.8	1163	50.47	1390444	36.6
1993-94	1555.8	0.83	1537	59.31	3721853	39
1994-95	2228.4	1.2	1839	60.64	14049886	39.6
1995-96	2547.1	1.29	2182	61.4	11147788	40.2
1996-97	3001.3	1.3	2353	64.17	1896372	40.3
1997-98	3781.9	1.5	2503	65.61	13529831	41.8
1998-99	4020	1.5	2726	67.93	139376153	43.9
1999-00	4149.1	1.6	2963	73.28	190059373	46.9
2000-01	4859.8	1.8	3200	75.68	280,384,629	49.1

2001-02	4583.8	1.8	3480	75.61	456,523,167	52.1
2002-03	4912.1	2	3618	75.14	651029738	55.8
2003-04	5686.1	2	3760	76.17	1328422986	57.9
2004-05	6417.7	2	3957	75.01	901286503	58.2
2005-06	7900.1	2.2	4107	74.79	1232258246	59.5
2006-07	9211.1	2.4	4220	74.19	1264725163	64.3
2007-08	10699	2.8	4490	75.06	1584403460	68.9
2008-09	12348	3.5	4793	75.64	2602962095	68.6
2009-10	12496	3.6	4925	75.83	901286583	69
2010-11	17914	3.6	5063	79.33	1232258246	69.6
2011-12	19090	4	5150	77.12	1264725163	74.2
2012-13	21516	4	5400	79.61	1584403460	81.9
2013-14	24492	4	5876	81.13	2602962095	78.1
2014-15	25491	4	4222	81.68	2539190939	77.6
2015-16	28094	4	4296	82.01	3380251354	77.9

Judicial Activism and Judicial Self-Restraint**

S.S. Vishweshwaraiah*

According to Justice Cardozo, a Constitution ought not to provide “for every passing hour” but “must lay down principles for an expanding future. In so far as it deviates from this standard and descends into details and particulars, the scope for interpretation contracts, the meaning hardens”. In the words of Prof. Upendra Baxi, a Constitution is not a relic but represents a horizon; it looks to the future and does not archive the dead past; it should be a life-giving force and not a death-bestowing entity.

The Constitution embodies the Suprema lex. It is the fundamental, paramount, organic law of a country or nation. It provides for the creation of the significant organs of the government, spells out their structure, composition, powers and functions, their jurisdiction, their interrelationships. It also reflects the aspirations and ambitions of its teeming millions and spells out the social, economic, political order that it seeks to establish. Further, a written Constitution has to necessarily provide for a procedure for amendment so that amendments can be effected to reflect the prevailing socio, economic and political realities and situations.

Absolute power which breeds arbitrariness and discrimination is an anathema to any Democratic Republican Constitution. Therefore, Constitutionalism mandates enunciation of limitations on the powers being conferred. In other words, the conferment of powers and the concomitant requirement that they be circumscribed. Doctrine of Separation of powers’, ‘Rule of Law’, ‘Judicial Review’, an ‘Independent Judiciary’ may also be regarded as the other facets of Constitutionalism.

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The Separation Doctrine seeks to ensure that the three organs of the Government, namely, the Legislature, Executive and Judiciary shall confine themselves to their respective Jurisdiction and shall not encroach upon the Jurisdiction of each other. It envisages a system of checks and balances to protect and preserve individual liberty in a democratic polity.

It has to be submitted that the Doctrine of Separation Powers which advocates that Legislative, Executive and Judicial Powers be vested in different or separate organs and “there shall be no overlapping of functions or of persons”¹ cannot, in practice, be strictly adhered to. But the theoretical thrust of the Doctrine - “Mutual Restraint” - is laudable. Prof. Massey thus argues that the logic behind the Doctrine is of polarity rather than strict classification” and that the centre of authority must be dispersed to avoid absolutism² Prof. Wade also observes that “the objection of Montesquieu was against accumulation and monopoly rather than interaction”³.

When statutory provisions are assailed on the ground that they offend the Constitution, then the court has to determine the validity of the challenged provision on the touch stone of constitutionality. So also, the executive actions that are challenged. Here, crops up the “Doctrine of Judicial Review”.

The Indian Constitution explicitly provides for Judicial Review of both legislative and executive actions when the fundamental rights of ‘citizens’ or ‘persons’ are violated or abridged or when the executive action is assailed. The Supreme Court and the High Courts are the depositories of the power to review⁴. The reviewing courts can annul legislation or executive action if they suffer from the vice of unconstitutionality. Can it be argued, then, that the Judiciary is engaged in “Judicial Activism” when the actions referred to above, are invalidated. The answer depends upon the decision rendered.

According to Prof. Zeev Segal, the Expression ‘Judicial Activism’ is ‘vague and equivocal’ and ‘a universally acceptable definition’ has not yet been found⁵.

When the Court creates a new legal Rule that did not exist earlier or assumes “a broader role relative to that of other branches⁶ or determines the values that prevail in the society⁷ or directs how the available resources for distribution should be allocated⁸ then, the label Judicial Activism” gets attached to its decision.

Other instances of 'Judicial Activism' are :

When the Court "is overeager to make law"⁹ (promotes) rights over notions of common good"¹⁰ or installs a regime of judicial supremacy".

When the decision departs from 'Principled' constitutional adjudication;¹²

Decision based on personal or partisan considerations generally agreed to be illegitimate"¹³;

Decision on important question, which are not adequately briefed or argued by the parties or which have not even been raised"¹⁴;

When the will of the legislative is ignored and judicial solutions are imposed on problems which need to be politically resolved;

When Judges assume the role of a Legislature;

When Judges' political, ideological opinions influence the decision rendered and not the existing applicable law;

Disregard for Precedents and the Doctrine of Stare Decisis;

Laying down a rule that runs counter to constitutional interpretation, rendered earlier.¹⁵

"A Judicial Philosophy which motivates Judges to depart from strict adherence to precedents in favour of progressive policies which are not always consistent with the restraint, expected to be exercised by appellate Judges."¹⁶

Decisions based on Judges own personal value concepts;

Decisions which emasculate or render constitutional or statutory provisions redundant;

Decisions which substantially alter the clear meanings of words in a Constitution or Statute.

On the other hand, 'Judicial Restraint' presents "a low profile of the courts, advocates "prudential self-restraint", greater deference to the decision or action of the

legislature, the executive and administrative agencies. A self – restrained Judge “is mindful of the practical political constraints on the exercise of Judicial power”.¹⁷

In the Traditional Legal Theory of Judicial Process, courts discovered the existing law and interpreted law and if they engaged in making law it was only “to fill the gaps left by the Statute” to the extent warranted for the disposal of the issue presented (and would) and not decide a question of law unless absolutely necessary for the disposal of the matter before it.”¹⁸ The Doctrine of Res Jidicata was invokeable and only a person aggrieved or affected could invoke the court’s Jurisdiction. Adheents of Judicial Restraint were conscious of the fact that the Judiciary possessed neither the sword nor the purse and lacked the legitimacy conferred by an electoral mandate on the legislature.¹⁹ Judges have no axe to grind, no will, would make no value Judgements but would perform the task of a calculating machiane.²⁰

Self Restraint practised prompted that laws should be construed strictly or narrowly, presumption of constitutionality in respect of the statute enacted prevailed and Judiciary regarded itself as the mouth piece of the Legislature. There was also emphasis to accord respect to the Doctrine of Stare-Decisis and Precedents. Judges practising self -restraint are of the view that “continuity, consistency and predictability” are virtues to be appreciated in the Judicial process and felt that a decision of a court should not be like railway ticket valid for that Journey and day. Frequent over ruling would destroy public confidence in the Justice-Delivery system, they felt. Also, that Judges without a popular mandate can not don the role of a policy-maker and should show deference to the decisions of the elected political branch.

Proponents of Judicial Activism require active interpretation of an existing provision with view to enhance the utility of the legislation for social betterment in accordance with the constitution, the constitutional goals being Justice-Social, Economic and Political.²¹ According to Prof. S.P. Sathe, ‘Activism can easily transcend the borders of Judicial review and turn in to populism or excessivism. ‘Activism is populism when doctrinal effervescence transcends the institutional capacity of the Judiciary to translate the doctrine into reality, and it is excessivism when a court undertakes responsibilities normally discharged by other co-ordinate organs of the Government’²²

Proponents of Judicial Activism aver that Doctrine of Stare Decisis cannot be a persuasive BAR to Judicial re-examination of a question of constitutional law of profound

public importance²³. Further, it is argued that there cannot be any reason why the court should not discharge its responsibility by disregarding its mechanical adherence to Stare decisis “when a more meaningful interpretation of law is possible and indeed necessary.”²⁴ Justice Krishna Iyer has observed that Precedents should be used as stepping stones and not as halting places.²⁵

Being the fundamental organic law of the nation embodying not only the fundamental principles according to which a state should be governed but also the ambitions and aspirations of the people, the Constitution as a document for socio-economic change, as an instrument of social engineering, cannot remain a stagnant, sterile document. As Prof. S.P. Sathe has pointed out : “The words of the Constitution are pregnant with meanings that unfold when different situations arise”.²⁶ He “argues that constitutional expressions are open-textured and it is for the reviewing court to develop nuances in the context of emerging situations.”²⁷ Justice Bhagwati (as he then was), observed in Francis Coralie Mullin vs. Administrator, Union Territory of Delhi²⁸ : “A constitutional provision must be construed in wide and liberal manner so as to take into account the changing conditions or purposes so that the constitutional provisions do not get atrophied or fossilized but remain flexible enough to meet the newly emerging problems and challenges.....”

According to Prof. S.P. Sathe, the original intention of the founding father do not bind a constitutional court.²⁹

The Indian Supreme Court has emphasized thus : “A constitutional provision is never static, it is ever-evolving, ever-changing and, therefore, does not admit of a narrow, pedantic or syllogistic approach”.³⁰

The foregoing may sound like music to the ears of the proponents of Judicial Activism. While conceding that in interpreting open-ended concepts like ‘Equality before law,’ “Equal projection of law”, Personal Liberty or “Justice-social, economic, political”, to cite a few, it is imperative that the Judiciary has to be innovative and the intention of the founding fathers of the Constitution should assume a different dimension to meet “the felt necessities’ which the emerging situations demand. Having said that, I would like state Judicial Activism in certain situations evoke admiration and in certain others raise a reasonable doubt whether it is ‘imperial’, or ‘authoritarian’ or a case of ‘overreach’.

A society can never remain static. In a dynamic society the social mores, the cultural traits, the political thoughts or opinions would always be in a state of flux and, so, keep changing. Consequently, the courts called upon to decide new controversies cannot remain oblivious to the changes occurring around them. Their decisions, they feel, should be in consonance with the changing times lest they be branded as Robots acting mechanically without being aware of the imperative demands of the society. An arid interpretation of law provided, a century ago should not be sustained because it is vintage law when a more meaningful interpretation can be advanced presently.

It is not true that the judiciary or the courts are engaging in Judicial Activism only now. Because, students and teachers of law are aware of umpteen areas where Judicial Activism is demonstrable without much exertion. I would say ever since judicial process was set in motion, there were exercises by the Judiciary which clearly demonstrated Judicial Activism but was not debated vehemently because the decisions were creating new rights without the aid of statutory provisions. Thus, in Cooper V Wandsworth Board of Works³¹, when the statute in question, unambiguously declared that the Metropolitan Board could demolish a dwelling being constructed without the necessary permit, nevertheless declared that “even if there be no provision in the statute that a person be heard, Justice of common law would supply the omission of the legislature”.

In the area of Natural Justice, there were initially only two Rules “No man can be Judge in his own cause” and “No person can be condemned unheard”. Now, ‘Right’ to Reasoned Decision, Right to Counsel and the Doctrine of Legitimate Expectation are all the components of the concept of Natural Justice.

In the area of Labour Law, it is the courts that have created and conferred the Right to Retrenchment Compensation Lay-off Compensation, Transfer Compensation and Closure Compensation. Of course, the legislature, later, through amendments, provided for the court – conferred Rights.

Admirable Judicial Activism is also discernible in the area of Public Interest Litigation. In PIL, a person or a group acting Pro bono publico seeks to secure the statutory or constitutional entitlements, benefits, privileges for those who cannot ignite the court’s Jurisdiction on account of illiteracy, indigence or socio-economic backwardness. Hence, the person or groups approaching the court for relief are not the ones who are aggrieved or affected because of, say, bureaucratic callousness or ineptitude

or the violation of their constitutionally guaranteed rights. Strictly speaking, they lack the locus standi. But, the courts have responded to their petitions and provided relief by relaxing the rule relating to locus-standi. This is an other instance of Admirable Judicial Activism.

While the judicial efforts to provide relief to the deprived, disadvantaged sections in the society are laudable, one should pause and ponder to realize that in certain instances of PIL, the court's verdict will not terminate its involvement but requires a continuing administrative role, supervision and issuance of periodical orders. Eg. Environmental Issues. Do the courts have the required apparatus, a built-in mechanism or wherewithal to do complete justice?. Further, how can the court verify the veracity of the contents in the petition, post card or letter addressed to it or the bonafides of the person, the author of the post card or letter or the Petitioner in PIL. Moreover, 'Public Interest' continues to be a legal riddle and its contours are not easily discernible. The courts must heed the advice of Justice Pathak (as he then was) : "It is time for the courts to redefine the principles, both substantive and procedural, which constitute guidelines for Judicial intervention in (PIL)."³²

We may now advert to the instances of "Imperial" or "Authoritarian" Judicial Activism or "Over reach".

The Supreme Court has unequivocally ruled that the legislature must perform its essential legislative function and the legislature cannot abdicate or renounce the same. Therefore, when the court arrogates to itself the power to formulate policy and enforce the same, it would be appropriating to itself an essential legislative function by usurping upon the jurisdiction marked out for the legislature. Further, assumption of executive power, its enforcement and mandamusing the instrumentality of the executive (for example. CBI) to report directly to the Supreme Court would render the constitutional provision that the executive is accountable to the parliament non est. See Vineet Narain v. India AIR 1998, SC 889. Surely, the court has no constitutional authority to render an important constitutional provision redundant. Even acquiescence on the part of the executive cannot obfuscate or eradicate the taint of unconstitutionality.

In a devastating critique of judiciary's "environmental activism", Shubhankar Dam and Vivek Tewary aver that the court has not only donned the role of the executive but also has formulated environmental policies on behalf of the state and sought to implement

them. They argue that "the supreme court has used the tool of (PIL) to increasingly (sic) don the role of law maker, policy maker and on occasion, executive." "Polluting Environment, Polluting Constitution: Is a 'Polluted' Constitution worse than a Polluted Environment" Journal of Environmental Law (2005) Vol.17, No.3, 383, 384. The authors further assert that the apex court's environmental Activitism "has severely dented India's institutional balance". Id. 385. They conclude with the query: "Is not a polluted constitution worse than a polluted environment"? Id. 393.

Art. 50 enjoins separation of judiciary from the executive. This directive principle has been declared to be constitutionally unenforceable. But, as Prof. Upendra Baxi argues, constitutional unenforceability does not imply judicial non-cognizability,

In the area of judicial review of administrative action, the principles generated by the supreme court require that the administrative authority must provide cogent reasons for its decision, that administrative decision-making must possess the elements of fairness, reasonableness and transparency to command judicial trust, that the repository of discretion alone must exercise the discretion conferred and that the discretionary authority cannot be dictated.

The founding fathers have endeavoured to establish an independent judiciary (Arts. 124(4) 125, (2) Proviso and 144).

Article 124 declares, *inter alia*, that the judges of the Supreme Court shall be appointed by the President after consultation with the Chief Justice and such other judges as the President may deem necessary. Further, under Art. 124(3) (C), a distinguished jurist can also be appointed if the President opines so. Of course, the President, normally, has to exercise his power with the aid and advice of the council of ministers.

The court's interpretation of a constitutional provision should not bedevil the other wings of the government and citizens. The judiciary, while interpreting the constitution, cannot, rather, should not rewrite or amend a constitutional provision or render a provision redundant through its assailable interpretative techniques. Thus, for example, when art. 124 lays down that the judges of the Supreme Court shall be appointed by the President "after consultation" with the Chief Justice, the court should not substitute "in consultation" for "after constitution" and denude the written constitutional provision of its plain, unambiguous, common sense meaning. See Subhash Kashyap "Judiciary in Indian Polity. Delhi Universal Law Publishing Co. Pvt. Ltd., 2002, P.21.

The court's interpretation, in its endeavour to maintain and promote its independence that "consultation" means "concurrence" is, it is submitted exfacie wrong and unacceptable and is a blatant attempt to restructure the constitutional provision and denude's "consultation" of its universal dictionary meaning. Further Art. 74 which advocates that "there shall be a Council of Ministers... to aid and advise the President who shall, in the exercise of his functions, act in accordance with such advice', would be rendered redundant. Further more, the opinion of the President in promoting the appointment of a distinguished jurist as a judge of the Supreme Court carries with it the concomitant element of executive discretion. The apex court has itself ruled a discretionary authority shall not be dictated. If "consultation" is to be substituted by "concurrence, then the President has to act at Supreme Court's dictation. Surely, such a situation, the founding fathers would not have contemplated.

"Rule of law" frowns upon "wide powers" and demand accountability; advocates absence of arbitrariness; insists on equal treatment for those similarly circumstanced and negates discrimination. This concept declared by the apex court as a basic feature requires the Collegium to abide by it and demands that the procedure followed by the Collegium for selecting and recommending judges or distinguished jurists for appointment is just fair, reasonable and non arbitrary and transparent. This procedure warrants for the recording of reasons for appointment.

Citizens generally, the litigants, especially, ought to know the track record, the credentials, the integrity, impartiality of the person being recommended for appointment and also his abiding faith in the preambular precepts like justice - social, economic and political and equality of status and opportunity.

The principles evolved by the judiciary, while reviewing administrative action have been spelt out earlier. But, when it comes to the appointment of judges to the higher judiciary through the 'collegium system,' the procedure followed does not reflect the elements of fairness, reasonableness, non-arbitrariness, equal opportunity to compete or transparency. There have been allegations by former High Court judges and some of the Supreme Court Judges that instead of transparency there is opacity and the selection process is "one of the best kept secrets", and "a total failure". The process shrouded in secrecy cannot inspire public confidence. The citizens have a right to know who are being selected, their credentials and reasons for the stamp of approval. As justice Krishna Iyer pointed out "the selection process should be transparent and not a riddle wrapped in

mystery inside an enigma". "The Higher Judiciary: Appointments and Disappointments (2012)".

The collegium system has not been contemplated under Art. 124. The court's judgements in Supreme Court Advocates on Record Association (1994), National Judicial Appointments Commission Case (2015) have restructured the constitutional provision relating to appointments to higher judiciary and made the President the Executive Head - a Rubber Stamp.

The judges are on oath to bear true faith and allegiance to the Constitution and to uphold the same. They are under the Constitution and not above or beyond it. They are endowed with the power to interpret the constitution. But such a power cannot be exercised to emasculate a plain, unambiguous provision which provides a role for the executive in the appointment of judges. The collegium system strips the executive of its constitutionally ordained function and compels it to act at the dictation of the collegium. Clearly, a case of blatant usurpation. According to justice Krishna Iyer: "The final voice in the appointment of Judges, belongs to not "the Chief Justice" but the 'Prime Minister' The Supreme Court cannot override the Constitution having taken the oath of office under it and wisdom and vagarious versatility cannot nullify the Suprema Lex, claiming their credentials from the independence of judiciary. Independence from the Constitution? It is supreme within the Founding Deed but not infallible. The judges cannot be a Third Chamber or Super Constitutional Cabal". The Higher Judiciary, supra.

The path-breaking and laudable decisions of the supreme court while interpreting definition of 'State' under Art. 12, in the area of life and liberty under Art. 21, its endeavours to enhance the status of the constitutionally unenforceable Directive Principles and "placing them at par with the enforceable Fundamental Rights" and its efforts to reach social justice to the disadvantaged sections of the society should not get eclipsed in the glare of usurpation of powers ear-marked for the other organs of the government. Further, when judiciary seeks to erode the authority of the Legislature or the Executive, it simultaneously corrodes its own ennobling attributes, namely "Self-discipline and Self-restraint".

Under Art. 212(2), an officer of the State Legislature vested with powers to regulate procedure or conduct business in the Assembly shall not be subject to the Jurisdiction of any court in respect of the powers exercised by him. If a court orders the

Speaker of the Legislative Assembly to conduct a Motion of Confidence and requires the Speaker to conduct the proceedings according to the agenda prescribed and not to entertain any other business, then, to say the least, this is a classic example of the court's imperial attitude towards the Legislature, a co-ordinate organ of the Government.

In Keshavananda,³³ the Supreme Court ruled that the Parliament's power to amend the constitution does not include the power to repeal the entire constitution and that the basic features like, Fundamental Rights, Directive Principles, Secularism, Judicial Review, Independent Judiciary, to cite a few are beyond the pale of amendability. There is not yet an exhaustive catalogue of the basic features and the courts probably, may continue to add many more features of the Constitution to the catalogue of basic features. The consequence is, while parliament's power to amend gets curtailed, the courts power to review gets enlarged. The Indian Supreme Court may ultimately end up as the most powerful organ of a government in the world as Prof. S.P. Sathe has pointed out.

Before or while launching a frontal attack on Judiciary for its activism, we should pause and reflect upon the roles being played by the other coordinate organs of the State, namely, the Legislature and the Executive. Ineptitude on the part of the Executive, bureaucratic delays in alleviating the sufferings of the masses on account of non execution or poor execution of the welfare schemes, statutes disregard for rule of law, execution of laws with "an evil eye and an unequal hand" and obeisance to their political masters for survival, growth and self aggrandizement without regard for statutory or constitutional dictates, will increasingly motivate the suffering millions to seek succor from the Judiciary. An Ombudsman, when instituted, will spur the indifferent, indolent executive to discharge its duties and functions in a fair and just and reasonable manner.

Legislative enactments should be the product of debate, discussion deliberation and, if practicable consensus. Demonstrations, Dharnas Slogan – shouting, walk outs, lack of dignity and decorum while engaging in the debates or deliberations are all inimical to a Republican form of Government and should be frowned upon and discouraged in a democratic polity.

Power has an inherent tendency to make encroachments. Executive's ineptitude, corrupt practices, callous disregard for Rule of law and Legislature's proceedings marked by dharnas, demonstrations walkouts, enactment of laws without debate or deliberation transmit ominous signals and may tempt the Judiciary to assume the executive and

legislative powers : Such temptations and consequent assumption by the Judiciary of the powers ear-marked for other coordinate organs in the realm of the Constitution would upset the constitutionally ordained balance and judiciary's constitutionally illegitimate assumption and exercise of powers meant for other organs may face ultimately the crisis of credibility. Therefore, it is imperative that Judiciary cultivates the commendable traits of 'self-Restraint' and 'self-Discipline'.

The correctives for the lapses prevailing which may be attributable to the Legislature and Executive are at the disposal of citizens. They can, rather should boot out a political party which has failed to promote the constitutionally commanded goals of Justice-Social, economic and political. The remark of Ralph Nader, the one man consumer movement of the 1960s could be relevant here also. "If you do not exercise your civil rights, who can? If you do not discharge your civic duties who will ? The fibre of a throbbing democracy is a thinking, active citizenry."

It would be worthwhile to recall the caution administered by Justice Frankfurter : "All power is of an encroaching nature. Judicial power is non immune to this human weakness. It must be on guard against encroaching beyond its proper bounds and not the less since the only restraint upon it is self-restraint".

FOOT NOTES :

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- 19) Posmer, *Supra*, at P. 12.
- 20) *Id*, at P. 3
- 21) Chauhan, *Supra*, P. 9.
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- 26) Sathe, *Supra*, at P. 56.
- 27) AIR 1981 S.C. 746.
- 28) Sathe, *Supra*, at P. 31
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- 30) *Cooper V. Wandsworth Board of Works* (1861-73) AU.E.R. 726.
- 31) *Bandhua Mukth Morcha V. Union of India* AIR 1984 S.C. 803.
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