

**Chapter
1****L-CARVONE LOADED DUAL JET ELECTROSPUN
PCL-PVA NANOFIBERS: ANTIMICROBIAL AND
FUMIGANT ACTIVITY*****Dr. R. Manjula, ** Dr. Sheeja Rajiv**

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Abstract: *The applications of L-Carvone have gained bounteous attention due to its great medicinal values. Because of its high volatility, the biological application of L-Carvone is limited. Hence, L-Carvone (5wt %) loaded electrospun PCL-PVA blend nanofibers was prepared using dual jet electrospinning technique and was characterized systematically in the present study. The antimicrobial properties and fumigant activity of L-Carvone loaded electrospun blend nanofibers were greatly enhanced by increasing the wettability of the PCL electrospun fibers. The fumigant assay revealed that the prepared electrospun fibers showed 10% mortality against saw tooth beetles, a stored product pest. These results show that the L-Carvone loaded PCL-PVA blend fibers possess insect repellent activities and could also be used in the antimicrobial packaging applications.*

Keywords: *PCL, PVA, dual-jet electrospinning, L-Carvone, fumigant activity*

INTRODUCTION

L-Carvone is one of the most intensively used volatile organic monoterpenoids for applications in biomedical areas, wound dressing and biocide systems. Besides, L-Carvone is the main constituent of fragrant essential oils such as spearmint, caraway and dill oil. The diverse use of L-Carvone has been limited owing to its high volatility and degradation of sunlight. In this perspective, biodegradable polymeric electrospun nanofibers offer effective antimicrobial delivery systems to improve the bioactive compound stability revealing the bioactivity of the encapsulated compound continues for a much longer period of time. Thus, the encapsulation of bioactive compounds in electrospun fibers can retard the high volatility that could lead to allow controlled and sustained delivery of active compounds during the antimicrobial food packaging. Furthermore, a variety of natural essential oils have been extensively used to protect the agricultural products instead of using synthetic fumigants. This could be due to the less mammalian toxicity and low persistence nature of essential oils in the environment.

Of widely known biodegradable synthetic polyesters like PGA, PLLA and PLGA, poly(ϵ -caprolactone) (PCL) undergoes slow degradation due to the presence of

five hydrophobic methylene groups in its monomer limiting the biomedical applications of PCL(Hao et al. 2002). Using a dual capillary electrospinning method, Polyvinyl acetate (PVAc) and PCL polymers were electrospun to produce PVAc-PCL composites having good self-healing and shape memory properties (Nejad et al. 2015). The PCL polymer was blended with various hydrophilic polymers such as poly (vinyl alcohol) (PVA) and poly (vinylpyrrolidone)(PVP) in order to modify its wettability in different ways (Tay et al. 2007; Zahedi et al. 2013; Ramamoorthy and Rajiv 2017). Among different binary polymer blends, crystalline-amorphous polymer blends have liquid-solid interactions that improve physical properties like mechanical strength, toughness and ductility (Wang et al. 2002).

The electrospinning process has its origin from the process of electro-spraying that applies the high electric voltage to a polymer solution and discharge of polymer jet from the needle tip towards a grounded plate. The morphology, fiber quality, fiber uniformity, fiber diameters and the properties of electrospun fibers are modified and controlled by electrospinning parameters such as spinning processing, polymer solution and environmental parameters. Since direct blending of polymers is limited due to their miscibility and compatibility, dual-jet electrospinning system provided a simple and viable method for the blending of two different polymers having different functionalities and properties. In this method, the dual-spun fibers are uniformly distributed and firmly linked with each other in contrast with the other processing techniques such as melt mixing or casting methods (Nejad et al. 2015).

In the present work, a dual-jet electrospinning process is employed to produce electrospun PCL-PVA blend nanofibers (DJPP). Later, the DJPP fibers were imbibed with L-Carvone to produce L-Carvone loaded PCL-PVA blend nanofibers (C-DJPP). The physico-chemical characterisation, antimicrobial activities of C-DJPP electrospun fibers and also their fumigant activity against saw-tooth beetle were studied and reported which make explicit its suitable for antimicrobial packaging systems.

EXPERIMENTAL METHODS

Materials

PVA ($M_n = 1700-1800$), PCL ($M_n \sim 70000 - 90000$), L-Carvone ($C_{10}H_{14}O$, Molecular weight, 150.2, spearmint) and absolute ethanol were obtained from Sigma-Aldrich, Chennai, India. Chloroform was bought from Fischer Scientific Company, Chennai, India.

Preparation of L-Carvone loaded Dual Spun PCL-PVA nanofibers

A typical dual jet electrospinning set-up was developed in the laboratory, Department of Chemistry, Anna University, Chennai. The optimized concentrations of 10 w/v% of PVA in deionised water and 13 w/v% of PCL in chloroform solvent were taken in two separate syringes. The high voltage power supply was connected to the

needles of both the syringes and to a collector. The PCL and PVA solutions were electrospun simultaneously using two syringe pumps to produce PCL-PVA blend nanofibers. After optimizing the electrospinning parameters, both the polymer solutions were electrospun concurrently at a flow rate of 1.9 ml/h under an electric voltage of 15 kV where the tip-to-collector and tip-to-tip distance were kept at 10 and 12 cm respectively. The L-Carvone loaded PCL-PVA blend nanofibers were prepared by imbibition method (Ramamoorthy and Rajiv 2015).

Physico-chemical characterisation

The surface morphology of the DJPP blend nanofibers were analyzed by SEM (FEI Quanta FEG 200 HR SEM). The average diameter of the electrospun nanofibers was measured using Image J Software. The Perkin-Elmer Spectrophotometer equipped with a diamond crystal at an angle of incidence of 180° was used to record the ATR-FTIR spectra of the electrospun blend nanofibers in the frequency range of $400\text{--}4000\text{ cm}^{-1}$. The wettability of the prepared DJPP fibers was measured by the contact angle measurements using an Euromex Optical Microscope equipped with a CCD camera (Ramamoorthy and Rajiv 2015).

The tensile strength and elongation at break was measured using Hounsfield UTM instrument. The thermal degradation characteristics of the nanofibers were examined using the TGA (TGA/DTA Model SDT 2600) at a heating rate of $10^\circ\text{C}/\text{min}$ from 35°C to 800°C with a continuous nitrogen flow of $20\text{ cm}^3/\text{min}$.

Antibacterial Activity

The antibacterial activities of the L-Carvone loaded nanofibers were studied using the gram positive microorganisms such as *Staphylococcus aureus* (*S. aureus*), *Streptococcus pyogenes* (*S. pyogenes*) and gram negative microorganisms such as *Escherichia coli* (*E. coli*), *Pseudomonas aeruginosa* (*P. aeruginosa*) respectively using the Kirby-Bauer disk diffusion method. Nutrient agar was prepared and poured into the sterile petri dishes and allowed to solidify and the test bacterial strains grown over 24 h period of time were swabbed on it. Then the L-Carvone loaded and unloaded (as control) electrospun fibers were placed aseptically on the agar plates. The plates were then incubated at 37°C for a period of 24 h and the zone of inhibition was noted.

Insect Repellent and Fumigant Activity Assay

The sawtooth beetles of *Oryzaephilus sp.* were cultured on a diet of wheat flour medium in glass containers at $28 \pm 2^\circ\text{C}$ in darkness under laboratory conditions. Insect repellent activity of the nanofibrous mats were assessed in a glass petri dish. Fumigant activity of the nanofibrous mats were assessed using glass containers (Ramamoorthy and Rajiv 2017). The L-Carvone unloaded electrospun mat was used as control. The mortality (%) was calculated using Abbott's formula (Abbott 1925) according to the following Equation (1)

$$\text{Insect Mortality (\%)} = 1 - \left(\frac{\text{Insect population in Treated plot}}{\text{Insect population in Control plot}} \right) \times 100 \quad (1)$$

RESULTS AND DISCUSSION

MORPHOLOGY ANALYSIS

The SEM images of the DJ PCL-PVA electrospun fibers showed a smooth, beadless and uniform morphology and homogeneity of the blend fibers using the dual-jet electrospinning as shown in Fig. 1(a)-(b). The average diameter of the prepared DJPP blend fibers was found to be in the range of 100-300 nm which are smaller in diameter than the unblended pure PCL electrospun fibers (Ramamoorthy and Rajiv 2014). The Fig. 1(c)-(d) show the surface morphology of the L-Carvone loaded DJPP blend fibers. Clearly, the diameter and the uniform distribution of the DJPP blended fibers were significantly influenced by the loading of L-Carvone which appeared swollen and fused as a result of the sorption of L-Carvone into the DJPP electrospun fibers.

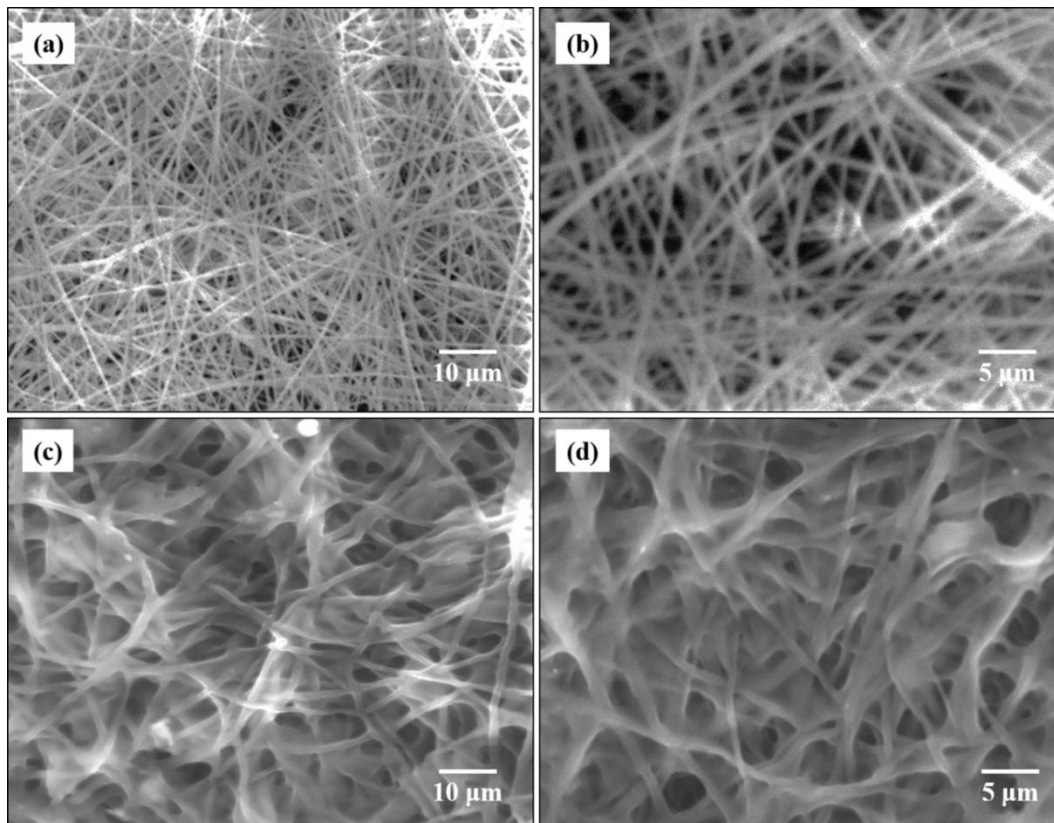


Fig. 1 SEM images of (a)-(b) DJ PCL-PVA (13:10 w/v%) (c)-(d) L-Carvone (5 w/v%) loaded DJ PCL-PVA (13:10 w/v%) blended electrospun fibers

ATR-FOURIER TRANSFORM INFRARED SPECTROSCOPY

The ATR-FTIR spectrum pure PVA electrospun fibers showed the specific absorption peaks at 3346, 2947, 1252, 1095 and 1434 cm^{-1} respectively. The unblended pure PCL electrospun fibers showed the strong C=O absorption peak at 1723 cm^{-1} and at 2938, 2864 and 1436 cm^{-1} owing to the C-H stretching and bending vibrations respectively (Ramamoorthy and Rajiv 2014). The ATR-FTIR spectrum of the DJPP blended electrospun fibers are shown in the Fig. 2(a). Specifically, the broad absorption peak at 3310 cm^{-1} corresponding to the hydrogen bonded -OH group of the PVA, slightly broad C=O peak of the PCL at 1724 cm^{-1} , the absorption peak at 1252 cm^{-1} assigned to the C=O(O) vibration were observed showing the existence of the hydrogen bonding interactions between the PCL and PVA fibers (Ramamoorthy and Rajiv 2017). Fig. 2(b) shows the ATR-FTIR spectrum of the L-Carvone loaded DJPP blended electrospun fibers. The carbonyl stretching of the C-DJPP fibers was observed to reduce slightly to 1712 cm^{-1} and the specific absorption peaks of the L-Carvone were present signifying the sorption of L-Carvone within the DJPP electrospun blended fibers.

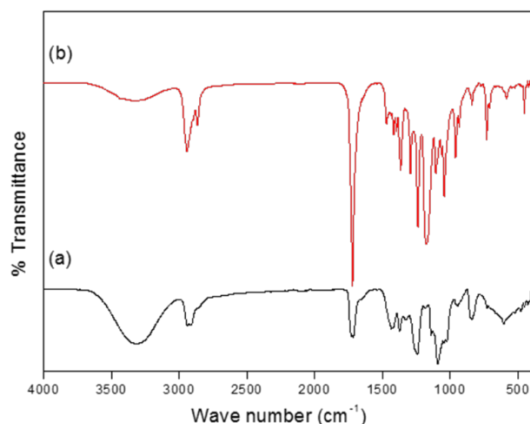


Fig. 2 ATR-FTIR spectra of (a) DJ PCL-PVA (13:10 w/v%) (b) L-Carvone loaded DJ PCL-PVA (13:10 w/v%) blended electrospun fibers

WETTABILITY OF ELECTROSPUN FIBERS

The wettability of the electrospun DJPP blended fibers was analyzed by contact angle measurements. The addition of PVA fibers into the PCL fibers produced a significant impact on the wettability of the prepared electrospun DJPP fibers. The Fig. 3 (a)-(c) shows the contact angle measurements of the pure PVA, pure PCL and DJPP blended electrospun fibers at 5 s, respectively. The water contact angle of the pure PVA and pure PCL was found to be 27.1° and 102.1° respectively, confirming the hydrophilic and hydrophobic nature of the prepared PVA and PCL electrospun fibers. The contact angle of the DJPP blended fibers was found to be 66.3° which exhibited

better wettability compared to the pure PCL electrospun mats. This could be due to the fact that during the DJ electrospinning method, the PVA fibers layered over the PCL fibers in the collector and thus enhanced the wettability of the prepared DJPP blended electrospun fibers (Kim et al. 2006). These outcomes are in great concurrence with the reports of PVA/PU blend formed by the dual-jet electrospinning process (Guet al. 2011).

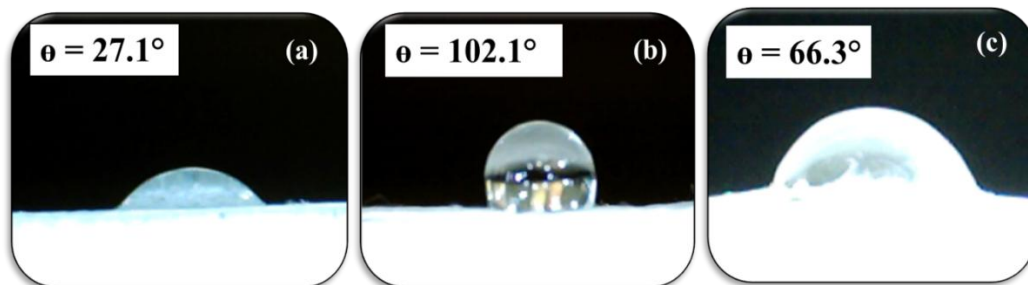


Fig. 3 Water contact angle of the (a) unblended pure PVA (b) unblended pure PCL (c) DJ PCL-PVA blended fibers at 5 s

TENSILE STRENGTH

The tensile strength values of the prepared pure PCL, pure PVA, DJPP and C-DJPP electrospun fibers were found to be 2.5, 2.5, 2.33 and 2.188MPa, respectively as shown in Fig. 4. The values of elongation of the prepared electrospun fibers are given in Table I. Upon the addition of PVA to PCL electrospun fibers, the tensile strength as well as elongation of the fibers reduced considerably. Further, the tensile strength of the DJPP electrospun fibers decreased with the imbibition of L-Carvone, which could be owing to the existence of stress concentration in the prepared electrospun fibers and the plasticizing effect (Huanget al. 2016).

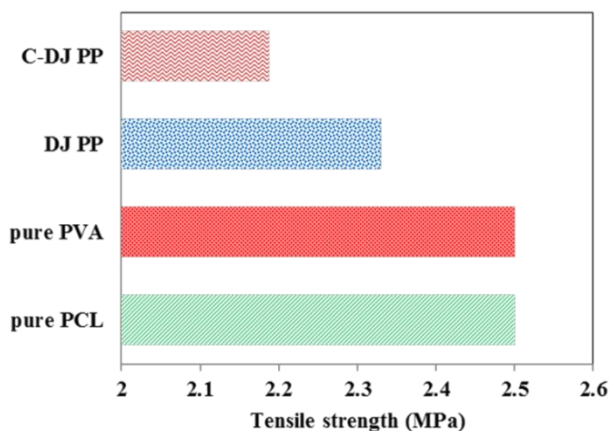


Fig. 4 Tensile strength properties of electrospun nanofibers

TABLE I Tensile property of electrospun nanofibers

S. No.	Nanofibers	Elongation at break (%)
1	unblended pure PCL	28.64
2	unblended pure PVA	34.58
3	DJ PP	15.49
4	C-DJ PP	11.25

THERMAL STABILITY

The thermal stabilities of the prepared DJ electrospun blended fibers were studied using the TGA and DTGA thermogram as shown in the Fig. 5(i)-(ii), respectively. The on-set degradation temperatures of the pure PVA and pure PCL electrospun fibers were found to be 230°C and 350 °C respectively (Ramamoorthy and Rajiv 2014). The TGA thermogram of the pure PCL showed single step degradation whereas the DJPP blended electrospun fibers showed two stages of degradation. The first stage of degradation at 200-350°C due to the decomposition of the PVA (Barzegaret al. 2015) and the second stage of degradation at 355-470°C corresponding to the decomposition of the PCL chain were noted. The shift towards lower degradation temperature could be attributed to the interactions of the PCL chains with the degradation products formed from PVA(Ramamoorthy and Rajiv 2017). However, the thermal stability of the DJPP electrospun blend fibers was slightly decreased compared to the pure PCL electrospun fibers(Ramamoorthy and Rajiv 2014).In addition, the thermal stability of the C-DJP electrospun fibers showed much lesser thermal stability than the unloaded DJPP electrospun fibers .

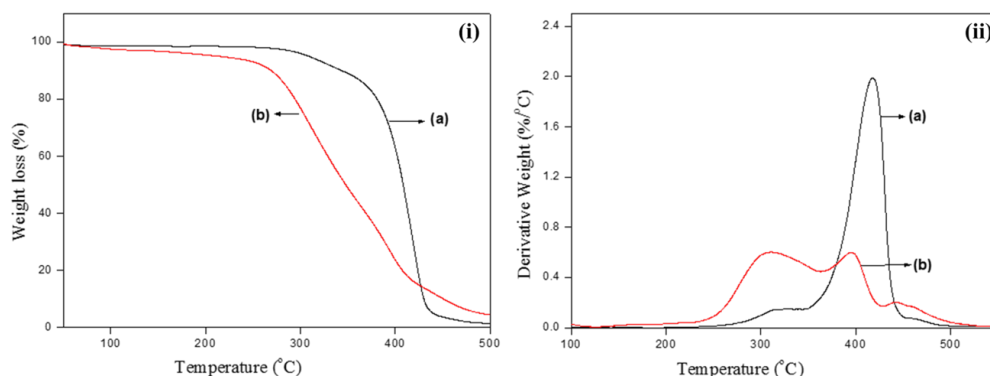


Fig. 5 (i) TGA thermograms of (a) DJ PCL-PVA (b) L-Carvone loaded DJ PCL-PVA blended electrospun fibers (ii) DTGA thermograms of (a) DJ PCL-PVA (b) L-Carvone loaded DJ PCL-PVA blended electrospun fibers

ANTIBACTERIAL ACTIVITY

The antibacterial activity of the C-DJPP blended electrospun fibers was tested against *S. aureus*, *S. pyogenes*, *E. coli* and *P. aeruginosa* as shown in Fig. 6. After the incubation, clear zones of inhibition were observed around the C-DJPP blend fibers. The zones of inhibition measured (in millimeters) are shown in Table II. The anti-MRSA activities of the R- and S- Carvone with a combination of Gentamicin were reported using the MIC assay showing that the combination of Carvone with Gentamicin exerted significant anti-MRSA activities (Mun et al. 2014).

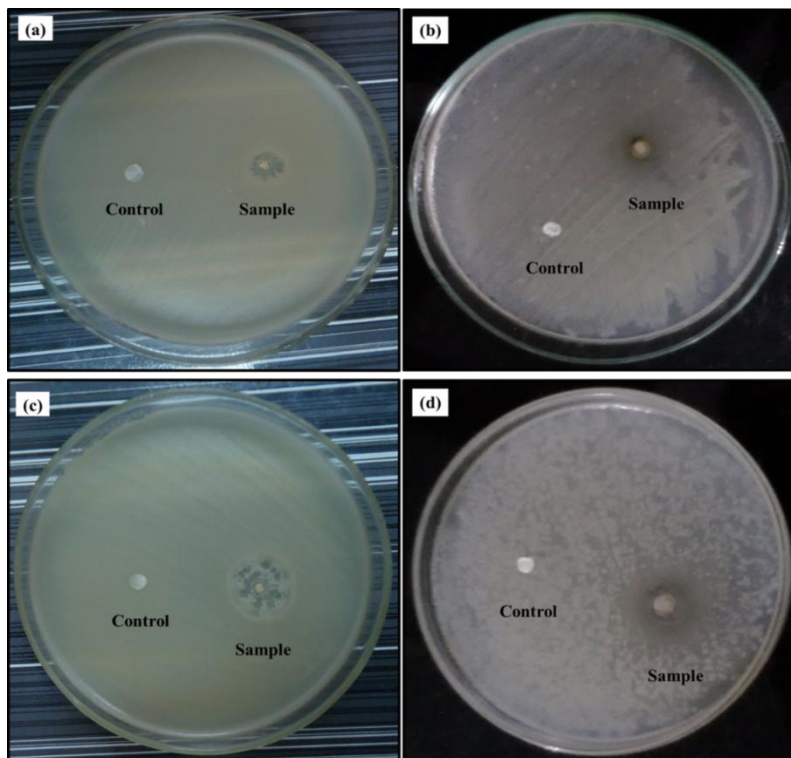


Fig. 6 Antibacterial activities of L-Carvone (5 w/v%) loaded DJ PCL-PVA blended nanofibers against (a) *S. aureus* (b) *S. pyogenes* (c) *E. coli* (d) *P. aeruginosa*

Table II Zone of inhibition of the C-DJPP (5 w/v%) fibers

S.No.	Sample	Zone of Inhibition (mm)			
		<i>S. aureus</i>	<i>S. pyogenes</i>	<i>E. coli</i>	<i>P. aeruginosa</i>
1	DJPP fiber as a control	-	-	-	-
2	C-DJPP fiber	10	14	15	17

INSECT REPELLENT ACTIVITY AND FUMIGANT TOXICITY OF THE C-DJ PCL-PVA BLENDED FIBERS

The insect repellent activity and the fumigant toxicity of the C-DJPP(5 w/v%) electrospun fibers against the saw-tooth beetle were shown in Fig. 7. The insect repellent tests as in Fig. 7(i), revealed that the C-DJPP blended fibers showed significant insecticidal activity against the saw-tooth beetles. As shown in Fig. 7(ii), it can be observed that the L-Carvone loaded DJPP electrospun fibers were significantly toxic to the test insect causing the mortality of $\sim 30\%$, $\sim 10\%$ and $\sim 10\%$ for purePVA, pure PCL and C-DJPP blend fibers respectively. The increased exposure time to 48 h, did not increase the mortality of the beetle and the same mortality was observed. It was reported that the mode of action of the essential oils are yet to be affirmed, and the insect mortality might be because of the suffocation and the suppression of the biosynthetic processes of the insect's metabolism (Don-Pedro 1989).

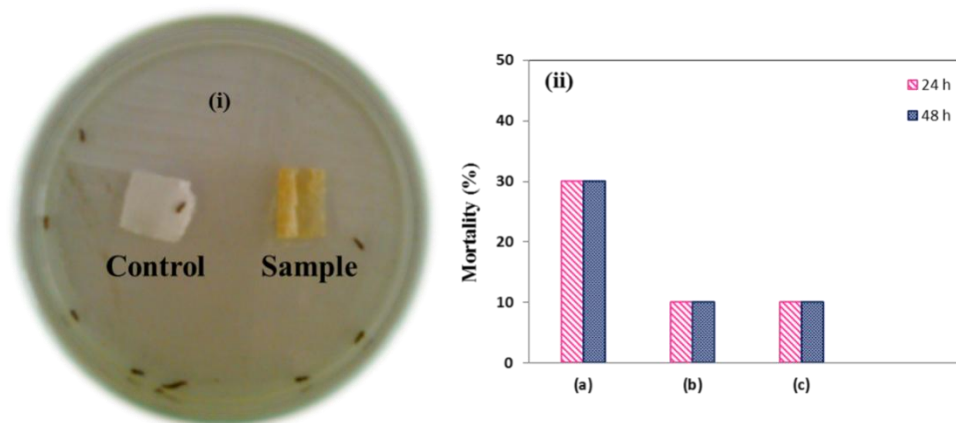


Fig. 7 (i) Insect Repellent Activity of C-DJ PCL-PVA nanofibers (ii) Insect mortality (%) of L-Carvone loaded (a) unblended purePVA (b) unblended purePCL (c) DJ PCL-PVA nanofibers

CONCLUSION

The dual-jet electrospinning system has been successfully used to modify the surface characteristics of the electrospun fibers by varying the mixing ratios of the different kinds of polymer blends. The optimized concentration of PCL and PVA solutions were electrospun using dual jet capillaries to produce PCL-PVA blend nanofibers in the average diameter range ~ 100 -300 nm. The prepared L-Carvone imbibed dual spun blend fibers showed significant antibacterial activity against the tested gram positive and gram negative bacteria. The fumigant assay of the L-Carvone loaded DJPP blend

fibers showed mortality of 10 % against the test insects saw tooth beetle. It was concluded that the dual spun PCL-PVA blend fibers offered a potential formulation system for the release of L-Carvone with significant bioactivities in the packaging applications.

REFERENCES

1. Abbott WS. 1925. A method of computing the effectiveness of an insecticide. J. Econ. Entomol.18:265-267.
 2. Barzegar F, Bello A, Fabiane M, Khamlich S, Momodu D, Taghizadeh F, Dangbegnon J, Manyala N. 2015. Preparation and characterization of poly(vinyl alcohol)/graphene nanofibers synthesized by Electrospinning. J. Phys. Chem. Solids.77:139-145.
 3. Don-Pedro KN. 1989. Mechanism of the action of some vegetable oils against *SitophilusZeamaismotsch* (Coleoptera: Curculionidae) on wheat. J. Stored Prod. Res.25:217-223.
 4. Gu M, Wang K, Li W, Qin C, Wang JJ, Dai L. 2011. Preparation and characterization of PVA/PU blend nanofiber mats by Dual-jet Electrospinning. Fiber Polym. 12:65-72.
 5. Hao J, YuanM, DengX. 2002. Biodegradable and biocompatible nanocomposites of poly(ϵ -caprolactone) with hydroxyapatite nanocrystals: thermal and mechanical properties. J. Appl. Polym. Sci.86:676-683.
 6. Huang S, Zhou L, Li MC, Wu Q, Kojima Y, Zhou D. 2016. Preparation and properties of electrospun poly(vinyl pyrrolidone)/cellulose nanocrystal/silver nanoparticle composite fibers. Materials.9:523-536.
 7. Kim CH, Khil MS, Kim HY, Lee HU, Jahng KY. 2006. An improved hydrophilicity via electrospinning for enhanced cell attachment and proliferation. J. Biomed. Mater. Res. B Appl. Biomater. 78B-2:283-290.
 8. Mun SH, Kang OH, Joung DK, Kim SB, Choi JG, Shin DW, Kwon DY. 2014. In vitro anti-MRSA activity of Carvone with gentamicin. Exp. Ther. Med.7:891-896.
 9. Nejad HB, Robertson JM, Mather PT. 2015. Interwoven polymer composites via dual-electrospinning with shape memory and self-healing properties. MRS Commun.5:211-221.
 10. Ramamoorthy M, Rajiv S. 2014. L-Carvone loaded nanofibrous membrane as a fragrance delivery system: Fabrication, characterisation and in-vitro study. FlavourFragr. J.29:334-339.
 11. Ramamoorthy M, Rajiv S. 2015. *In-vitro* release of fragrant L-Carvone from electrospun poly (ϵ -caprolactone)/wheat cellulose scaffold. Carbohydr. Polym.133:328-336.
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12. Ramamoorthy M, Rajiv S. 2017. Development and assessment of electrospun poly(ϵ -caprolactone)-poly(vinyl alcohol) blend nanofibers for pest control in stored products. *Polym Plast Technol Eng.* 56(18):1949-1960.
 13. Tay BY, Zhang SX, Myint MH, Ng FL, Chandrasekaran M, Tan LKA. 2007. Processing of polycaprolactone porous structure for scaffold development. *J. Mater. Process. Technol.* 182:117-121.
 14. Wang J, Cheung MK, Mi Y. 2002. Miscibility and morphology in crystalline/amorphous blends of poly (caprolactone)/poly(4-vinylphenol) as studied by DSC, FTIR, and ^{13}C solid state NMR. *Polymer.* 43:1357-1364.
 15. Zahedi P, Rezaeian I, Jafari SH, Karami Z. 2013. Preparation and release properties of Electrospun poly(vinyl alcohol)/poly(ϵ -caprolactone) hybrid nanofibers: optimization of process parameters *via* D-optimal design method. *Macromol. Res.* 21:649-659.
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Chapter 2

DC-DC CONVERTERS FOR ELECTRIC / HYBRID VEHICLE APPLICATIONS

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Abstract: Recent research evident that the electric vehicles / hybrid vehicles are better for the environment. They emit less greenhouse gases and air pollutants than petrol or diesel running vehicles. The massive number of petrol / diesel automobiles in use around the world has caused and remains to cause serious problems of environment and human life. Air pollution, global warming, and the rapid depletion of the earth's petroleum resources are now serious problems. So, moving to the E-vehicle / hybrid mode vehicle is no longer optional it's crucial. Most electric and hybrid electric configurations use two energy storage devices, one with high energy storage capability, called the "main energy system" (MES), and the other with high power capability and reversibility, called the "rechargeable energy storage system" (RESS). To extend the driving range MES is utilized, and good acceleration along with regenerative braking is obtainable by RESS. The major challenge for the vehicle designer is to provide constant power and output voltage from the energy storage devices while integrating with the traction drive. To achieve it DC-DC converters can be utilized, which interface the elements in the electric power train by boosting or chopping (regulating) the voltage levels. Further, the power converter structure has to be lightweight, reliable, high efficiency, low electromagnetic interference and ripple free to meet out the automotive constraints. This chapter is written with the consideration of current problems affecting the efficiency of the E-Vehicle batteries. Thus, comparative study of different DC-DC converter topologies is carried out; results of each topology are presented in deal with electrical (efficiency, input current) and mechanical aspects (weight and volume).

Keywords: Dc-Dc converter, hybrid / e-vehicle, main energy system, converter efficiency, converter topology

1.Introduction

In recent days Electric vehicles (EVs) got more consideration in the recent modes of transportation. EVs are getting noticed because of the green mode of transportation and it is also an alternate fuel source for gasoline fuel-based electric vehicles. In these EVs, the major role plays the electronic converters. These converters help in power storage and also power usage. The converters mainly link between the power source and battery in Electric Vehicles. The efficiency of the EV also depends on the design and reliability of the converters. The Buck, Boost, and Buck-Boost are the initial levels of converters [1]. Hybrid Electric Vehicles (HEV) have higher advantages over pure petrol vehicles due to the low emission of CO₂ gas. HEV will function in dual mode, in petrol and electric source this makes higher importance over single fuel vehicles. This vehicle context the DC-DC converter as the electronic device for conditioning the source voltage of one level to another level of output voltage for charging and

discharging of the battery. The converters play an important role due to the fact that is efficient and easy to design [2].

Automotive manufacturing has derived major consideration in EVs over the last centuries. This makes significant growth of EV and the design of converter for electric vehicles also got the more design development. The buck-boost converter is capable of functioning in charging and discharging both ways. The converter to battery voltage delivers the requisite charging current by current control (CC) [3]. In [4] details about the hybrid electrical vehicle application and power electronics converters' essential role. The design and analysis of a nonlinear dual input DC-DC converter for integrating two input sources. The converter configuration, control schemes, and optimization techniques are in [5]. The effectiveness of EV depends on proper interfacing between the energy storage system and power electronic converters. The challenges in electric vehicles are unstable, unregulated, and substantial voltage drops. The mentioned limitations can be overcome by efficient design of the converter for EV, to achieve a secured and reliable power transfer from the energy storage system. Electric vehicle converters and controllers have shortcomings including a large number of components, high current stress, high switching loss, slow dynamic response, and computational complexity [5]. Finally, important and specific suggestions are delivered toward the development of an efficient converter for future sustainable electric vehicle applications in this chapter, and simulation results state the effectiveness of the converters.

2.ROLE OF DC-DC CONVERTER IN E-VEHICLE

To interface the DC source such as fuel cell, Battery, or the super capacitors to the Dc link different configuration of DC -DC converter is necessary. It is a category of power converter which regulates the voltage/current and stores the energy temporarily then releasing to the output at different levels. It can be designed to regulate the power in either unidirectional or bidirectional. Most of the applications require bidirectional mode to achieve the regenerative braking which improves the efficiency of the system. The converter output current and voltage can be controlled by varying its duty cycle. To avoid switching losses in the circuit many topologies are approached by the researchers (Chiu & Lin, 2006), (Fengyan et al., 2006). The main category is isolated and non-isolated which has been discussed in the following sub sections 2.1 and 2.2:

2.1 Non-isolated converters

The electrical separation between the input and output of a dc-dc converter is meant for isolation. For that purpose, a transformer is used to eliminate the dc path between its input and output. In contrast, a non-isolated dc-dc converter has a dc path between its input and output. This type of converter is usually utilized where the voltage needs to be step up or step down by a quite small ratio; since there is no dielectric isolation. The non-isolated types are Buck, Boost, Buck-boost, Sepic and Cuk converters. By the use of buck converter input voltage can be step down and step up by boost converter. Further, the process of either step up / down can be achieved by buck-boost, Cuk and Sepic converters.

2.2 Isolated converters

In general, isolated type of converters are used for the applications which require the output completely isolated from the input. For this purpose high frequency transformers are used in between the input and output. Some of the converters coming under this category are Half-Bridge, Full- Bridge, Fly-back, Forward and Push-Pull DC/DC converters (Garcia et al., 2005), (Cacciato et al., 2004). These converters can be used in the bi-directional mode for high power applications (step up/ step down).

3. SELECTION CRITERIA OF DC-DC CONVERTER IN E-VEHICLE

To interface the Dc source (fuel cell or battery) to the machine by regulating the voltage/current level DC-DC converter is used in the e-vehicle. Occasionally, it needs reversible converter to maintain the efficiency of the output. Hence, variety of DC-DC converter topologies are designed with intermediate storage components (Lachichi & Schofield, 2006), (Yu & Lai, 2008), (Bouhalli et al., 2008). Especially for automotive applications, the following design considerations are taken into account to enable effective assembly.

- Light weight,
- High efficiency,
- Less volume,
- Reduced electromagnetic interference,
- Less ripple content in the output,
- Voltage/ current regulating capacity of the converter,
- Control performance.

Each converter topology has its pros and cons. Electrical isolation can not be done in DC-DC boost converter and also large volume with weight. It imposes severe stress on the switch while converting higher value of voltages as well contain ripples. This problem can be overcome by interleaved multichannel DC-DC converter topologies by reducing the weight of the inductors which improves the overall efficiency of the system. However, this topology also having limitations in terms of voltage level conversion due to the circuit impedance which limits the range of duty cycle, thus only suitable up to the maximum step-up ratio of approximately 4. Most common converter which is utilized in automotive applications is DC-DC converter of having zero voltage switching (ZVS) and zero current switching by pulse width modulation (PWM) techniques; Since it is able to transfer high capacity voltage and current with reduced ripple contents.

4. ELECTROMAGNETIC COMPATIBILITY REGULATION

The semiconductor devices used in the power electronic converters are having fast switching speed and helps to reduce the volume of the equipment which it involved. However, it is found some adverse effect such as electromagnetic interference (EMI) and radio frequency interference due to high $\frac{dv}{dt}$ and $\frac{di}{dt}$ variation present in the devices. Even though the converter devices are the sources of radiating EMI, the devices are crucial for some residential, commercial and medical device applications. But, in automotive application EMI emission should be the main consideration to improve the power quality thereby efficiency of the system as per the electro- magnetic compatibility (EMC) regulation. In European communities, compliance with regulations is mandatory, and products must have a certified label to show that they have met all the requirements. For electric vehicles, the maximum interference level should meet the DIN VDE 0879 standard. The limits in this standard are very similar to the class B of VDE 0871 requirement and limitation on conducted emission. For real time implementation EMI must be considered accurately.

5. EFFICIENCY AND LOSSES OF POWER CONVERTERS

Efficiency of the system is mainly based on the switching loss (IGBTs and MOSFETs) and the losses present in the passive components (capacitor and inductor) of the converters. Aim of this section is to describe an idea about the loss estimation. This may help to predict the efficiency of the converter which is given by Eqn. (1)

$$\eta = \frac{P_{input} - \sum losses}{P_{input}} \quad (1)$$

5.1 Conduction and switching losses of IGBT

The product of the current flowing through the collector or anode and saturation voltage (on state voltage) over the conducting period is said to be conduction losses for the IGBT. The IGBT characteristics are taken from the data sheet to apply the V_{CE0} and r_{CE} values. The average and RMS current of the IGBT is represented by I_{avg} and I_{rms} respectively.

$$P_{IGBT_cond} = V_{CE0}(I_{IGBT}) + r_{CE}I_{IGBT_rms}^2 \quad (2)$$

$$P_{IGBT_switch} = (E_{on} + E_{off})f_s \quad (3)$$

Where, f_s is the switching frequency. E_{on} and E_{off} are the switching losses during the switching on and switching off, respectively. Energy values are generally given for specific test conditions (Voltage test condition V_{CC}). Thus, to adapt these values to others test conditions, as an estimation the IGBT switching losses are given by (Garcia Arregui, 2007):

$$P_{IGBT_switch} = \frac{V_{IGBT}}{V_{CC}} (E_{on}(I_{IGBT_on}) + E_{off}(I_{IGBT_off}))f_s \quad (4)$$

5.2 Conduction and switching losses of Diode

According to the data sheet information, diode conduction loss and switching loss is given by equation (6) and (7) which calculated from the RMS value of the current and voltage.

$$P_{D_cond} = V_{F0}(I_D) + r_F I_{D_rms}^2 \quad (5)$$

$$P_{D_switch} = E_{rr}f_s \quad (6)$$

Where, f_s and E_{rr} are the switching frequency and recovery energy respectively. For a specific test conditions the recovery energy is given as the function of voltage, current switching resistances (turn on and turn off). Now the diode switching loss is given as follows:

$$P_{D_switch} = \frac{V_D}{V_{CC}} E_{rr}(I_D)f_s \quad (7)$$

5.3 Capacitor losses:

The capacitor losses are calculated from its equivalent resistance and it is given as follows:

$$P_{Capacitor} = r_C I_{C_rms}^2 \quad (8)$$

Where, r_C is the equivalent resistance of the capacitor and I_{C_rms} is the rms current value of the capacitor.

5.4 Inductors losses

Iron losses and copper losses are present in the inductor. These losses present in inductor which using magnetic cores. Fluctuating magnetic field, such as eddy currents and hysteretic phenomena are the main causes for this kind of losses. During the losses energy is released as

heat and in some cases as noise. These losses can be estimated by the supplier of that particular component.

The inductor iron losses are given by:

$$P_{L_Core} = W_{Core} P_{Core} \quad (9)$$

Where, W_{core} is the weight of the core and P_{core} is the iron losses per Kg.

The copper losses or the conduction losses in the inductor are given by:

$$P_{L_Copper} = r_L I_{L_rms}^2 \quad (10)$$

Where, r_L is the resistance of the inductor and I_{L_rms} is the rms current value of the inductor.

6.CONTROLLER DESIGN - PID CONTROLLER

A Proportional Integral Derivative (PID) controller or also called a three-term controller is widely used in Industrial control system applications due to its control loop mechanism employing feedback response. This controller consistently calculates an error value (t), which is the difference between the set point and measured process variable, based on the proportional, integral, and derivative [6]. The PID controller tuning will result in good closed-loop behaviour. The integral term has been modified to improve the disturbance rejection for the integral process. The general controller design block diagram is shown in Fig. 1.

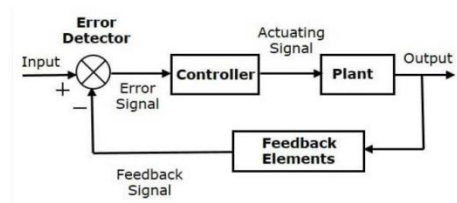


Figure1. Controller design block diagram

The Tuning rules for PID controller include several objectives;

- (i) The tuning rule must be preferably model-based and analytically derived.
- (ii) They should be simple and easier to understand.
- (iii) It should work well for a wide range of processes.

To implement above given objectives two-step procedure is followed [7].

Step 1: Obtain a first- or second-order plus delay model. The effective delay in this model may be obtained using the proposed half-rule.

Step 2: Derive model-based controller settings. PI-settings result if we start from a first-order model, whereas PID-settings result from a second-order model.

The PID tuning method can be classified into following categories [8].

- (i) Model free methods – no model or any particular points or data values of process are identified.
- (ii) Non-parametric model methods – it uses only partial modelling information, steady-state model, and also critical frequency data points.
- (ii) Parametric model methods – this method can be implemented in both offline and online identification methods. Both these methods require a linear model of the process. It includes a transfer function matrix or state space model. Further, these parametric methods can be divided into (a) Non-optimal parametric methods and

(b) Optimal Parametric methods of two types for controller design i) Restricted Structure Control and ii) Control signal Matching.

7. DC – DC CONVERTERS TOPOLOGY

7.1 Buck converter:

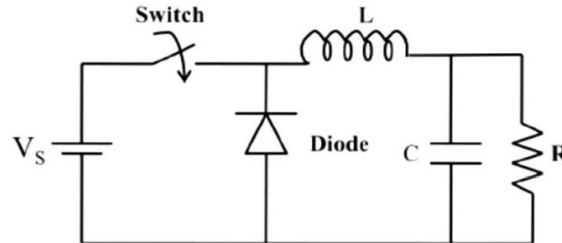


Figure 2. Buck converter topology

To step down the voltage level at the output Buck converter is used. It consists a switching device, diode, capacitor, inductor and resistor. Inductor is connected in series and capacitor is connected at the output in parallel to reduce the input voltage level. Buck converter topology is presented in Fig 2. It may work continuous or discontinuous mode. The circuit equations of the converter for both modes are given in the following equations (11) – (17). The following differential equations are at switch open and closed conditions.

$$V_i - V_o = V_L \quad (11)$$

$$\frac{di}{dt} = \frac{V_i - V_o}{L} \quad (12)$$

$$i_L - i_o = i_c \quad (13)$$

$$\frac{dv}{dt} = \frac{i_L - \frac{v_o}{R}}{C} \quad (14)$$

$$V_i = -V_L \quad (15)$$

$$\frac{di}{dt} = \frac{V_o}{L} \quad (16)$$

$$\frac{di}{dt} = \frac{SV_i - V_o}{L} \quad (17)$$

7.2 Boost converter:

In the non-isolated applications if the DC voltage must be increased, boost converter is used to increase the input DC voltage to higher DC output voltage [19]. The converter consists of an input inductor, a semiconductor switch, a diode and an output capacitor as seen in Fig. 3 .

In the boost converter, semiconductor switch is turned ON and OFF during a switching period. Two different operation modes occur in a switching period. The ON state topology mode, input voltage is applied to inductor directly, and inductor current increases. Inductor voltage and current equations are given in (18)-(21). Output capacitor feeds the load and discharges, simultaneously while inductor stores energy. In this mode, the energy stored in the inductor is

transferred to the output so the inductor current decreases. The load is fed, and the capacitor charges. In the equations, S function takes value 0 and 1.

$$v_l = v_i \quad (17)$$

$$\frac{di}{dt} = \frac{V_i}{L} i_c = -\frac{v_o}{R} \quad (18)$$

$$\frac{dv_o}{dt} = -\frac{v_o}{RC} \quad (19)$$

$$v_l = v_i - v_o \quad (20)$$

$$\frac{di}{dt} = \frac{V_i - V_o}{L} \quad (21)$$

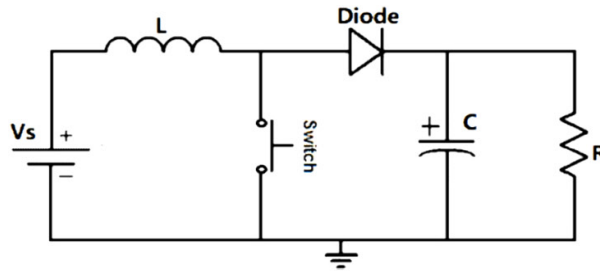


Figure 3. Boost converter topology

7.3 Buck-Boost Converter

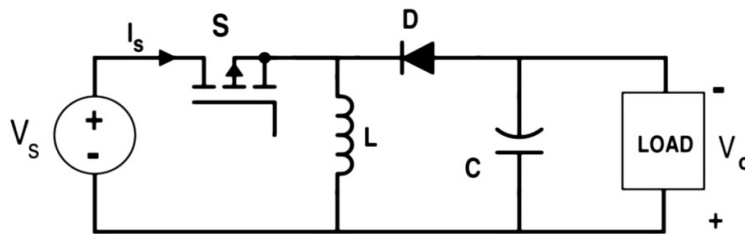


Figure 4. Buck – Boost converter topology

The converter has a capability to decrease or increase the input DC voltage. It is a converter of a combination of boost and buck converter. The main difference of the converter from the others is output voltage polarity. The topology of the converter is seen in Fig. 4. In the converter, controlled switch is connected to input as buck converter. When the switch is ON, the inductor is connected to input supply directly, and energy is stored in the inductor while the capacitor feeds the load. As the diode is reverse polarity, it isolates the input and output sides of the converter. In the OFF state, the diode starts flowing current, and the stored energy is transferred to the output

7.4 Cuk Converter

Cuk / Sepic converter is another type of DC-DC converter topology which is having the ability to adjust the output voltage level as higher or lower than its input voltage level. The only difference between the Cuk and Sepic is the output voltage polarity. This topology also involves two inductor and two capacitor as like Buck-boost converter. The Cuk converter topology is shown in Fig. 5

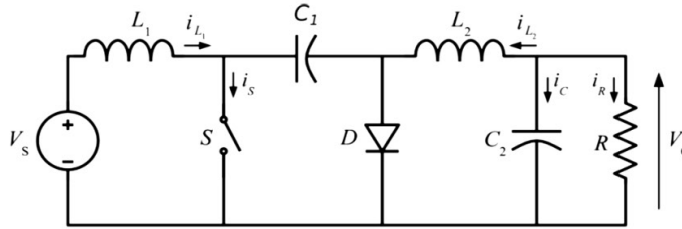


Figure 5. CUK converter topology

8. DISCUSSION

The different topologies of DC-DC converter are elaborated in the previous sections and here the comparisons are presented. Table 1 depicts the circuit parameters which considered to suitable for the EV applications. Further, for this corresponding parameter values comparison of inductor current, efficiency, weight and volume are determined and tabulated in Table 2 and 3 respectively. The efficiency comparison curves of the converters are shown in Fig. 6

Table 1. Circuit Parameters

Converter type	V_i (Volts)	V_o (Volts)	Power (Watts)	L (μH)	C (μF)	f (kHz)
Buck Converter	24	220	480	310	250	10
Boost Converter	24	220	480	310	250	10
Buck-Boost converter	48	110	480	650	125	10
Cuk converter	48	110	480	650	500	10

Table 2. Efficiency comparison with respect to load current

Buck		Boost		Buck- Boost		Cuk	
I_L (A)	% η	I_L (A)	% η	I_L (A)	% η	I_L (A)	% η
15	83	15	89	15	93	15	94
30	87	30	86	30	91	30	90
45	85	45	81	45	87	45	85
60	79	60	79	60	83	60	81
75	72	75	77	75	81	75	79

Table 3. Efficiency comparison with respect to mechanical parameters

Dc-Dc converters	Volume (cm^3)	Weight (g)	Maximum Efficiency (%)
Buck	2167	6325	83
Boost	1380	3900	89
Buck-Boost	3033	9268	93
Cuk	3020	9118	94

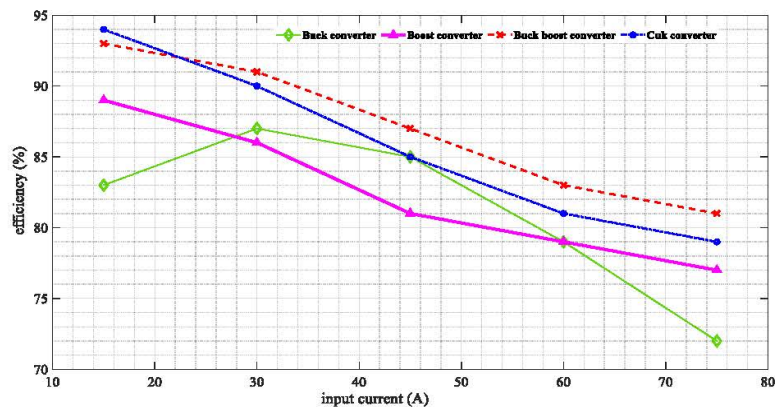


Figure 6. Efficiency of converters with respect to input current

CONCLUSION

In this chapter, a comparative study which presents various DC-DC converter topologies (Buck, Boost, Buck-Boost, CUK DC/DC converter) are carried out. The buck and boost converter consider as basic, single step-up/ down converters. These structures are even simple but improves the step-up / down quality of the current drawn from the fuel source and has small weight and volume. However, it presents limits when a high voltage step-up / down is required. The next topologies are Buck-boost and CUK which has the possibility to voltage step-up and down by the use of single unit. Simulations are carried out for these converters of 30 KW power carrying capacity. Simulations take into account real components (IGBT and Diode), the www.intechopen.com DC/DC Converters for Electric Vehicles 331 weight and volume of each converter were calculated based on datasheets. The efficiency of each converter was calculated; the maximum losses present in the power switches. Simulations results show CUK DC/DC converter as a best candidate to the EV (electric vehicle) application according to the selection criteria. It has the higher efficiency, the smaller volume and weight which are required for transport application.

- [1] B. V. R. B. Venkatesh Reddy (2022), "A Review of Efficient Power Converters in Electric Vehicle Charging," *International Journal of Mechanical Engineering*, vol. 7, no. 1, pp. 5224-5230.
- [2] Babu, Safare Sudeep.(2019) "Design and analysis of power convertors for electric vehicle applications." *IOP Conference Series: Earth and Environmental Science*. Vol. 312. No. 1. IOP Publishing,.
- [3] AlMarzoogee, Ammar Hatem, and Alaa Hamid Mohammed (2020). "Design a Bidirectional DC/DC Converter for Second-Level Electric Vehicle Bidirectional Charger." *2020 4th International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT)*. IEEE.
- [4] Sivaprasad, A. (2015) "Design and analysis of a dual input DC-DC converter for hybrid electric vehicle." *2015 IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems (SPICES)*. IEEE..
- [5] Lipu, Molla S. Hossain (2021) "Review of electric vehicle converter configurations, control schemes and optimizations: Challenges and suggestions." *Electronics* 10.4 (2021): 477.

- [6] Paz, Robert A. (2001) "The design of the PID controller." *Klipsch school of Electrical and Computer engineering* 8 : 1-23.
- [7] Skogestad, Sigurd.(2003): "Simple analytic rules for model reduction and PID controller tuning." *Journal of process control* 13.4 :291-309.
- [8] Moradi, M. H. (2003) "New techniques for PID controller design." *Proceedings of 2003 IEEE Conference on Control Applications, 2003. CCA 2003..* Vol. 2. IEEE.
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**Chapter
3****RECENT HR PRACTICES FOR CRISIS
MANAGEMENT IN THE POST COVID-19 ERA*****Manoj Deva. Y, **Dr. K.V.Ramana Murthy**

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Abstract: *The Year 2019-20 gave an outburst of a New Biological disaster called CORONAVIRUS. The COVID Pandemic Created a significant impact mainly on Managing organizations and their Employees especially related to Information the technology sector, Service Sector, Manufacturing, Tourism Industry Sector, supply Chain sector, electronics, and electrical sector, Pharma sector and many, at the same time more theories will emerge for the psychological Condition of the employees and Theories related to the Global Economy.*

This pandemic is causing Inflation. More positively, the disruption has caused an acceleration of remote working, emerging of working villages, adopting new management techniques for the Organizations, Emerging trends in Human Resources theories related to Psychology and the Concept of Self-Motivation for Productive work Demand for social agriculture and a rapid focus on evaluating and de-risking the end-to-end value chain. In addition, potential carbon emission reductions, Balancing the environment and food chain of different environments. In this paper, the researcher wants to analyze “Recent HR Practices for Crisis Management in the Post COVID-19 Era”.

Keywords: *Crisis Management, COVID, Innovative Practices, leadership, Competency building*

Introduction:

Quarantines, lockdowns, and self-imposed isolation have pushed millions of people around the world to work from home, accelerating a workplace experiment that had struggled to gain traction before COVID-19 hit.

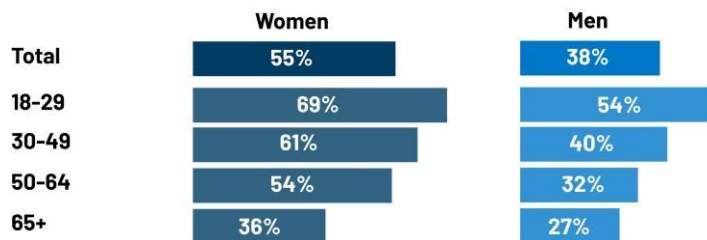
Now, well into the pandemic, the limitations and the benefits of remote work are clearer. Although many people are returning to the workplace as economies reopen—the majority could not work remotely at all—executives have indicated in surveys that hybrid models of remote work for some employees are here to stay. The virus has broken through socio- cultural, and technological barriers that prevented remote work in the past, setting in motion a structural shift in where work takes

place, at least for some people. Through this paper the researcher wants to correlate the pandemic effect on work culture and new trends in Management. Remote work raises a vast array of issues and challenges for employees and employers. Companies are pondering how best to deliver coaching remotely and how to configure workspaces to enhance employee safety, among a host of other thorny questions raised by COVID-19. For their part, employees are struggling to find the best home-work balance and equip themselves for working and collaborating remotely.

The ravages of COVID-19 in the workplace extend far beyond the fiscal and physical losses we have all faced in the past year. Four in ten adults in the workplace have reported indications of anxiety, depression and other negative impacts on their mental health and well-being since the pandemic began. Alongside these burgeoning psychological struggles have come additional medical and addiction-related woes, such as difficulty eating, insomnia, grief-induced weight gain/loss, loneliness, unhealthily increased consumption of alcohol and a noted worsening of existing chronic conditions exacerbated by high levels of stress and consistent worry.

**Nearly Seven In Ten Women Under Age 30 Report A Negative
Mental Health Impact From Pandemic; Fewer Older Adults Say
The Same**

Percent who say they feel that worry or stress related to COVID-19 has had a
negative impact on their mental health:



With only an estimated 37% of jobs capable of going remote, the conversation surrounding COVID-19's roundhouse effect on desk-less workers doesn't end when Mental Health Awareness month does. For first responders, transportation professionals, hospitality workers, and those in manufacturing retail jobs, the day-to-day dangers of desk-less work trudge endlessly on, much like the workers themselves, in a fog of repressed fear and largely unspoken need. Without close interactions with colleagues and upper management each day to fall back on, many desk-less and frontline workers are getting hit twice as hard by pandemic-related traumas, both practical and emotional. This is where a critical and ongoing discourse around mental health at work showcases its most strident demand for an active, ongoing conversation rather than a temporary-alertness Band-Aid.

The necessity of addressing such a conversation, and all of its itinerant issues, falls first and foremost to HR departments. The pivot to remote work transformed many traditional HR jobs from that of simple hiring and onboarding to a position of nearly full-time counselling, wellness management, and life-obstacle coaching. HR professionals have been tasked this year with a vast array of disruptions ranging from helping to find babysitters, developing and implementing flexible scheduling that can change at the drop of a hat, and generally attempting to maintain some sense of normalcy in a world that was increasingly anything but. This shift has left many HR departments exhausted and their companies grappling with the need for systemic mental health solutions that can be permanently placed within their professional atmospheres.

A study by Oracle and HR research and advisory firm Workplace Intelligence shows that employers are beginning to prioritise mental health. About 51% of employees surveyed noted their company has added mental health support. That said, 76% feel their company can do more. Large companies like Target have implemented full-scale mental health services for employees, but there are ever-growing options for smaller businesses with tighter budgets as technology begins to catch up with the unique concerns created by COVID-19. One of the most important facets of improving mental health at any-sized company is making the employee communications experience a seamless and two-way communication route.

The cruciality of two-way, open communication between employees and top administrators cannot be overstated. The changes wrought by the pandemic have simply showcased that need in a light that any company, large or small, could no longer ignore. While there is much conversation around the need for raw, undecorated truth-sharing amongst employees and upper-level management, there is less collective understanding on how to go about that.

Many companies are struggling with both top-down and bottom-up relays of concern. A few popular and fairly easy changes HR departments and other business leaders can make to generate a safe two-way conversation space for employees and administrators alike are:

- Provide multiple avenues for feedback: anonymous, private consultation, digital and group-based
 - Ensure that feedback is provided on all concerns raised by any party
 - Be constructive when being instructive: make any needed changes as lighthearted, but as specific as possible
 - Set up interdepartmental connections through sharing of both grievances and achievements on a regular basis
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Over the course of these critical next few years, HR professionals could see a significant portion of their day spent on developing practical programs within the company's staff infrastructure that allows for a more free and open mental health discourse. The creation of inside course correctives such as anonymous stresser drop boxes wherein employees feel safe to share distinctly workplace-related mental health problems with administration, the implementation of internal child care, and the permanent switch to more malleable scheduling are all examples of new responsibilities HR departments may face in looking at long-term mental health solutions post-pandemic.

The future of the HR industry will be one infinitely more attuned to the individual health needs of each employee. There's a good chance that progressive companies will begin offering bespoke mental health packages as part of the hiring negotiations for any job, much in the manner of the way medical and dental are handled now.

Amidst all of this, HR departments must innovate avenues toward resiliency not just for their employees, but for themselves. This could mean anything from the generation of intracompany HR councils to a total reimagining of traditional HR roles. By increasing communication pathways aimed at improving employee journeys, HR professionals simultaneously enhance their own. Through the greater use of social capital, strong leadership, and holistic work-life policy developments, HR can morph in ways that both maintain and magnify its vitality within any company. Though most of these changes may feel cumbersome, foreign, and even off-putting at first, the positive impact that can be built out of COVID-19's negative consequences is one that places everyone's best interests first.

Helping employees navigate through these dark times will be critical to many organizations' short- and long-term survival. Leaders who step up to the challenge will shorten and reduce the pandemic's negative impact on their businesses.

But doing so requires a talent engagement strategy, a plan that guides leaders on how to interact with their people in the right way, at the right time, and with the right information. Such a strategy can also help employees shift from seeing themselves as being helpless to deal with the crisis, to people who can play a beneficial role in helping their companies to reduce its impact.

Seven Elements of Successful Crisis Management:

Knowing what they need to convey, with whom and how, company leaders are ready to engage the workforce. Seven factors will keep engagement levels high and productive:

1. **Leadership availability and accessibility** in providing information and guidance on the pandemic. Active and visible sponsorship is the leading
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contributor to successful change. Sponsors, those who can hold employees accountable for executing the required changes, need to be visible.

2. **Empathy:** We can't state this enough. In a crisis, employees will remember how leaders made them feel, so empathy and understanding assume prime importance. Companies need to sensitize managers to be empathetic, and in turn suggest that they deal with others (including their families) empathetically. Leaders need to personalize messages to the right level (through segmentation) and deliver them through channels an employee prefers.
 3. **Increased communication:** Regular updates via trusted communication channels (email, intranet, employee apps or virtual town halls) give employees confidence that leaders have plans in place and things will return to normal relatively quickly. Make sure you always link any message about changes that must be made to the improvements those changes seek (e.g., cycle time and quality improvements). Digital forums such ideathons and hackathons can be great ways to surface ideas at all levels and let employees play important roles in formulating ideas that help the company rebound.
 4. **Open communication:** Everybody understands that this type of crisis could be a once-in-a-lifetime event. Its seriousness requires transparent communication. Nothing less will build trust and stronger intra-organizational relationships. But because many organizations' people can't be in the same room right now, gaining trust is much more difficult. Remote working necessitates individual leaders to be authentic, to openly address uncertainties and be open with their vulnerabilities.
 5. **Feedback:** Creating a collaborative, open and inclusive virtual workplace requires everyone, especially supervisors, to first listen to their teams. Develop various channels to capture employee feedback on how they are coping with the new normal. It will go a long way toward making employees feel valued. Collaborative team sites led by managers can be an open forum to hear emotions and ideas for change. With remote working efficiency being tested, managers play an increasingly important role in keeping team members engaged. Managers need a collaborative approach to making all stakeholders aware of the specifics of the changes that must be implemented. Their people best know how to do the jobs they are now doing. Feedback loops that let them explain their frustrations with their new work routines can help – as long as they are not met with reprisals. Engage them. Hear them. But avoid criticizing them. Instead, help them work things out.
 6. **Competency building:** This is a great time to reskill workers with lots of downtime in the crisis. For example, many prognosticators of the workforce of the future expect people not to be working in isolated silos, but instead to be part of
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geographically dispersed agile teams, connected by technology. Now is an opportune moment to train idle remote employees on agile methods. Leaders should also help employees hone their skills through AI-infused online learning tools. These will assess an individual's level of competency and recommend the right training. In the new normal, continual education and training – delivered far more to people's computers and far less in classrooms -- will be essential to maintaining a talent edge.

7. **Digital enablement:** With the right technical support and a few simple “do's” and “don'ts,” the right technology can help teams keep up their agile working models without being in the same room. Leaders need to make digital training and self-learning tools available for different cohorts (basic, advanced) to teams and departments.

Remote working will be a huge part of the new normal. But making it productive requires companies to give employees the requisite psychological safety outside the office while communicating the best practices of remote work. Leaders must define clear objectives to give employees the autonomy and empowerment they need. Leaders should help them establish a clear cadence of work tasks, using a suite of digital tools and new media.

Despite the brutal impact of COVID-19, the pandemic has pushed the reset button on leadership style and change management for the better. This is a great opportunity to redefine work and workplace, boost employee confidence and ensure that we have a loyal and competitive workforce to drive growth and transformation ahead.

Innovative HR practices:

Against this backdrop, here are some innovative HR practices that both new-age and established corporates have adopted to run successfully in the new world order:

Look after your mental health!

WFH has been the safest approach adopted by companies to continue their operations amidst the pandemic. However, in many cases, it has also led to increased stress as employees had to balance both office deadlines and home chores. Frequent burnouts have had an adverse effect on employees' mental wellbeing, preventing them from contributing meaningfully to their personal and professional lives.

According to a survey, work-related stress from WFH has affected the personal lives of 59% of men and 56% of women. To address this problem, several companies have partnered with healthcare experts to provide employees with timely assistance if they are going through emotional traumas. All they have to do is connect with an expert via the EAP toll-free Helpline number and get instant help for free.

Upskilling is the new necessity!

One of the biggest pandemic repercussions so far is job layoffs & salary reductions. While employees are struggling to prove their capabilities, numerous companies have come forward to reskill and upskill their workforce. The increasing adoption of mentorship programs by leaders for driving self-development and helping employees gain competitive skill-sets, as a measure to bridge the talent-skill gap is a testimony.

These learning initiatives include both hard skills and soft skills such as leadership, communication, team management, problem-solving, and logical thinking, among others. Not only have these support programs helped employees upgrade their existing abilities in line with the evolving market demand but have also bolstered collaboration, diversity, equality and inclusion within the organization.

Financial backing is equally important!

The ongoing pandemic has also engendered financial hardships to a major part of the world population, making it difficult for people to manage even their daily expenses. Hence, to offer financial support during these hard times, various companies have created cash grants for employees that are based on specific events like loss of household income, housing damage, fire, illness, etc.

For instance, Edwards Lifesciences has started providing employees in all their global locations with grants ranging from \$500 to \$4,000 through application depending on any adverse event and the employees' place of residence. Employers are also offering life insurance covers with corporate buffers to help employees with additional funds in case they exceed their insurance coverage limit. Other measures include vaccine reimbursement, bereavement leaves, ensuring no salary cuts, hiring more candidates, etc.

Stay engaged, stay motivated!

While the pandemic has put a full stop to our social lives, by restricting us to Zoom and MS Teams meetings, it has become essential for leaders to keep employees connected and engaged across all levels. Ensuring that the employee and employer remain intact and inclined towards a common goal, companies have come up with various engagement initiatives.

For instance, organizing virtual contests around various topics such as fitness, talent, comedy, and much more. These programs play a pivotal role in building and strengthening the relationship between colleagues, and keeping them entertained as well as competitive at the same time. After all, healthy competition can genuinely motivate employees to perform better and excel in their respective domains.

Conclusion:

As we advance in the post-COVID era, companies must continue to focus on health, prevention, nutrition, community service, finance and education. These factors will decide whether a company would thrive or perish. Moreover, there is another aspect that leaders should keep in mind – women empowerment – to stand out from the pack. Supporting women employees to reach leadership positions should be a top priority in an organization's agenda. These are some of the key takeaways that leaders must consider while ushering in the new normal, without which, they would be a thing of the past, sooner or later.

References:

- www.shrm.org
 - www.hrdive.com
 - Society for Human Resource Management survey. April, 2020.
 - Secondary data from Oracle and HR research and advisory firm
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Chapter
4

ECO CRISIS NARRATIVE IN LLOYD JONES' NOVEL *MISTER PIP*

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Abstract: *Environmental studies has continued to gain ground in the postcolonial period as man exercises a dominant role in the natural world and usurps its resources. Lloyd Jones, the reputed New Zealand novelist of the 20th century used to pen fictional works of art dealing with challenging and controversial social issues which drew the attention of many people. This anthropocentric nature leads to irreversible loss of human lives and this is mirrored up in his famous novel Mister Pip. Realizing the need to reverberate changes in the human minds and to effect harmony in the ecological system, Jones has used literature as a powerful tool to satirize man's egoistic nature which spawns the degradation of biodiversity and the devastation of human lives. The scriptures confirm the fact that with the intensity of warfare and violence, God will be present to destroy those who deplete the natural resources. This research paper is an attempt to critique man's self-absorbed nature to get what he requires through forcefulness and demolition of rural life. Man's ignorance and violation of the natural laws bring havoc on his own life. Lloyd Jones has composed a literary treatise Mister Pip whose protagonist Pip emerges from the famous Victorian novelist Charles Dickens' novel Great Expectations. He has carved a fantastic fantasy world for the young kids who delight in it, completely forgetting about the snarls of the civil war between the Redskin soldiers of New Papua Guinea and the rebels of Bougainville. The innocent narrator Matilda and other kids are quite unaware of the dangerous situation they are imposed upon. The aggressive movements of the Redskins and the Rambos intensively disturb the environment and bring ruin upon the beautiful and copper rich fertile village Bougainville. The villagers of Bougainville who enjoy all the riches of the land like fruits, fish and other things soon face shortage of foodstuffs and medicines due to the arrival of the Redskins. The incessant bomb explosion of the Redskins pollutes the beautiful landscape and the whole ecosystem gets affected and this leads to Eco crisis which swallows not only the resources of the land but also the innocent people like Mr. Watts and Dolores, Matilda's mother.*

Keywords: *anthropocentric, degradation, devastation, eco crisis, resistance*

Introduction:

Ecocriticism is a contemporary theory which analyzes literature in relation to the environment. Though writing about nature and its impact on humans existed long before the Romantic Age, it gained significance in the Romantic period. The basic tenets of Ecocriticism are found in the poetry of Wordsworth, Coleridge, Keats,

Southey etc. The poem “Ode on the Intimations of Immortality” glorifies the wonders of nature with its unique shades:

The Rainbow comes and goes,
And lovely is the Rose,
The Moon doth with delight
Look round her when the heavens are bare,
Waters on a starry night
Are beautiful and fair; (Wordsworth 14-19)

Environmental crisis took shape in different forms such as tsunami, earthquake, flood, landslide, viral diseases especially corona shook the people at the global level and created awareness among the people. Hence it is imperative for the eco-critics to protect the beautiful environment from all these factors. Ecocriticism also embraces the preservation of animals which are the integral parts of the ecosystem.

Environmental studies deals with a complex situation which is related to physical, psychological, cultural and ethical issues. Man’s relationship with nature determines his nature. The disharmony in the ecosystem is due to the non-ethical aspects of man. Man is subject to answer many questions such as How does environmental education help in eradicating environmental degradation and devastation of humanity? and How does green studies promote sustainable development? Man posits his arguments as to how to save the world from his fellow beings and other natural incongruities. Hugh C. Dyer in his article on “Green Theory” opines:

Ecocentrism prioritizes healthy ecosystems because they are a prerequisite to human health and wellbeing. In contrast, anthropocentrism sees only the short-term instrumental value of nature to humans. This ecocentric/anthropocentric distinction is at the heart of green theory. The holistic eco-centric perspective implies a rejection of the split between domestic and international politics, given that arbitrary boundaries between nations do not coincide with ecosystems (86)

The humans are the counterparts of the natural world and the agents of destruction. Environmental education has become a necessary entity as it teaches man his responsibility to protect the natural resources thereby promising a better society for the generations to come. In the modern era, human life is on the brink of environmental crisis and it is mandatory for man to reiterate both anthropocentric and ecocentric values. William Howarth in his article on “Some Principles of Ecocriticism” defines:

“Ecocriticism seeks to redirect humanistic ideology, not spurning the natural sciences but using their ideas to sustain viable readings. Literature and science trace their roots to the hermeneutics of religion and law, the sources for early ideas of time and space, or history and property” (78).

The present research paper makes a bold venture to use ecocriticism as a literary theory to emphasize the fact that life is ephemeral and ecologically man is the ultimate villain. This paper seeks to highlight the significance of human life in the midst of a natural environment. It also explores the eco-consciousness of Lloyd Jones who has blended both realism and imagination with a critical eye in his novel *Mister Pip*. Lloyd Jones tries to prove how the power of literature is helpful in transforming the minds of the people especially the children.

The present research excavates the need to protect the world from the tooth edged terrorism beyond the literariness of the novel. Lloyd Jones’ novel *Mister Pip* exposes the relationship between the people of Bougainville and the environment and how the environment undergoes inexplicable changes due to the civil war between the people of Bougainville, a copper rich village and the redskin soldiers who try to exercise their full control over the village and exploit them. The enchanting environment of Bougainville in the novel is splendid. To quote:

BOUGAINVILLE IS ONE of the most fertile places on earth. Drop a seed in the soil and three months later it is a plant with shiny green leaves. Another three months and you are picking its fruit. But for a machete, we would have no land of our own. Left alone the bush would march Mister Pip down the steep hillsides and bury our villages in flower and vine. (14-15)

Lloyd Jones has woven the novel *Mister Pip* with the intricacies of the civil war between the soldiers of Papua New Guinea known as Redskins because of the colour of their skin and the rebellious Rambos and its aftermath. The people of Bougainville were surrounded by the redskins’ gunboats which patrolled the coastline. It was believed that the redskin soldiers were going to choke the island and the rebels into submission. The children helped the elders in the gardens. They stalked beneath the trees that rose several hundred feet in the air. They played in the streams that stumble down deep hills. They also played in the sea and their black skins became blacker. The metaphor of terror is manifest in labelling the redskins’ gunboat “a grey sea mouse crawling with its guns aiming at the islanders. Lloyd Jones remarks that in the direction of the hills the people heard sporadic gunfire. Mr. Watts, the only white man who stayed back in the village Bougainville, wanted the village to be a place of light and so he assumed the role of a teacher.

The blockade in Bougainville has emptied the natural resources which jeopardises the life of the villagers. Mr. Watts, known as Pop Eye, helps the kids enter a new space where there is no room for problems and warfare. He could create a new world— it is the world of Victorian England which is sensible and provides relief from the present turmoil. Matilda understands a lot about Mr. Watts after paying a visit to Mrs. Watts' house. In her perception, he has played many roles in the lives of the kids in Bougainville. In the view of Matilda,

He was whatever he needed to be, what we asked him to be. Perhaps there are lives like that—they pour into whatever space we have made ready for them to fill. We needed a teacher, Mr. Watts became that teacher. We needed a magician to conjure up other worlds, and Mr. Watts had become that magician. When we needed a savior, Mr. Watts had filled that role. When the Redskins required a life, Mr. Watts had given himself. (245)

The redskins' hunger for human blood forced them to behave like animals. After the redskin officers fired on the houses and the possessions of the villagers, the people almost lost everything. They felt very bad and their living conditions were very poor. Lloyd Jones explains:

We slept outside the smoking ruins of our houses. We discovered that without a house your life feels bare. We had only the clothes we slept in. Yet some things cannot be taken or set fire to or shot. We still had the air. We still had the freshwater streams. We had fruit. We had our gardens. We even left our pigs. And, by some stroke of good fortune, the redskin soldiers had also overlooked Gilbert's father's boat. It was up the dry creek bed where he always hauled it. When I saw its blue hull tipped over on its keel I felt a fish leap in my heart. We pounced on his nets and fishing tackle like the gifts they were. These were small, important victories in our bid to survive (120-121)

The rich land of Bougainville got polluted by the redskins' bombs which affected the fertility of the land. Their helicopters passed over the village and they hovered in the air like giant dragonflies peering down at the clearing. They saw a line of abandoned houses and an empty beach because the people had vacated the place. They could even feel the breeze their blades sent down. The bloodthirstiness of the redskins was quite evident in the discourse of the narrator. She reports:

I reached the edge of the bush with my mum pulling me deeper and deeper into the trees. We knew the helicopters had landed because the sound of their blades was even. Everywhere in the shadows I saw

sweating faces. We tried to blend in with the stillness of the trees. Some stood. Others crouched; those mums with little ones crouched. They stuck their teats into the mouths of their babies to shut them up. No one spoke. We waited and waited. We sat still. Our faces dripped sweat. We waited until we heard the helicopters beat overhead into the distance. (39)

The narrative gives a report of how the advent of the redskins intruded in the life of the islanders. Some of the people hid the food stuff in the jungles and others made escape plans. The people died of malaria and there was a shortage of medicines due to the arrival of the redskin soldiers. The water bodies were polluted and the fishermen saw some red stain in the ocean and smelled some unknown danger. Lloyd Jones explains the pathetic condition of the villagers thus: “WE FOUND WAYS to console ourselves. We remind ourselves of what we still have. The fire was still in the sea. The fruits were still in the trees. The redskin soldiers had left us the air and shade”(109).

The narrator Matilda, a young girl of thirteen serves as the mouthpiece of Lloyd Jones. The narrator’s point of view is entirely different as the young girl Matilda believes in the fictional character Pip, the major character in Charles Dickens’ novel *Great Expectations*. Mr. Watts imaginatively creates a beautiful world for the school kids through his art of story- telling. His narration makes Matilda and other kids entirely forget the dangers they are imposed upon by the civil war and they delight in the classroom fantasies. Pip appears to be a real person and Matilda could even feel his breath on her cheeks. Lloyd Jones proves that literature is capable of creating a different space for the children irrespective of their real-life hazards.

Matilda’s mother Dolores criticizes Mr. Watts through her discourse of resistance. She argues:

Some white fellas do not believe in the devil or God,” she said, “because they think they don’t have to. Believe it. Lloyd Jones or not there are some white folk who on the strength of a glance out the window will not pack away a raincoat for their holiday. A white will make sure he has a life jacket in the boat and enough petrol in the tank for a long trip out to sea, but he will not take the same precautions by stocking up on faith for the hurly-burly of daily life. (77-78)

Literature serves as a tool to bring out Matilda’s emotions. It is highly instrumental in suppressing the agonies of the terror-stricken community who are subservient to the government forces. Also Lloyd Jones has used literature as a gadget to make Matilda identify herself with the fictitious character Pip. The conflict between

Dolores' religious beliefs and Mr. Watts' didactic values from literature lays the foundation for the rift between the two individuals Mr. Watts and Dolores and that pulls the string of the plotline of the novel. The lifestyle of the villagers changed totally with the arrival of the invaders. Their heads turned for any unexpected sound. Some people even demanded potions to make them invisible when the redskins entered the village. Some other people sought divine help by doing prayers. The redskins burnt the villages and fired the children too. The innocent kids even decided to commit two crimes. One is to steal the church money and the next is to do something wrong. The pollution of the landscape paved the way for the pollution of human nature and the loss of human life. Lloyd Jones remarks: "And that darkness would be darker than the dark that comes when you can no longer see" (88).

The terrorists Redskins and the Rambos bring discord and disintegration in the domestic life of the islanders. They also disrupted the peace and quietude of the village. The entire ecosystem collapsed because of the civil war. All the people lost their valuable possessions. They lost their shelter contrary to their expectations. The stillness which prevailed in the village under the trees and in the jungles had deeper connotations. The village became a broken village and only the fragments remained whereas Mr. Watts asked the kids to remember at least the fragments from their memory of *Great Expectations*. He wanted the children to relive in the memory of literature albeit he lost the novel *Great Expectations*.

Man spoils the natural world but nature provides what it possesses and teaches greater things to the human world. Even though the terrorists had bombed the village, the island had some nourishment to feed on. The pathetic condition of the people is portrayed thus:

We washed our only clothes and sat naked waiting for them to dry in the sun. We got about barefoot. The roof of our shelter let in the stars, the sun, and the heavier downpours. At night we lay on a bed of sand carried up from the beach by the handful. We were never cold, though, or really that uncomfortable. The hardest part was getting through the boredom of the night. (138)

Lloyd Jones' narrative is peppered with the beauty of the natural world. The rasping call of shining cuckoo, the lethargic movements of the ocean at night, the croaking of frogs, the damp air of the forest and the tinkling sound of the mountain streams add charm to the environment. It was expected that the Whites would vacate the island and the government soldiers would defeat the rebels. Matilda analysed what kind of life she would have lived in Townsville had she left the island with her mom before the blockade. The imaginary world created by Mr. Watts through a reading of Dickens' *Great Expectations* was closer to Matilda than the life she would really have

lived with her father in Townsville. Pippa Marland in her article on “Ecocriticism” states that “We must first address the problems of social inequality and oppression before we can remedy our dislocation from the environment” (850).

The brutal and inhuman rape and murder of Dolores and the merciless killing of Mr. Watts prove the fact that literature cannot save the lives of the people from the atrocities of the world. But literature prepares the minds to face the challenges in real life. Matilda is alive only because of her listening to *Great Expectations*. Also Matilda’s survival depends on the spiritual and ethical guidance of her mother and her white teacher Mr. Watts. Timothy Clark in his first chapter on “The Anthropocene – questions of definition” in his book *Ecocriticism on the Edge: The Anthropocene as a threshold concept* observes:

The work of the environmental critic then becomes to consider and appreciate work in literature, criticism and the arts that helps articulate this shift towards a new kind of eco-cosmopolitanism capable of uniting people across the world without erasing important cultural and political differences. (17)

To sum up, a celebratory approach of wilderness and nature writing is a part of ecocriticism. At present the environment has become sociocentric rather than ecocentric. The ontology of human existence becomes a question with the intrusion of the terrorists. The passivity of nature in the postmodern era is exemplified. Buddhism states that the environment and its components are not created for humans as human beings are part of nature and so they have no right to exercise their control over it.

References:

- Clark, Timothy. *Ecocriticism on the Edge: The Anthropocene as a threshold concept*. Bloomsbury, 2015.
- Dyer C. Hugh. “Green Studies”. *International Relations Theory*. Ed. Stephen Mc et. al.
- Glinchey. E - International Relations Publishing, 2017. Pp. 84-90.
- Howarth, William. “Some Principles of Ecocriticism”. *The Ecocriticism Reader: Landmarks in Literary Ecology*. Eds. Cheryll Glotfelty and Harold Fromm. The University of Georgia Press, 1996.
- Jones, Lloyd. *Mister Pip*. The Text Publishing Company, 2006.
- Marland, Pippa. “Ecocriticism”. *Literature Compass*. 10/11 (2013): 846-868. Web.
- <https://www.academia.edu/14741084/Ecocriticism>.
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**Chapter
5****A STUDY ON JOB STRESS AMONG PRIVATE
SECTOR BANK EMPLOYEES IN PALAKKAD CITY****Keerthi. M.S**

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Abstract : *Stress is a natural physical response to perception of a stimulus; it has an evolutionary purpose; the need is to protect and innate 'Flight to fight' aspects of the nervous system when battling for survival. The stress releases the adrenaline that fights. The main objective is to study and quantify the job stress amongst employees in private sector banks. Sample of 200 employees are selected by applying random sampling technique. The study concluded that employees are depressed by their working environment and they have plenty of opportunities to perform and prove my ability for career growth.*

Keywords: *Job Stress, physical, psychological, career growth*

Introduction

Stress is usually defined as the “wear and tear” that any system undergoes, on continuous or day to day usage, and our human body is no exception to it, and hence, we could define it along the same lines, as the changes our bodies experience, on a day to day basis, in the especially in the ever changing work environment. This stress has its positive and negative feelings, depending on effects it creates in the individual, on the physical plane or the emotional plane. On the positive side of stress, it forces you to take action, and gets the momentum going. It can also make us more alert and aware, and provides us a fresh perspective. The negative effects of stress on the emotional side are the feelings of anger, depression, rejection and even a violent sensation of destruction. All these emotional disturbances can result in physical manifestations too. They can have a wide range of physical damage, ranging from a simple headache, nausea to the extremes of heart attack too.

Job Stress

Job stress is a condition arising from the interaction of people and their jobs and characterized by changes within people that force them to deviate from their normal functioning.

In this text, stress is taken as an adaptive response to external factors that result in physical, psychological, and/ or behavioural deviations in an individual. Based on these definitions, following features of stress can be identified.

1. Stress may result in any kind of deviation – physical, psychological, or behavioural – in the person. This deviation is from the usual state of affairs. From this point of view, stress is different from anxiety which operates solely in the emotional and psychological

sphere. Thus, stress may be accompanied by anxiety but it is more comprehensive than the latter.

2. Stress may be the result of an individual's interaction with environmental stimuli. Such stimuli may be in any form, interpersonal interaction, event, and so on. The impact of the stimuli produces deviation in the individual.

3. It is not necessary that stress is always dysfunctional. On the contrary, there may be some stresses, called stress, like stress for creative work, entrepreneurial activities, keen competition etc. which stimulate better productivity, it is only the dysfunctional stress, called distress, which is bad and must be overcome.

4. Stress can be either temporary or long term, mild or severe, depending mostly on how long its causes continue, how powerful they are, and how strong the individual's powers are, if stress is temporary and mild, most people can handle it or at least recover from its effects rather quickly. Similarly, persons who have strong power for tolerating stress can cope with stress more quickly.

Review of Literature

Manjunatha M K. , Dr.T.P.Renuka Murthy(2017), the aim of this research is to understand the roots and outcomes of job stress on the employee performance in the banking sector. Stress in the workplace has become the black plague of the present century. The performance of the employee is the most important factor as far as the success of the banking industry. This in turn is dependent on the well-being of the employees. Stress can make an individual productive, constructive and well managed. Positive attitude and meditation will be helpful for coping with stress.

Caral Lopes, Dhara Kachalia(2016), the study found that there is a significant relationship between type of the banks, age, gender and education, job, role, interpersonal relationship and Impact of occupational stress. So the banking sector employee should adopt new coping strategies for maintaining good physical and mental condition to improve productivity.

Ementa, Christiana Ngozi (2015), study concluded that bank secretaries experience a lot of work stress as they carry out their administrative and clerical functions in the bank. The study further revealed that gender; work experience and marital status do not significantly affect respondents' mean rating on causes of stress, effect of the stressors to performance and effective coping strategies. Since stress is unavoidable in work life, it is obvious that bank secretaries must go through a form of stress to accomplish office tasks, efforts towards effective management of stress is paramount.

Scope of the Study

Stress is a part of any profession and the level of stress has a significant impact that affects the psychological and behavioural aspects of the employees and private

sector bank employees in Palakkad City are not an exemption to this phenomenon. It is well within the acceptable norm in the society that these employees meet with several people during the day, and hence it is plausible that the employees get to feel heightened levels of tension, anxiety, depression and many other such factors, all of which can lead to the stress they experience on a daily basis. We explored this aspect and collected data from the employees working in private banks in Palakkad. The data has been analyzed using various statistical tools and the researcher towards the end of this work, has also provided certain suggestions and recommendations, that are worthy of being implemented in the private sector banks by the management, which can go a long way towards the reduction of stress in these employees.

Objectives of the Study

The following are objectives of the study

- To enumerate the influence of the various demographic variables on job stress
- To study and quantify the job stress amongst employees in private sector banks.
- To provide suggestive measures for policy implications.

Research Methodology

An idea of the entire population from where the samples were chosen, the sampling methodology implemented, the tools used for the collection of data, the statistical methods that were employed for the analysis of the data. The subjects that constitute the universe of the study are the bank employees in the city of Palakkad, working in a few select private sector banks. Simple random sampling technique was employed in the study to collect a sample size of 120 respondents. The data thus obtained were tabulated for processing through the various statistical tools such as Percentage analysis and Garrett Ranking Method.

Analysis and Interpretation:

The analysis and interpretation of surveyed data from the employees working in selected private sector banks in the city of Palakkad.

Table No: 1 Demographic Profile of the Respondents

SL.No	Particulars		No. of respondents	percentage
1.	Age	Below 25	26	21.7
		26 to 35	47	39.2
		36 to 45	24	20.0
		Above 45	23	19.2
2	Gender	Male	14	11.7
		Female	106	88.3
3.	Marital status	Married	99	82.5

		Unmarried	21	17.5
4	Educational qualification	Graduate	35	29.2
		Post Graduate	35	29.2
		Others	50	41.7
5	Designation	Clerical/ Administration	30	25.0
		Executive / Supervisory	58	48.3
		Managerial	32	26.7
6	Experience	Less than 5 years	22	18.3
		5 to 10 years	72	60.0
		10 to 15 years	11	9.2
		More than 15 years	15	12.5
7.	Monthly income	Above Rs.40000	49	40.8
		Rs.25001-40000	49	40.8
		Rs.20001-25000	22	18.3

Inference:

It is identified that 39.2% are in the age below 26-35 years. Majority (88.3%) are male. Majority (82.5%) are married. Most (41.7%) employees have other qualifications (technical, semi-professional, etc.). Nearly half (48.3%) of the employees are working as executive / supervisory cadres. Most (60%) of the employees are having 5 to 10 years experience. Equal number i.e. forty nine (40.8%) respondents are having income above Rs.40000 and Rs.25001 to Rs.40000 respectively.

Table No: 2 Impact of Stress on Physical Aspects

Physical Aspects	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Mean and Rank
Each day of work appears as though it will never end	27	62	13	6	12	3.717 (IV)
	1.125	2.067	0.325	0.100	0.100	
I feel, I am working too hard	19	48	41	4	8	3.550 (VIII)
	0.792	1.600	1.025	0.067	0.067	
My job is too routine	30	42	33	9	6	3.675 (VII)
	1.250	1.400	0.825	0.150	0.050	

My job is too difficult due to physical working condition	18	66	23	7	6	3.692 (V)
	0.750	2.200	0.575	0.117	0.050	
I am responsible of too many targets	21	60	27	10	2	3.733 (II)
	0.875	2.000	0.675	0.167	0.017	
My job pushes me hard to finish on time	33	39	37	4	7	3.725 (III)
	1.375	1.300	0.925	0.067	0.058	
My job involves pressure constant deadlines	31	60	16	7	6	3.858 (I)
	1.292	2.000	0.400	0.117	0.050	
I don't have time to take an occasional break from the job	26	55	22	9	8	3.683 (VI)
	1.083	1.833	0.550	0.150	0.067	

Interpretation

Table 2 depicts impact of stress on private sector bank employees based on physical aspects computed with weighted mean presented in the highest to lowest order “My job involves pressure constant deadlines (M:3.858)”, “I am responsible of too many targets (M:3.733)”, “My job pushes me hard to finish on time (M:3.725)”, “Each day of work appears as though it will never end (M:3.717))”, “My job is too difficult due to physical working condition (M:3.692)”, “I don't have time to take an occasional break from the job (M:3.683) “My job is too routine (M:3.675)”, “I feel, I am working too hard (M:3.550)”.

Table No: 3 Impact of Stress on Psychological Aspects

Psychological Aspects	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Mean and Rank
I am depressed by my working environment	25	62	28	5	0	3.892 (I)
	1.042	2.067	0.700	0.083	0.000	
My job is boring	18	22	37	8	35	2.833 (VII)
	0.750	0.733	0.925	0.133	0.292	
I feel tension and anxiety in my job	15	35	22	7	41	2.800 (VIII)
	0.625	1.167	0.550	0.117	0.342	

My job is too easy	28	24	16	13	39	2.908 (VI)
	1.167	0.800	0.400	0.217	0.325	
I feel frustrated due to unclear job objectives	23	23	27	15	32	2.917 (V)
	0.958	0.767	0.675	0.250	0.267	
I loss self control because I am unclear what is expected from me	27	23	38	6	26	3.158 (III)
	1.125	0.767	0.950	0.100	0.217	
I often feel anger and irritable that force me think of changing my present job	31	27	28	3	31	3.200 (II)
	1.292	0.900	0.700	0.050	0.258	
Due to work tension I feel nervousness and forgetfulness	23	22	42	12	21	3.117 (IV)
	0.958	0.733	1.050	0.200	0.175	

Interpretation

Table 3 reveals impact of stress on private sector bank employees based on psychological aspects computed with weighted mean presented in the highest to lowest order “I am depressed by my working environment (M:3.892)”, “I often feel anger and irritable that force me think of changing my present job (M:3.200)”, “I loss self control because I am unclear what is expected from me (M:3.158)”, “Due to work tension I feel nervousness and forgetfulness (M:3.117)”, “I feel frustrated due to unclear job objectives (M:2.917)”, “My job is too easy (M:2.908)”, “My job is boring (M:2.833)”, “I feel tension and anxiety in my job (M:2.800)”.

Table No: 4 Impact of Stress on Career Growth

Career Growth	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighted Mean and Rank
I have good chance to get ahead in my life and achieve well in the present profession	17	21	20	41	21	3.233 (V)
	0.142	0.350	0.500	1.367	0.875	

I am in the growth path in my career	1	10	29	19	61	4.075
	0.008	0.167	0.725	0.633	2.542	(II)
I have plenty of opportunities to perform and prove my ability for growth	0	17	5	35	63	4.200 (I)
	0.000	0.283	0.125	1.167	2.625	
I have enough opportunities to advance in this bank	0	11	60	15	34	3.600
	0.000	0.183	1.500	0.500	1.417	(IV)
I feel that I am not rightly accepted by my co-workers	3	8	0	87	22	3.975
	0.025	0.133	0.000	2.900	0.917	(III)

Interpretation

Table 4 reveals impact of stress on career growth among private sector bank employees computed with weighted mean presented in the highest to lowest order “I have plenty of opportunities to perform and prove my ability for growth (M:4.200)”, “I am in the growth path in my career (M:4.075)”, “I feel that I am not rightly accepted by my co-workers (M:3.975)”, “I have enough opportunities to advance in this bank (M:3.600)”, “I have good chance to get ahead in my life and achieve well in the present profession (M:3.233)”.

Suggestions

The following are the various suggestions to reduce job stress:

- Necessary support shall be provided to the aged staff members of the banks through flexible work time, work load and support through technical training and also comforting their work balance through job rotation can keep their stress in bay.
- Though there is significant impact of stress on job satisfaction, the employees maintain equilibrium where the stress may not either affect their career growth or their satisfaction in working with the select private banks. This attitude obviously elevates productivity of the banks and growth of the individual.
- Banks are places where job security plays a pivotal role in retaining employees. By ensuring job security and keeping hold of valuable employees is always an asset. Therefore, to improve satisfaction and to permeate job stress, employees shall be imparted to adopt coping strategies which will yield fruitful relationships for a longer period.

Conclusion

Stress refers to the strain of the conflict between our external environment and us, leading to emotional and physical pressure. Workplace stress is the harmful physical and emotional response that occurs when there is a poor match between job demands and the capabilities, resources, or needs of the worker. The study concluded that employees are depressed by their working environment and they have plenty of opportunities to perform and prove my ability for career growth. There are various ways for managing stress, such as Breathing exercises, Progressive relaxation, Stretching exercises, Walking and Sleeping. Hence, it will be successful if it causes distress. It enhances the psychological well-being and health of the employees.

References

1. Manjunatha M K. , Dr.T.P.Renuka Murthy (2017), Stress among Banking Employee- A Literature review, International Journal of Research – GRANTHAALAYAH, Vol.5 (Iss.1): 71.21, January, 2017
 2. Mrs. Caral Lopes, & Ms. Dhara Kachalia (2016), Impact of job stress on employee performance in banking sector, International Journal of Science Technology and Management, Vol.No.5, Issue No.03, March 2016. ISSN 2394-1537
 3. Ementa (2015), An International Multidisciplinary Journal, Ethiopia Vol. 9(3), and Serial No. 38, July, 2015:88-98 ISSN 1994-9057 (Print) ISSN 2070-0083 (Online).
 4. Jayashree, R. (2014), Stress Management with special reference to public sector bank employees in Chennai. International Journal of Enterprise and Innovation Management Studies, Vol. 1 No. 3, 34-39.
 5. S Uma Mageswari, D. N. (2014), Occupational Stress - A Study With Reference To Selected Bank Employees in Chennai Region, IOSR Journal of Business and Management, Volume 16, Issue 5. Ver. II, 115-125.
 6. Masood, A. (2013). Effects of Job Stress on Employee Retention: A Study on the Banking Sector of Pakistan. International Journal of Scientific and Research Publications, Volume 3, Issue 9, 1-8.
 7. Shukla, H., & Garg, M. R. (2013), A Study on Stress Management among the Employees of Nationalized Banks. Voice of Research Vol. 2, Issue 3 , 72-75.
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Chapter

6

**RURAL GOVERNANCE IN ANDHRA PRADESH
– A STUDY****Jampana Suraiah**

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Abstract: *Local Government or Local Self Government is regarded as the heart of Indian Democracy. The success of Indian Democracy at grass root level largely depends upon the existence and efficient operation system of Local government. Local Government has a long historical background in India. Local Government is always a source for providing political education and training to the people without which they cannot become well-functioning and active participants in the democratic system. It is because of this quality that all the political scientists advocate the importance of local government as the training school for democracy and development. The democratic ideals of decentralization, development and increased continuous and active popular participation in the process of nation building can be possible only through the organization and efficient working system of local government. Without a well organized system it can be expected to become stable and real development in the state. The makers of our constitution were fully aware of the necessity of local government for ensuring the stability, strength and health of the Indian Liberal Democratic Political System.*

Keywords: *Rural Governance, Local Self Government, Democracy, Grass root Level, Decentralization, Popular Participation, Nation Building, Gram Panchayat, Mandala Parishad, Zilla Parishad,*

Introduction:

Rural local Governments originated and developed in India after independence on the basis of the recommendations of Balawant Rai Mehta Committee (1957). There was a special reference to these bodies in the constitution in independent India. The Union and State governments constituted several committees to enquire into the working of these bodies.

Features of the Local Government:

The term Local government means ‘management of local affairs’ by the local people. It is the responsibility of the local government to satisfy the local needs and aspirations of nearly 70% of rural people. The Local Government has the following features:

- It has defined jurisdiction within a definite territory.
- Local government institutions are governed by elected representatives of the local people who are accountable to people.

- Local institutions are primarily concerned with the promotion of interests of the local people.
- Local institutions have their own budget and finances.
- Local governments are free to manage their affairs in accordance with the rules and regulations.

Advantages of Local Governments:

Local governments have the following advantages:

- Local government institutions provide an extensive range of services to the people.
- They lead to efficiency of administration at local as well as state and national level.
- They lead to the economy in administration.
- They cultivate a spirit of self-help and self-dependence.
- They promote a spirit of liberty among people.
- The local governments facilitate the ventilation of people's grievances and provide effective solutions to local problems.
- They ensure the participation of the people in the formulation and implementation of development programmes at grass root level.

Andhra Pradesh has a long history of Panchayati Raj governance dating as far back as 1959. The Panchayati Raj system came into being in the state as result of the report of the study team headed by Balawant Rai G. Mehta. Based on the Balawant Rai Mehta Committee Report, the state had adopted a three-tier Panchayati Raj structure, consisting of Gram Panchayati at bottom-tier, Panchayat Samithi at middle-tier and Zilla Parishads at top-tier. The Andhra Pradesh Panchayat Samithies and Zilla Parishads Act, 1959 was passed and by the end of 1959, these statutory elected institutions had been established in all the districts. The Rural Local governments are constitutionalised through the 73rd Constitutional Amendment Act of 1992. Rural Local Governments or Panchayati Raj institutions in India signifies the system of Rural Local Governments. They serve as the backbone of India's Political culture. These institutions are of three types, popularly known as the three tier system.

- Gram Panchayats
- Mandal Parishads and
- Zilla Parishads

Gram Panchayat:

Gram panchayat and village panchayat is the lowest tier in the Panchayat Raj System. Normally there will be a village Panchayat for a minimum population of 250. The commissioner of Panchayat Raj Department makes notification for setting up of village

Panchayat on the suggestions of the district collector. Gram Panchayats are classified into two types viz.,

- Notified
- Non notified categories based on annual income.

Composition of Gram Panchayat:

- Panchayat
- Sarpanch
- Panchayat Secretary and
- Gram Sabha.

There are 21,843 Gram Panchayts are there in the state of Andhra Pradesh.

Functions of Gram Panchayat

The village Panchayat performs two important functions, namely-

- Essential Functions
- Discretionary functions

While essential functions shall be performed without delay and without subject to financial resources, discretionary functions may or may not be undertaken by the village Panchayat.

Essential Functions

Essential functions have to be carried out by the gram panchayat without fail. These include the following items.

- Construction, repair and maintenance of roads and other public places.
- Construction, repair and maintenance of drainage canals.
- Construction and maintenance of burial grounds.
- Erection and maintenance of electric polls.
- Maintenance of birth and death registers.
- Conducting vaccinations for controlling rabbits and other contagious diseases.
- Provision of drinking water facilities.
- Construction, repair and maintenance of footpaths, causeways, culverts, public parks, play grounds.
- Manufacture and sales of manures.
- Maintenance of cattle farms and so on.

Discretionary functions:

Gram panchayat performs these functions subject to the availability of financial resources. These include the following.

- Construction and maintenance of rest houses
 - Construction and maintenance of primary schools, dispensaries, libraries, reading rooms, market places etc.
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- Establishment and maintenance of maternal and child welfare centres.
- Mobilizing voluntary labour for community development works.
- Publicising the modern methods of civilization
- Implementation of land reforms and so on.

Financial Resources:

Gram Panchayat receives income from three important sources, namely,

- Grant –in-aid released by the union and state governments.
- Funds released for centrally sponsored schemes and
- Grants from the union government on the recommendations of the finance commission.

Mandal Parishads:

Mandal Parishad is the intermediate tier in the Panchayat Raj System. It is set up according to the statutes of the state government. There are 676 Mandals in Andhra Pradesh.

Composition

Every Mandal Parishad comprises four organs namely,

1. Mandal Parishad
2. Mandal Parishad President
3. Mandal Parishad Development officer and
4. Mandal Mahasabha

Functions of Mandal Parishad

Mandal Parishad performs the following functions.

- It takes steps for implementing various community development programmes.
- It makes arrangements for providing amenities like dispensaries, drinking water, vaccination and non-choking gas stoves.
- It implements several programmes like community education, communications, cooperation, cottage industries, women welfare, social welfare etc.
- It takes steps for raising production in the agricultural sector through the provision of superior quality seeds, manures, pesticides, latest technology etc.
- It implements programmes for improving the health and strength of cattle by furnishing improved fodder, artificial insemination centres, cattle grazing etc.,

Mandalparidhad receives revenue from various sources. These include funds from union and state governments, community development grants, levies from village panchayats, public donations, grant-in-aid from all india organizations etc.

ZillaParishads

Zillaparishad is the upper tier of the Panchayt Raj System. There will be a ZillaParishad in every district. ZillaParishad is the superior local body at the district level and has the corporate status. There are 13 ZillaParishads in Andhra Pradesh.

Composition

ZillaParishad comprises six organs, namely;

- ZillaParishad
- ZillaParishad Chairman
- ZillaMahasabha
- Chief Executive Officer
- Standing Committees and
- District Collector

Functions of ZillaParishad

ZillaParishad performs the following functions:

- It approves the annual budget of the mandalparishads in the district.
- It allocates the grants sanctioned by the union and state governments among the mandalParishads.
- It takes steps for implementing the directives of the union and state governments.
- It acts as the supervising and coordinating agency of various programmes of MandalParishad in the district.
- It conducts statistical surveys as per the guidelines of various union and state governments.
- It maintains secondary schools in the district.
- It gives advice to the union and state governments on financial matters of the village panchayats and mandalparishads.

Zillaparishad implements its activities based on the grants of union and state government, contributions from mandalparishads and public donations.

Defects in Panchayat Raj System:

Some of the main defects found in Panchayati Raj System are as follows:

- Unscientific distribution of Functions.
 - Incompatible relation between the three-tiers.
 - Lack of cordial relation between officials and people.
 - Disillusionment on structural-functional front.
 - Financial difficulties
 - Abuse of power
 - Effect of communal and sectional differences
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- Attitude of electorate

Conclusion:

Even after the laps of 30 years 29 fundamental subjects enumerated with the purview of the panchayats are not enforced by the panchayats. The state governments are establishing parallel institutions such as the District Rural Development Agency(DRDA). Integrated Tribal Development Agency (ITDA) a couple of years back the government of Andhra Pradesh has established GramaSachivalayas and Ward Sachivalayas under the pretext of taking the government to the doorstep of the people. Periodical elections are not being conducted within a stipulated time. All these factors have weakened the spirit of gross root democracy.

References:

- Local governments in India – S.R. Maheswari.
 - Narain's Local Government in India – S.C. Singhal
 - Local Government in India – PardeepSachdeva
 - Local Government in India – BidyutChakrabarty.
 - Local self Government – Dr. S. R. Myneni's
 - 73rd Constitution Amendment Act – 1992.
 - Andhra Pradesh panchayati Raj Act – 1994
 - G. O. MS. No 110 dated on 19-07-2019. Depart of Panchayati Raj and Rural Development
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**Chapter
7****A STUDY ON ISSUES AND CHALLENGES IN
STARTUP MANAGEMENT****Dr Uma Rajitha Polisetti**

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Abstract: *A start up is the process of conceiving an excellent business notion into an efficient business model and carrying it out using entrepreneurial talents. Since the past ten years, start-ups have mushroomed in and around India. Start-ups always have tremendous growth potential. In addition to this, a business owner has enormous obstacles in turning a good idea into a successful enterprise. The management of startups faces a number of difficulties, some of which are quite important. In this study, they are briefly described. Startup India is a Government of India flagship initiative to make startups and nurture innovation. Through this initiative, the government plans to empower startup ventures to boost entrepreneurship, economic process and employment across India. India's startup ecosystem has become a point for the complete world. With many innovative youngsters are selecting to pursue the trail of entrepreneurship rather than joining in to the international firms and government ventures.*

The paper discusses a few issues and challenges that every startup has to face and the opportunities that the government can provide in the current ecosystem.

Keywords: *Start-up, Start-up Management, Eco - system, Innovation, economic growth, entrepreneurship.*

Introduction:

A startup venture might be outlined as a brand-new business that's within the initial stages of operation, starting to grow and is often supported by a private or tiny cluster of people. It's a young entrepreneurial, scalable business model engineered on technology and innovation whereby the founders develop a product or service that they foresee demand through disruption of existing or by making entirely new markets. Startups square measure nothing however an inspiration that manifests into a business enterprise.

'Start -up' is the word creating buzz amongst the youth for decades now in India. By creating their own brands, many young people in and around India have most effectively displayed their entrepreneurial skills. Any business idea must possess entrepreneurial skills in order to recognize business possibilities, collect necessary resources, and carry out careful planning and implementation. Along with these, one must take into account the risks and difficulties unique to the chosen business sector. The term "start-up" refers to a newly developed business concept or expanding endeavor that aspires to enter or build a new market for fresh and cutting-edge goods or services.

A start up might be a recently established business that identifies an untapped market opportunity with the goal of disrupting or establishing new markets. A start-up company may be working on a brand-new concept or an outdated product or service that has been redesigned to meet the evolving needs of the market.

To ensure a seamless launch of such a concept, it is also crucial to take into account the availability of financial resources, current consumer preferences, business trends, trade policies, etc. a new organization, which could be a partnership or entrepreneurial venture, a new company, or a temporary commercial organization created to operate according to a sustainable and scalable business strategy. Working on a creative business concept while seeking to maximize the profit potential is what startup management is all about. A start-up is always seen to have its maximum potential for growth, but it also runs the risk of failing completely, if it doesn't have adequate preparation. Since the last decade, the number of start-ups in India has increased, with both domestic and foreign investors paying attention to the sector, which is expected to expand even further. The Indian government is also making every effort to give startups the finest regulations and chances for market expansion. Despite this, these companies nonetheless face a number of obstacles and difficulties.

Research Review:

The start-up process lasts for an illegible amount of time. In the descriptive literature, the beginning and finish of the process are not clearly distinguished and are characterized in many ways. The process of starting a new business is sometimes described as a difficult one, requiring a variety of planning and preparatory tasks as well as decision-making (Hisrich and Peters 1998; Szyperski and Nathusius 1999).

The three primary stages of the startup company lifecycle are the bootstrapping stage, the seed stage, and the creation stage. Startup businesses encounter four different types of challenges: ones related to finances, human resource management, safety nets, and external factors. (Jan. 2015; Aidin Salamzadeh and Hiroko Kawamorita Kesim).

Sharma (2013) conducted research on Indian women business owners. She came to the conclusion that social impediments, legal issues, a lack of education, lack of family support, and other issues affect women entrepreneurs. She also discussed the many push and pull variables that influence entrepreneurship. She claims that women are capable of starting businesses and being strong in the face of adversity. In order to prevent the best from registering outside of India, foreign exchange laws must be in line with investor needs. To keep their investments for the long run, international investors require a favorable tax certainty environment.

(Dr. Shailaja Badra, Vivek Sharma- 2016 February) Creating a vision and company idea, obtaining startup funding, putting together a business team, and finding customers are the biggest hurdles that new business owners must overcome. It is

necessary to overcome these obstacles in order to run an effective business. These obstacles include choosing the best location for the business, locating qualified employees and customers, managing competition, unanticipated costs and challenges, keeping up with technological advancements and industry trends, lacking support, having a pessimistic attitude, lacking marketing resources, lacking infrastructural resources, etc.

Institute for Business price (IBV) (2018) [3], Republic of India is booming with young entrepreneurs and start-ups however quite ninety per cent of start-ups within the country square measure failing due to, lack of innovation, non-availability of sure-handed force and scant funding square measure the most reasons for the high rate of failure.

Nipun Mehrotra (2018) [4], “The Indian start-up community, ranked third globally in terms of variety of start-ups, has been making new job opportunities and attracting capital investment. We tend to believe that start-ups have to specialize in social group issues, as well as health care, sanitation, education, transportation, alternate energy management et al, which might facilitate managing the problems that the Republic of India and therefore the world face. These need investments in deep technology and products that are units engineered to scale globally.

Significance of the Study:

Startups have played and still play important roles within the growth, development and industrial enterprise of the many economies everywhere on the planet. Startup is flagship initiative of the govt of India, meant to make a robust eco-system for nurturing innovation. Startups can drive property economic processes and generate giant scale employment opportunities and minimize unemployment.

Statement of the Problem:

The emergence of the startup wave in India may be comparatively a replacement development. Nowadays India is undergoing a basic shift with entrepreneurship and innovation being the primary catalyst in job creation and determination of everyday issues. A decade ago, there were only a few startups like Build My Trip.com and Naukari.com. But, currently with the success of companies like Flipkart, Quicker, Practo, Zomato and InMobi, the Indian startup ecosystem has come back with an extended method.

Research Techniques:

This research paper makes an effort to examine the knowledge and material that is already available, and it is based on secondary data that has been gathered through books, websites, newspapers, research papers, and other sources. The researcher performed their own study and elaborated on numerous significant issues

faced by Startup organizations after consulting various case studies and watching current startup management methods.

Objectives of the Study:

The study is built around the following objectives:

- To acquire knowledge of startup management
- To comprehend the major difficulties that new businesses encounter.
- To identify various government initiatives for the development of startups.
- To analyse the growth and opportunities of startups.

The Startup Scenario in India:**Data Analysis:**

Making a startup successful is a difficult task. When launching a new company, many variables need to be taken into account. When developing a new business idea, an entrepreneur may encounter numerous difficulties, including those related to raising money or obtaining funding, locating a suitable location, developing a marketing strategy, measuring the ROI, allocating resources, positioning the product in the appropriate market, managing the risk of failure, etc.

Conception and execution of ideas:

Many people believe that finding finance is the toughest obstacle for a start-up, but actually, implementing the idea is more crucial. It entails creating a business plan's blueprint. establishing a sustainable company model that will aid in turning ideas into reality and generating positive cash flows in the long run. People who have truly original and fantastic ideas frequently fail to be pragmatic, and their company plans lack viability. Because of this, carrying out the idea is just as crucial as conceptualizing it.

Funding:

The next important step after developing a sound implementation strategy is arranging for financial resources. Estimating how much money is needed, how much money is needed at what time, whether to raise capital by giving a share of ownership to an angel investor or by taking out a loan, i.e., choosing between equity and debt, etc., are all key considerations. Whether there will be modest margins with high volumes or great margins with low volumes, distribution or manufacturing, and many other similar

elements, all depend on the company strategy. Given that money is the lifeblood of any company, an entrepreneur must carefully organize their financial arrangements. Lack of appropriate financial support causes many major ideas to fizzle out before they actually reach their breaking point. Similar to this, some businesses must modify their primary goods or services in order to remain in business. This could result in it losing its initial model and vision.

Human Resources:

It is stated that a company's success depends more on its employees than on its financial position. Nowadays, it can be difficult to find good personnel. Making them stick with you for a long time is another difficulty, as good people can readily discover better chances. The hiring of every single employee is crucial for any young firm. Good potential employees demand high salaries, which makes it difficult for start-ups to both hire and retain such talent. Similarly, well-mannered and trained employees occasionally decide to quit their jobs and go it alone. Once more, this raises the cost of hiring new employees and can occasionally hurt current businesses.

Market Place:

It is simple to begin working on an idea, but locating an appropriate target market and clients is a significant challenge. It necessitates extensive research on a variety of topics, including current business models, consumer desires, available products and services, geographic characteristics, trade and economic regulations, and regulatory frameworks. After thorough research of the aforementioned criteria, a product or service needs to be structured. A few months of pilot research across several regions really aids in determining the market and customer pulse. Management must next decide if the product should be originally introduced in a specific territory, made available in a few key cities, or made available nationwide.

Marketing:

Positioning and targeting a certain customer base are now easier because of social media's widespread accessibility and use for marketing. But this presents a new problem for startups because hiring advertising agencies to handle it is incredibly expensive. Even though it is expensive, marketing is an essential component of start-up management practices in order to promote its goods and services among its target client segments and raise awareness. This cost may be higher initially, but it will decline as the company idea or brand gains popularity.

Competition:

The intense competition is one of the greatest issues that startups must deal with. When developing the market strategy, they must be both very careful and aggressive. If one is seeking to establish themselves in an existing product or service line or enters established markets, it poses more of a danger. Both new and established

businesses are at risk due to the proliferation of different internet business strategies. In addition, they must be adaptable and creative when formulating different policies about offerings, pricing, technology, etc. Developing strategic partnerships might help you deal with issues brought on by competition.

Issues and Challenges Facing by Startups:

Some of the major issues and challenges are discussed below:

Financial resources:

Availability of finance is essential for the startups and is usually a haul to urge enough amounts. variety of finance choices starting from members of the family, friends, loans, grants, angel funding, venture capitalists, crowd funding etc. area unit on the market. The necessity starts increasing because the business progresses. Scaling of business needs timely infusion of capital. Correct money management is vital for the success of the startups (Skok, 2016; Pandita, 2017). A recent report paints a dismal image with eighty fifth of latest company's reportedly underfunded indicating potential failure (Iwasiuk, 2016).

Revenue generation:

Several startups fail thanks to poor revenue generation because the business grows. Because the operations increase, expenses grow with reduced revenues forcing startups to focus on the funding side, thus diluting the main target on the basics of business. Hence, revenue generation is important, warranting economical management of burn rate that in common expression is that the rate at that startup pays cash within the initial stages. The challenge isn't to come up with enough capital however additionally to expand and sustain the expansion.

Team members:

Startups commonly begin with a team consisting of trustworthy members with complementary talent sets. Usually, every member is specialised during a specific space of operations. collecting a decent team is that the initial major demand, failure to own one generally might break the startup (Skok, 2016).

Supporting infrastructure:

The square measures a variety of support mechanisms that play a big role within the lifecycle of startups that embody incubators, science and technology parks, business development centers etc. Lack of access to such support mechanisms will increase the chance of failure.

Making awareness in markets:

Startups fail thanks to lack of attention to limitations within the markets. The surroundings for a startup are sometimes harder than for a longtime firm thanks to the singularity of the merchandise. matters are harder for a replacement product because the startup has got to build everything from scratch.

Exceed client expectations:

The next most vital challenge is gauging the market want for the merchandise, existing trends, etc. Innovation plays a very important role, since the startup has got to fine-tune the merchandise offerings to suit the market demands (Skok, 2016). Also, the bourgeois ought to have thorough domain data to counter competition with applicable methods. Thanks to new technologies that square measure rising, the challenge to produce an Associate in Nursing on top of an earlier innovation is pertinent.

Doggedness of founders:

Founders of startups have to be robust once the going gets robust. The journey of beginning a venture is fraught with delays, setbacks and issues while not adequate solutions. The businessperson has to be persistent, persuasive, and may ne'er surrender until he/she achieves desired results.

Regulation:

laws Starting a business needs a variety of permissions from government agencies. Although there's a perceptible modification, it's still a challenge to register a corporation. laws referring to labor laws, material possession rights, dispute resolution etc. are unit rigorous in the Republic of India.

Lack of mentorship:

Lack of correct steerage and mentorship is one in all the largest issues that exist within the Indian startup system (Choudhury, 2015). Most startups have sensible ideas and/or merchandise, however have very little or no trade, business and market expertise to induce the merchandise to the market. It's a tested example that an excellent plan works providing death promptly (Mittal, 2014). Lack of adequate mentoring/ steerage is the biggest challenge that might bring a doubtless sensible plan to associate degree finish.

Lack of a decent stigmatization strategy:

Absence of a good stigmatization strategy is another issue that forestalls startups from flourishing at a quicker pace. Hemant Arora, Business Head-Branded Content, Times Network opines that stigmatization demands preponderant attention because it provides AN identity and occupies an area within the shopper minds (Choudhury, 2015).

Opportunities for Startups:

In spite of challenges and issues that startups face, Indian markets give an excessiveness of opportunities to seek out solutions tailored to unravel them. Below could be a list of a few of the opportunities that square measure mentioned for thought by startups.

India's massive Population:

The population of Asian nation could be a large quality for the country. By 2020, it's expected that the operating age population will surpass the non-working population. This distinctive demographic advantage can provide an excellent chance to any startup. varied infrastructure problems and also the bottom- of- the- pyramid market would supply large opportunities for the startups.

Change of Mindset of working class:

Amendment of state of mind of socio-economic class Traditional career ways are giving thanks to Indian startup house. difficult assignments, smart compensation packages would attract proficient folks to startups. Also, it's seen that many high-profile executives square measure quitting their jobs to begin or work for startups.

Huge investments in startup:

Huge investment in Indian startups from foreign and Indian investors is happening. In 2015, quite three hundred deals were done by 300+ angels and venture capital/ personal equity players with around \$6.5-billion (Rs forty 42,300Cr) investments creating India the foremost sought-after destination for investments. a number of the active players square measure New York- based Tiger international Management, Russian company- DST international, Japanese medium big Softbank, Kalaari Capital, redwood Capital and Accel Partners. a lot of and a lot of square measure aiming to be part of the bandwagon as this is often the tipping purpose in Indian commerce for creating smart returns by backing potential unicorns.

Government Initiatives:

There are many government and semi-governmental initiatives to help startups.

Start-Up India:

This initiative provides three-year tax and compliance breaks meant for cutting government laws and red Taoism.

Mudra Yojana:

Through this theme, startups get loans from the banks to line up, grow and stabilize their businesses.

SETU (Self-Employment and Talent Utilization) Fund: Government has allocated Rs 1,000 in order to form opportunities for self-employment and new jobs, primarily in technology-driven domains.

E-Biz Portal: Government launched e-biz portal that integrates fourteen regulative permissions and licences at one supply to modify quicker clearances and improve the convenience of doing business in India.

Royalty Tax: The Indian government has reduced the royalty tax paid by businesses and startup corporations from 25percent to 10 percent.

Investments by the large Business homes

Big business houses have already invested in startups. Industrialists like Ratan Tata (Ola, Bluestone etc.), Azim Premji (Data Stacks, Myntra etc.) and lots of additional square measure investment in startups giving desired traction and reputability to the section.

Examples of Opportunities for Startups:

Startups in the Indian situation have an incredible scope in job to native and niche markets that would be viable and property with early potential of revenue generation. With little space of operations and right product /service the success rate may well be high with doable probability for enlargement. The bottom- of-the pyramid area could be a potential market place for offerings starting from food, clothing, water and sanitary things.

Table:

List of Current Startups and Area of Operations

Area of Operation	Start-up Firm Name
Online food delivery	Freshmen, swiggy
Online fish, meat delivery	Fresh to home
Big data analytics for trade	Peel works
Online pharmacy	Myra
Platform to get local businesses online	Now floats
Logistics management software	Fareye
Lifestyle tracking platform	Healthy fame
Payment's solutions for credit/debit cards	Pine labs
AI-driven solutions for retailers-	Statue
Packaged ready-to-cook idle /dose batter	Id foods
Peer-to-peer lending	Fair cent

Conclusion:

From the above-mentioned data, it can be inferred that running a startup is not a simple undertaking. Startups must overcome numerous significant obstacles in order to succeed.

Important difficulties include:

- Conceptualization and Execution of Ideas
- securing adequate financing through efficiency.
- Employee engagement and effective human resource management
- selection of the proper market
- designing marketing techniques that are aggressive but economical.

To survive, establish, and succeed, any beginning business must overcome the crucial obstacles listed above.

The current economic state of affairs in India is in enlargement mode. The Indian government is more and more showing greater enthusiasm to extend the value rate of growth from grass root levels with introduction of liberal policies and initiatives for entrepreneurs like 'Make in India', 'Startup India', MUDRA etc. 'Make in India' is a nice chance for Indian start-ups. With the government going full hog on developing entrepreneurs, it might arrest Brain drain and supply an associate degree atmosphere to boost availability of native talent for hiring by startup corporations.

The startup arena has a lot of challenges starting from finance to human resources and from launch to sustaining the expansion with persistence. Being a country with a massive population, the excessiveness of opportunities offered area unit several products and services starting from food, retail, and hygiene to solar and IT applications for day-to-day issues that might be delivered at cheap costs. it's not out of place to say that a number of these startups would become unicorns and should become world celebrated businesses by increasing into alternative developing and underdeveloped countries

References:

1. Institute for Business price (IBV) line Bureau. 2018.
 2. Nipun Mehrotra. Chief Digital Officer, IBM India/ South Asia, 2018.
 3. Dr. Gopaldas Pawan Kumar, PhD, David Memorial Institute of Management, Tarnaka
 4. Sinu M. college of distance education, University of Calicut, Kerala
 5. Salam Zadeh, A., and H. K. Kesim (2015). Challenges and the Life Cycle of Startup Companies. The fourth international conference on entrepreneurship, education, and employment (EEE). Serbia's Belgrade.
 6. Sharma, V., and Badra, S. (2016). New Opportunities for Entrepreneurs in Startup India. 526-529 in the International Journal of Science, Technology, and Management.
 7. Entrepreneurship, in Hisrich, R., & Peters, M. (1998) (4th ed.). Irwin McGraw-Hill, Boston.
 8. Divya, J., Begum, A., and Kanchana, R. (2013). difficulties for new business owners. Journal of Academic Review and Current Research, International, 71–78.
 9. Maren, S., Freeman, J., and Schick, H. (2002). Sustainability Concerns for New Businesses. 59–70 in Greener Management International.
 10. Y. Sharma (2013). The IOSR Journal of Business Management, 09-14. Women entrepreneurs in India
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Chapter
8

A STUDY ON DEMONETISATION: A BOON OR BANE

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Abstract : *Demonetization was effectively planned by the think-tank but suddenly declared in an unplanned way to curb black money in the Indian economy. The cash ban caused considerable damage to the wheels of the economy in the form of forced unemployment. The Indian informal sector, which provides 80 percent of total employment, was much affected. The reverse migration of the workforce necessitated them to adopt a meal per day. Nearly 2.5 lakh workers in leather industry, 20,000 workers in diamond industry 15% to 20% of daily wagers in Jewel sector have become jobless. The Gross Domestic Product (GDP) estimate was reduced to 7.1% from 7.6% for the year 2016- 17 by the Government itself. The International Monetary Fund (IMF) has also lowered the GDP forecast to 6.6% for 2016-17. New Investments fell by 50% in post cash ban. Rupee value also declined by 1.69% on 15.12.16. The surgical strike on black money has derailed the investors' confidence in the stock market in the beginning. The cost of Demonetization is estimated at Rs.4.3 trillion including the GDP losses. The Government felt the impact was transient, but the economists viewed it as firing cannonballs to kill mosquitoes. To conclude, Demonetization is a long pending measure to curb black money.*

KEYWORDS: *Demonetization, Brexit 2016, fake Indian currency notes network, private final consumption expenditure, cash centric, AMRUT, RERA, Benami Transaction Act, CBDT, industrial lobby, cyber security, USSR, CIS, corporate governance reforms.*

Introduction:

The Indian government gave an unexpected shock to its citizens on 8th November, 2016 by nullifying high value currency. The three big surprises of 2016 viz., Brexit 2016, Donald Trump win and India's demonetization created an uncertainty in the Indian economy¹. The annual report of Reserve Bank of India (RBI) 2015-16 revealed that total bank notes circulated in India were valued at Rs.16.42 trillion of which nearly 86% were of Rs.500 and Rs.1000 denomination². The demonetization of such high value notes grinded the Indian economy to a virtual halt. Demonetization has also improved transmission in the banking system and led to the greater financialization of savings. The effect of demonetization is also clearly visible in the 19 percent growth in direct tax collections. Collection of Advance Tax under Personal

Income Tax showed a growth of about 41.79 percent over the corresponding period in 2016-2017; collection of Self- Assessment Tax under Personal Income Tax showed a growth of 34.25 percent.

Cash is King

The informal sector which provides nearly 80% of total Indian employment is cash centric. The sector consists of 21000 unorganized markets, 38.3 million small and medium size enterprises. About 92% of the trade in Fast Moving Consumer Goods (FMCG) is taking place across petty shops (Kiranans) in India³. As the note ban move was sudden and unplanned, it caused considerable inconvenience to the daily wagers and working class. The earlier attempts to demonetize the notes in 1946 and 1978 did not affect the working class since less than 5% of the population had access to those high value notes. The recent step to ban cash is a bold step and daring to implement because the outcome is uncertain.

Statement of the problem

Since independence, corruption, black economy and sponsored terrorist act were a major hurdle for India's economic growth. For instance, India stood 76th rank out of 168 nations in the International Corruption Index 2015. Moreover, the Income Tax raid held between April 2014 and Nov 2016 unearthed nearly Rs. 31,277 crores black money and Rs. 2164 crore worth of undisclosed assets⁵. The RBI had detected nearly 6.5 lakh fake notes of higher value in circulation as per its Annual Report 2016 From 2013, 205 out of 6087 districts in India were badly affected by terrorism and such incidents are more frequent at present. This provoked the Indian Army to conduct surgical attacks on enemies. Fake Indian Currency Notes (FICN) Network is funding the terror networks in India. Because of this India lost nearly 707 lives and more than 3200 were injured so far. The recent bout of Demonetization was a long pending affair as Rome was not built in a day. Finally, the government. announced the cash ban on Nov 8, 2016 anticipating the short term pain for long term gain to the society. Demonetization has caused a sudden breakdown in the Indian commercial ecosystem. Cash centric sectors were virtually shut down. The rural population lost jobs. Poor and working people have been dislocated and their livelihoods were irreparably damaged. Farmers could not buy inputs, and private hospitals refused to treat patients who had only old notes. Some of the working class found difficulty in buying food and were forced to adopt a meal per day. Weddings and other social events were disrupted because the working class did not have access to structural set up to adapt to this shock doctrine economics.

Demonetisation and Employment

Job creation is always a challenge to the Govt. even before demonetization. The cash ban resulted in more job losses in various sectors of the economy. Nearly 2.5

lakh workers in the leather industry and 15% to 20% of daily wagers in the jewel sector became jobless. Majority of ceramic tiles units were closed in Gujarat. In Surat, more than 20,000 workers in the diamond sector lost their jobs. The Demonetization results in reverse migration of the work force thereby crores of people lost their earnings. According to Sitaram Yeicherury, CPI, since 8th Nov 2016, four lakh jobs have vanished and more than 31.9 million textile workers have not been getting wages. All India Manufacturers Association (AIMA) projected a drop in employment of 60% and loss in revenue of 55% to its member units during post demonetization. The Indian infrastructure sector saw a cut of 35% in its employment mainly due to cash crunch. The Budget 2017-18 created a positive impact on the Indian job market. According to Rituparna Chakraborty, Teamlease, the budget directly suggests employment for youth in tourism, footwear, leather, textile and manufacturing industries. Relaxation of tax on corporations from 30% to 25% will increase employment by 5 to 10%. As investment focuses on infrastructure, it is also going to boost employment in the sector. Digital payments also encourage job creation in cyber security and allied sectors.

Demonetisation and Investments

As per the World Bank Report, Capital formation in India has had a downward trend since 2011. In addition, Demonetization has created an uncertainty in the flow of investments. New investments fell by 50% post demonetization. The investment proposals which were 227 prior to cash ban declined to 177 till 31st December 2016. The value of investment proposals dropped from Rs. 81.8 thousand crores to Rs. 43.7 thousand crores during the period. The Private Final Consumption Expenditure (PFCE) reduced from 7.5% in 2015-16 to 5.5% in 2016-17. But the Govt.'s commitment to macroeconomic stability like lowering inflation, reduced bank rate and bank deposit rate, and the sharp reduction in current account deficit became strong fundamentals for India to attract more investments. The Govt. of West Bengal received investment proposals worth Rs. 2.35 lakh crore in January 2017¹². The union budget 2017-18 also paved the way for a healthy investment atmosphere in the Indian economy.

Demonetisation and GDP

The contraction in cash supply slows the GDP. The Govt. of India also lowered its GDP estimate from 7.6% to 7.1% for 2016-17¹³. In addition, the International Monetary Fund (IMF) has also lowered its forecast for Indian GDP from 7.5% to 6.6% for the year 2016-17¹⁴. Dr. Montek Singh Ahluwalia, former Deputy Chairman, Planning Commission also projected India's GDP between 5% to 5.5% for the year 2016-17 mainly due to demonetization. But American Rating Agency 'Fitch' projected India's GDP at 6.9% from earlier 7.4% for the fiscal year 2017¹⁵. The Indian rating agencies ICRA and CARE also downgraded the GDP to 6.8% in FY 17. According to

Mahesh Vyas, CMIE, India's GDP growth will shift down to 6% per annum for next five years from 2017-18 because of demonetization¹⁶. But the 2017-18 budget stated that Demonetization will bring a clearer and bigger GDP because the effect of cash ban is not expected to spill over to 2017-18. The GDP growth is projected between 6.75% to 7.5% for 2017-18. The capital expenditure is increased by almost 25% in the budget. The fiscal deficit is 3.2% in 2017-18 and 3% in 2018-19. The Revenue deficit for 2017-18 is at 1.9%. The FOREX reserve is at \$361 billion in January 2017 which is enough to cover the next 12 months imports bill.

Demonetisation and Real Estate

Indian real estate is cash intensive. In addition, the sector had been witnessing a slowdown for the past three years. Since demonetization, nearly 37% declined in property registration in Mumbai. The rate of home sales had fallen by 50% and price by 20%. The Union budget 2017-18 has focused a good deal in real estate which is beneficial to home buyers, developers and investors. The proposed infrastructure status to affordable housing, including a pledge to build one crore rural homes in next two years become a boost to Indian reality. According to Sunil Rohokale, ASK Group, the infrastructure status to reality opens up a lot of avenues to raise capital domestically from Insurance companies and pension funds. The policies like Smart Cities, Housing for All by 2022, AMRUT, Real Estate (Regulatory and Development) Act, Benami Transaction Act including GST Act will bring more transparency in the sector. But pricing is a major problem to all stakeholders in the Industry.

Digitalization and Demonetisation

In India, the average no of card transactions per inhabitant is mere 6.7 compared to the UK (201.7). India is emerging as digital India. Now it is at the cusp of a massive digital revolution. The Govt. had assumed that a significant portion of illegal assets is stored in the form of high value currency. Till 30.12.2016, around Rs. 14.97 trillion banned notes were deposited into banks which equals to 96.5% of total banned notes. It means that only Rs. 54,000 crore notes failed to make it back. The 96.5% deposits include Rs. 80,000 crore of repayment of loans, Rs. 25000 crore deposited in dormant accounts, Rs. 16,000 crore deposited in co-operatives and Rs. 13,000 crore deposited in Regional Rural Banks. Besides, more than Rs. 2 lakh deposited in each account over 60 lakh bank accounts during the period²⁰. As identifying black money in the mess takes time, the goal post of cash ban was shifted towards the digital economy. Generally, the cash drive economy ultimately resulted in mounting of black money. The digitalization makes services faster, formal and accountable. The mobile wallet transaction per day rose 12 times in post demonetization. As the average value of transactions had fallen from Rs. 750 to Rs. 500, people started to use digital ways even for petty expenses. "PayTM" showed three-fold rise and "Oxygen" by 160% rise during

the post shock therapy. The rural masses have started embracing digital payments through mobile wallets. Specific tax incentives and prizes offered for digital mode of payments to motivate people to follow digital ways.

Indian Stock Market - Post Demonetisation

Actually the surgical strike on black money shook the investors' confidence. The BSE SENSEX experienced a bit lower of 6% on the very next day of the cash ban. As Warren Buffet rightly said, 'be fearful when others are greedy', the volatility in the stock markets caused uncertainty in nothing but buying opportunities. BSE SENSEX climbed the best weekly gain in 8 months of 0.63% on 27.01.2017. The Nifty also gained 0.45% during that weekend²¹. According to Porinjuvelyath, Equity Intelligence India, Demonetization drive brought a long term positive impact on the Indian formal sector. To compete with the informal sector, the formal sector has to mobilize huge investments from the stock market. The Union Budget 2017-18 is continued with tax exemption for long term capital gain from shares, which raised BSE SENSEX by 485.68 points and Nifty by 155.1 points on the day of budget itself

Challenges Unleashed by Demonetization

According to CMIE, the total transaction cost of Demonetisation including the GDP losses is around Rs. 4.3 trillion²³. But eradication of corruption, black money and terrorism is far most important. In 2012, the Central Board of Direct Taxes (CBDT) opined that Demonetisation may not be a solution to solve black economy. It is so because the black assets are largely held in the form of benami properties, bullion in and out of India. During the cash ban, the tax authorities have conducted 556 surveys, 253 searches and 289 seizures. They seized Rs. 112.29 crore new high denomination currencies and Rs. 18 lakh fake new currencies. Over 75% funds officially recorded as received by Indian political parties between 2004 and 2014 were from unknown sources. Such donations lead to the formation of an Industrial lobby in our parliament. The unexpected large scale land purchase outside future smart cities in advance of November 8, 2016 may be attributed to the role of industrial lobby²⁴. It is learnt that 58% of GDP is under the control of 1% of the population which is against the philosophy of prevention of concentration of economic power in a few hands. It is aptly mentioned that nearly 4 tons of gold were purchased by the economic offenders in 48 hrs after the announcement of note ban of Nov 8, 2016. The Govt. has to act in time to implement Benami Transaction Act, Real Estate (Regulation and Development) Act, Bank Reforms, Restructuring Informal Sector and speed of ongoing digital payments besides ensuring cyber security. The Govt. has to ensure both formal and informal sectors should co-exist in countries like India where inequality remains high. The 29 state owned banks wrote off Rs. 1.14 lakh crores of bad debts between 2013 and 2015 in which farmers were expected to get the benefits²⁵. Recently the number of farmers'

suicide shows an increasing trend. So transparency and accountability must be strongly imposed in all sectors of the economy. The RBI's Corporate Governance Reforms 2015 in Indian public sector banks has to be implemented properly on a continuous basis with needed changes.

Conclusion

The success of Demonetization depends on the way in which it is being executed. In 1991, Union of Soviet Socialist Republic (USSR) introduced Demonetization which led to creation of Commonwealth of Independent States (CIS). Such a move in North Korea made people homeless while the cash ban in Nigeria in 1984 resulted in complete collapse of their economy. It is known that the Govt. machinery was unprepared to meet the challenges of cash crunch when it is implemented. There were nearly 62 amendments and notifications during the first 3 weeks of its announcement. Consumer's confidence was fully shaken psychologically which required a comprehensive strategy to boost domestic consumption by improving the purchasing power of the working class. India is rich but Indians are poor. So a steady but low rate of inflation is always vital to protect the poor Indians who are daily wagers.

References

1. Dharmakirti Joshi, 'Volatility is the only certainty', CRISIL, Viewed on 25.1.2017, www.businesstoday.in.
 2. Domodran Harish, 'Are banks equipped to replace 2300 Crore pieces of 500/1000 toro' Viewed on 20.11.16, www.theindianexpress.com
 3. Steve Salvier, SG Analytics, 'Benami Property Law – Fundamental structural change', viewed on 29.1.2017, www.sganalytics.com
 4. SanjiuShankaran, 'Demonetarization in 1946 and 1978: Stories from the Past' viewed on 15.11.2016, blogs.timesofindia.indiatimes.com
 5. Income tax new, viewed on 22.1.2016, www.livemint.com
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Chapter
9

**SHGs - SUCCESSIVE CONTRIBUTION OF RURAL
WOMEN EMPOWERMENT**

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Abstract: *While framing any programme for rural women in the framework of the group approach, this study intends to assess the influence of involvement in Self Help Groups on women's empowerment. The research illustrates the phenomena of women's empowerment prior to joining SHGs. Economic, socio-cultural, interpersonal, and political components of empowerment are all investigated. Credit may aid women by allowing them to start and build small enterprises, which are generally accompanied by market access. The women reported emotions of liberation, strength, self-identity, and increased confidence and self-esteem.*

The SHG provides various benefits not only financial but also non financial like their participation has increased in social service and organized action, training facilities; on the other hand, they have faced problems encountered by them in conducting the activities were loans not received on time, difficulties in getting raw materials, transport facilities and other marketing problems. The study concluded that mere financial assistance does not improve the empowerment of women. The present Andhra Pradesh government decided to stop the revolving fund. It should lead to negative impact on inspiration of form groups in future. It will lead to loss of savings. Therefore, they should also provide institutional support like training, marketing (Exhibitions are not enough), marketing and latest technology.

Respondents should be encouraged to venture into more diversified and remunerative activities to increase earnings and savings. They should also be strictly made to utilize the credits for productive purposes. The above all, may result in effective implementation of the schemes and possible alleviation of poverty and empowerment of the rural women. It can lead to developing the rural economies and ultimately reach the goal of nation's development with successive contributions of rural women. Furthermore, participation in SHGs has given women a voice in communal affairs, allowing them to address issues and acquire control over household decision-making. Despite the fact that women are rarely involved in politics, their involvement in SHGs has changed them, and these women have grasped the value and right to vote without being persuaded by anyone.

Keywords: *Empowerment, Self Help groups, Poverty, Income, human capital building.*

Introduction:

Empowerment is closely related to human resource development and human capital building, which is the process of increasing capacities of human beings in society. Capacity defines the potential for development like capacity to generate local resources and the capacity to use resources effectively; while performance represents

the degree to which that potential is realized in actual achievement. Empowerment of an individual or group means enabling the individual or group to direct their own life and reach a stage where they are more likely to succeed in what they attempt to do. It is an ongoing process and ends by itself. The processes involved in empowering people are: growth in people's awareness and confidence, ability to articulate problems; gaining access to resources and public facilities and negotiating over relations between different social groups. These can be gained from SHGs by women.

Women constitute 48 percent of the national population and are very important human resources in national development. Fuller and effective utilization of the human resources is a means of developing the economy and raising the standard of living of the people of India. However, it has not been able to make the best use of its human resources, particularly women power. The woman's share in employment is only around 20%. On the other side the workforce labor participation of women is increasing in rural as well as urban areas. The baseness one 31 percent and 11.6 percent respectively. In some circumstances women are bound to society and they become disadvantaged women even though they have multiple capacities such as as wife, mother, worker, producer and entrepreneur. Disadvantaged women, especially in rural areas possess the least proportion of resources and as a result they are powerless and dependent on the powerful and wealthy. The extent of possession of various power resources, such as, personal wealth, assets, land skills, education, information, knowledge, social status, position hale, leadership traits, capabilities for mobilization and maneuverability etc., determine the degree of decision-making power.

Women of Andhra Pradesh have a social awareness in different aspects. For instance, it is great evidence from the state that women have entered into the new of India and world history in 1993 by sparking the social movement against the social evil of drinking liquor among poor sectors and subjecting women and children to all kinds of deprivations ranging from total negligence to domestic violence. Another success that has been recorded as far as Andhra Pradesh women are concerned is the remarkable decline in fertility rate 20.7 per 1000 which is less than the national level and has 3rd lowest fertility among Indian States (Economic survey Government of India). The two above instances appear to have challenged the traditional wishes indicating that women can change the society if she has liberty and economic power.

The earlier studies relating to the economic role played by women cannot be isolated from the framework of development. The contribution of women in socio economic development particularly in rural areas has been vital. Around 77.1 percent of the total female population of the country lives in the rural areas. Out of the main workers as many i.e80 percent live in rural areas and percentage of women engaged as cultivators was 33.20 percent as a major part of agricultural operations like breaking

clods of earth, transplanting, thrusting, threshing, winnowing and etc. Their participation in the household industries is 46 percent as against 43.7 percent of male. They also help in other small industries like rope and basket making, pottery, handloom, weaving and food processing. However, women have suffered some disadvantages in providing education, labor earnings, consequently, the government has been implementing various schemes for the socio-economic advancement and development of women in the country in various plans. The national policy for empowerment of women was adopted in 2001 with the objective of ensuring women their right to a place in society by empowering them as agents of socio-economic change and development. Empowerment of women is therefore an important approach adopted in the Tenth Five-year plan (2002-2007) for development of women.

On the other hand, during independence, the government of India launched various programmes like IRDP, TRYSEM, JRY, IAY, Mahilsamithiyojana, and MahilaBimaYojana etc. The DWCRA scheme with the assistance of UNICEF was introduced in this regard, but due to the failure of the objectives the programme was merged into SGSY in 1999. SHG consists of 10-15 members and they empowered themselves through Income generation Activities (IGA) with help of local available resources. It can be said that SHGs for poverty alleviation in the rural areas.

Performance of SHGs in Andhra Pradesh:

The government of Andhra Pradesh has taken up the theme women's empowerment as one of the strategies to tackle poverty. The women have taken up the self-help movement through savings as a mass movement. There are about 4.36 lakhs women SHGs covering nearly 58.29 Lakh poor women in Andhra Pradesh. In the recent years several multilateral Projects have been launched in the state with funding (from international Agencies (under VELUGU) (STEP-Sustainable Tribal Development Program) Andhra Pradesh Rural Livelihoods Project), APMAS, BASIX etc.) to development of rural women.

Performance of SHGs in the Srikakulam District:

DWCRA program was firstly implemented in Srikakulam District in 1983-84 along with Cuddapah and Adilabad. Prior to 1996 there were only 3080 DWCRA and SHGs, now the District has so far occupied second place in the state and country with 25169 SHGs, the number of groups occupied about 268864 are benefited. In case of caste, among the castes BCs takes first place by 27.36 percent, SC respondents are 10.41 percent and STs 6.62 percent, and other groups are 8.57 percent respectively. A number of Activities are conducted in the area by 753 groups only. The remaining groups have not stated any activity.

Financial support during 1997-2004, total amount taken by the SHGs (19944 groups) are nearly Rs.21472 thousand. The mean of financial assistance (per group) is

Rs.12120 and means financial support received by each beneficiary is Rs.899. The total saving for the period 1997-2004 is Rs. 99697 thousands and mean saving per group is Rs.4999 (according to their cords of DRDA Srikakulam)and it got gradual improvement when it comes to 2020-2021.

Importance of the present study:

One of the main objectives of the government is to alleviate the poverty in the rural areas through SHGs Income Generation Activities. It is a fact that the amount earned by men is spent on alcoholic and other harmful activities. But the amount earned by women, the total amount spent for the purpose of development of her family. In this context, governments concentrated more on women to develop the rural economy through formation of SHGs. Thus as we mentioned above, Srikakulam district got second place in Andhra Pradesh as well as India in formation of SHGs. We assumed that there should be an impact on income and occupational change. On the other hand, some factors also influence the earnings of the respondents. The present study assesses the concepts and impact on poverty eradication in SHGs families.

Objectives of the study:

The following are major objectives examined in the study.

1. To examine the earnings of women through Income generation Activities under SHG and its impact on poverty.
2. To find the impact of SHG on occupational change.
3. To find out the main determinants of monthly earning of the respondent
4. To suggest the policy suggestions for emancipation of rural womenfolk.

Data and Methodology:

The study is based on both primary as well as secondary data sources. Secondary data has been collected from the commissioner of Rural Development Hyderabad and DRDA Srikakulam. Using interview questionnaire for collection primary data and were collected during october 2021. We have selected 3 mandels from each division Laveru (Srikakulam Division), Seethampeta (Palakonda Division) and Narsannapet (Tekdi Division). Information collected through pre-designed quaternary in the villages of the mandels from 60 entrepreneurs. Simple averages, percentages are used at appropriate places in the study. The determinants of the monthly earnings of the SHG respondents have been analyzed by using multiple regression.

$$\text{MERS} = b_0 + b_1 \text{ NOCR} + b_2 \text{ AGER} + b_3 \text{ EDCR} + b_4 \text{ EXPN} + b_5 \text{ SKIL} + b_6 \text{ HINR} + b_7 \text{ CRDT} + b_8 \text{ MRKT} + b_9 \text{ YNGA} + U$$

MERS = monthly earning of the respondent (dependent variable)

NOCR = Nature of occupation dummy, taking values 1 for non-form and '0' for form activities.

AGER = age of the respondent

EDCR = Education of respondent in years

EXPN = Experience of the respondent in years.

SKIL = skill dummy, taking values 1 for skilled and zero (0) for otherwise.

HINR = Husband's income per month

CRDT = Credit amount sanctioned in Rs.

MRKT = Marketing dummy, taking values 1 for direct sales to consumers or own shop and zero otherwise

YNGA = Age of the young children of respondent

U = Error term.

Limitations of the Study:

1. The poverty line has been fixed at the family annual income of Rs 13,680 in rural areas and Rs 15,840 in urban areas (according to the Lakdawala formula).
2. Information relating to age and education, only calculated results are considered in the Study.
3. SHGs, generally formed by poor women. So it is assumed that the families have no other incomes (except labor.)

Analysis of the Study:

This section discusses the results of the analysis.

It is found that the mean age of respondents was 30 years and education less than middle school during the survey. Nearly 40 percent of the respondents are illiterates and the average size of the family is 5 members. The mean annual income of the respondent's spouse amounted to Rs 6000. The mean work experience of the sample women was reported to be about 5 years under the scheme and the average loan sanctioned to the respondent Rs. 12,000 (Bank loan, SHGs loan etc). The mean monthly income reported by the sample respondents during the survey was Rs 550 before SHG and Rs.900 after membership as entrepreneur. About 59 percent of them sold their products directly to the consumers or through their own ship, while the rest sold nearby markets. Further the average labor supply per annum was 240 days according to the study. Table 1. Shows the pattern of income generation per month, per annum and change in working days. Annual income calculated by amount received per month and multiplied with the number of months the work available. The average monthly income earned (during working days) before forming SHG is Rs.550 and it was Rs 900 after SHG membership from Income Generation Activity(IGA). The impact of SHGs IGA on income earnings per month accounted for 56.99 percent and it is 38.19 percent in case of per annum. The average income of a family from other sources is Rs. 6000 in the study area. Therefore, the average total income of the family is around $\text{Rs. } 7200 + 6000 = 13200$. The results show that the

poor families near to cross Below Poverty Line according to (compared the) Lakdawala formula. (However the average results may give scope for controversy to identify the correct situation.)

Table-1. Impact of SHG on Income, Employment in the Study Area.

Period	No .of days Employed per year	Income generation	Income per year
Before SHG	150	550	2750
After SHG	240	900	7200
Percentage change	62.50	56.99	38.19

Source: Field survey.

Activities of respondents under the SHG programme are presented in table 2. About 33.33 percent of respondents are engaging in Jute-Based Products (like Coir, Jute bags, Jute Swings etc.), vegetable vending 21.67 percent, petty cash business 16.67 percent and Fish vending 10 percent respectively. The remaining is participating in Sheep Rearing, Agarbatti and Dairy activities. A clear change has been found in case of occupational pattern among the respondents. There is a significant occupational change from agricultural labour to self-employed under various activities. Of the 60 sample SHG respondents contacted during the survey, 20 had shifted from agriculture and commenced Jute Based Products. Some of the agricultural respondents chose non-agricultural activities. It is found in the table 3, nearly 66.67 percent of the respondents preferred to vegetable cultivation and vending (VCV), fish vending (FV), Jute Based Products (JBP) petty Trade

Table-2 Nature of Activity of Respondents in the study area.

Sn.	Type of activity	No.of Respondents	Percentage
1	Vegetable vending	13	21.67
2	Dry Fish vending	6	10.0
3	Jute based products	20	33.33
4	Petty cash business	10	16.67
5	Dairy	3	5.0
6	Agarbathi	5	8.33
7	Sheep rearing	3	5.0
8	Total	60	100.

Source: Field survey.

(PT), Dairy (D), Agrabathi making (Ag) and Sheep Rearing (SR). Meanwhile, the non-agricultural activities comprises petty trade, agarbatti making, fish vending. However, it may be observed that non-forming activities chosen are mainly traditional and less remunerative in nature in the study area.

Tabe-3 Impact of SHG on occupational Change of Respondents in the Study Area

Before & after SHG	Agri	VCV	FV	JBP	PT	D	AG	SR	Total
Agri		10	1	20	4	2	5		40(66.67)
VCV		3							3(5.0)
FV			5						5(8.33)
JBP									-
PT					6				6(10.0)
D						1			3(5.0)
AG									
SR								3	3(5.0)
Total	-	13	6	20	10	3	5	3	60(100.0)

Source: Field survey.

The determinants of the monthly earnings of respondents are many behind SHGs' IGA. It is assumed that the nature and experience of work, the level of education, credit amount sanctioned to the business and market facilities, positively reflect on monthly earnings. The remaining factors like skills, and husband income (in case of married women) have less impact on earnings. Age of the respondent and experience is expected to be significant and the regress results show the significant effects on their monthly earnings. But, income in husband's income is found to significantly raise earnings of respondents. The age of young children is found to reduce the earnings of the respondents, who are married. The larger SHG loans are found to significantly reduce their earnings, because many of them make use of it for unproductive purposes. Another independent variable, marketing products directly to consumers or by own shops also reduces their earnings due to lack of advertising to the public about the products. Marketing is expected to be efficient but it was found statistically insignificant in the study.

Table-4. Regression results – earnings Function.

S.n	Variable	Coefficient	t –value
1	Constant	267.14	0.70
2	NOCR	-199.53	-2.60*
3	AGER	1.05	0.14
4	EDCR	24.50	1.70
5	EXPEN	-21.99	-1.34
6	SKIL	197.01	1.40
7	HINR	0.30	5.41*
8	CRDT	-0.001	2.94
9	MRKT	-39.29	-0.41
01	YNGA	2.17	-0.13
11	LABS	0.67	0.99
12	R ²	0.38	
	F-Value	4.53*	

Note: * Indicate significant at 1 percent

The main benefit assigned to SHG is increased income according to the opinions of the respondents. The second benefit is participation in social services and organized action. The members of SHG helped them to organize together and voice their grievances in the meeting. regular attendance of health staff, amount released in time, training facilities, common work Shed, regular supply of raw material and marketing by organizations (NGOs supporting to market the products) . They have received new skills and improved the quality of their products. They are recognized and have better status and decision-making power within the family and the society. Thus, the benefits from the scheme are found to be encouraging and empowering to the women in the study area.

The sample respondents are also facing problems in different aspects. Loans not received in time and many restrictions by banks, difficulty in getting raw materials, competition from mechanised and better quality products are the main problems for the SHG entrepreneurs. Because the products are related handcrafts, traditional and outdated. Demand for goods arises at the time of exhibition when they get orders. That is why they are facing seasonal unemployment. In some areas, respondents are not having any type of common work shed. Some are also facing marketing problems like distance of market, lack of transport facilities and they are also facing non-cooperation from group members. This indicates that merely assisting some facilities, the respondents also need to provide institutional support like work shed, latest technology, training, and marketing facilities to the SHG entrepreneurs if it is necessary.

Summary and conclusions:

The study examined the impact of income and change in employment on respondents under the SHG's activities in the Srikakulam district besides surveying the beneficiaries. A sample of 60 SHG respondents was randomly selected from the study area for data collection, using an interview questionnaire during October 2021. A statistical tool like averages, percentage and multiple regressions was used to pursue the objectives.

Srikakulam district occupied second place in the state as well as in the country in the formation of SHGs. Financial support and saving patterns are in good position in the district. The mean age of respondents is 30 years and education is less than middle school. Out of 60 members 40 percent are illiterate during the study. The average size of the family is 5 members and the mean annual income of the respondent's family amounted to Rs.6000. The mean work experience of the sample women reported to be 5 years and average loan sanctioned to the respondent Rs. 12,000.

The major activities of respondents were jute-based products (33.33percent) vegetable lands (21.67.1) petty cash Business (16.67) fish vending (10 percent) respectively which were largely traditional and less remarketing in nature. The impact of SHG on respondents relating to working days was increased to 62.50 percent and the level of income also changed in an increasing manner. It is found 56.99 percent per month and it is 38.19 percent increase per annum. The change of income shifted the families (near to above Below Poverty Line) compared with Lakdawala formula.

The SHG scheme has a significant impact on change in activities of respondents. Nearly 66.67 percent of respondents changed their activities from agricultural labor to Jute Based products, vegetable vending, fish vending, and other activities. The study examined the determinants of monthly earnings of rural women under SHG scheme and the findings shows that the nature of occupation, large credit amounts significantly reduced the respondents monthly earnings because the amount used for unproductive purposes. While higher, the income of the husband significantly raised the earnings because it helped to conduct their production activities uninterruptedly.

The SHG provided various benefits not only financial but also non financial like their participation has increased in social service and organized action, training facilities; on the other hand, they have faced problems encountered by them in conducting the activities were loans not received on time, difficulties in getting raw materials, transport facilities and other marketing problems.

The study concluded that mere financial assistance does not improve the empowerment of women. The present Andhra Pradesh government decided to stop the revolving fund. It should lead to negative impact on inspiration of form groups in future. It will lead to loss of savings. Therefore, they should also provide institutional support like training, marketing (Exhibitions are not enough), marketing and latest technology. Respondents should be encouraged to venture into more diversified and remunerative activities to increase earnings and savings. They should also be strictly made to utilise the credits for productive purposes. The above all, may effective implementation of the schemes and possible alleviation of poverty and to empowerment of the rural women. It can lead to developing the rural economies and ultimately reach the goal of nation's development with successive contributions of rural women.

References:

1. Dhameja S.K., (2004): Women Entrepreneurs. Deep and Deep publications, Delhi.
 2. Bhatia B.S and Batra G.S., (2003): Entrepreneurship and small Business Management, Deep and Deep publications Delhi.
 3. Dasgupta Rajaram (2001): An informal Journey through SHGs, Indian Journal of Agricultural Economics.
 4. Government of India (2000): Guide Lines, SGSY, Yojana, and Ministry of Rural Development Delhi.
 5. Mishra. S.K. and Puri V.K., (2000): Poverty Alleviation programmes in India, Indian Economy, Himalaya publishing house Delhi.
 6. Nirmala V, Sham Bhat. K and Bhuvaneswari. P (2004): SGHs for Poverty Alleviation in Pondicherry. Journal of Rural Development. NIRD, Hyderabad.
 7. Rani A.S.E. (2001); Benefits derived from Developmental programmes by women. M.phil Awarded dissertation A.U Visakhapatnam)
 8. Jayanthi.c (2003); Women Entrepreneur in the new ware Economic Development program Yojana.
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**Chapter
10****A REVIEW ON THE INDIAN STOCK MARKET*****Dr. Saumendra Das, **Dr. Apparao Epi**

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Abstract: *The lure of creating huge money in a short time has always attracted investors into investing money in stock markets. However, there is no sure-shot formula for success in stock markets. In India, gradually all capital market investment avenues are perceived by the investors. But the younger generation investors are willing to invest in capital market instruments and that too very highly in the stock market segment. Even though the knowledge of the investors in the Stock market segment is not adequate, they tend to take decisions with the help of the brokers or through their friends and are trying to invest in this market. This study was undertaken to find out the awareness level of various stock market instruments and also to find out their risk preference in various segments. It requires a lot of patience, discipline and knowledge of this market. Before actually starting to invest and trading in the stock market, it is good to understand some practices of stock market operations by investment aspirants. This paper reveals that the investors exclusively need to know the basic knowledge about the stock market operations and information regarding companies, securities and prices for systematic investment.*

Keywords: *Investors, Stock markets, Investment, Capital market, Aspirants, Securities.*

1. Introduction

The Indian Stock Market is as old as its history in Asia. Around 200 years ago it originated with security dealings in India as meager and obscure. In those days, the East India Company was the dominant institution for all kinds of financial securities. By 1830's business on corporate stocks and shares in Bank and Cotton presses took place in Bombay. Though the trading list was broader in 1839, there were only half a dozen brokers recognized by banks and merchants during 1840 and 1850. However in 1850 witnessed a rapid development of commercial enterprise and brokerage business attracted many people and by 1860 the number of brokers increased into sixty. In 1860-61 when the American Civil War broke out the cotton supply from United States to Europe was stopped and the Share Mania began in India. The number of brokers increased to about 200 to 250. At the end of the American Civil War, the brokers who thrived out of Civil War in 1874, found a place in a street (now we call it Dalal Street) where they would conveniently assemble and transact their business. In 1887, they

formally established in Bombay, the Native Share and Stock Brokers Association, which is alternatively known as "The Stock Exchange". In 1895, the Stock Exchange acquired a premise in the same street and it was inaugurated in 1899. Thus, the Stock Exchange at Bombay was consolidated (Bahng, 2003). The Indian stock market has been assigned an important place in financing the Indian corporate sector.

2. Objectives

The principal objectives of the stock markets are:

1. Enabling and mobilizing resources directly from the investors for further investment.
2. Providing liquidity for the investors and monitoring.
3. Disciplining company management.

3. Investment Plans

1. Physical assets like real estate, gold/ jewelry, commodities etc.
2. Financial assets such as fixed deposits with banks, small saving instruments with post offices, Insurance/provident/pension fund etc or securities market related instruments like shares, Bonds, debentures etc.

4. The Volatility of Equity Market

An equity market, often known as stock market or share market, is a market where shares of companies or entities are issued and traded, either through exchanges or through listed dealers or brokers. Stock exchanges list shares of common equity as well as other security types, e.g. corporate bonds and convertible bonds. Equity market is the aggregation of buyers and sellers of stocks (Banerjee & Sarkar, 2006). The equity sale gives a company access to capital and investors a slice of ownership in a company with the potential to realize gains based on the future performance of the company. The place where stocks in the equity market are traded is the stock exchange. The equity shares in India are traded through two stock exchanges - National Stock Exchange of India (NSE) and Bombay Stock Exchange (BSE).

(I) National Stock Exchange of India (NSE)

The National Stock Exchange of India Limited (NSE) was established in 1992 by a group of leading Indian financial institutions at the behest of the government of India to bring transparency to the Indian capital market. It was the first exchange in the country to provide a modern, fully automated screen-based electronic trading system which offered easy trading facility to the investors across the country. The capital market (equities) segment of the NSE commenced operations in November 1994, while operations in the derivatives segment commenced in June 2000. The NSE is the world's 12th-largest stock exchange as of March 2016 with a market capitalization of more than US\$1.41 trillion.

(II) Bombay Stock Exchange (BSE)

The Bombay Stock Exchange (BSE) is an Indian stock exchange located at Dalal Street, Mumbai. Established in 1875, BSE is considered as the world's fastest stock exchange, with a median trade speed of 6 microseconds. The BSE has an overall market capitalization of \$1.83 Trillion as of March, 2017, making it one of the world's 11th-largest stock exchanges.

5. Various Forms of Funds

Debt Funds: A debt fund is a type of mutual fund that invests shareholder's money in fixed income securities such as bonds and treasury bills. A debt fund may invest in short-term or long-term bonds, securitized products, money market instruments or floating rate debt.

Equity Funds: An equity fund, also known as stock fund, is a type of mutual fund that invests shareholder's money principally in stocks. The equity mutual funds are principally categorized according to company size, the investment style of the holdings in the portfolio and geography.

Equity Trading: In the stock market, investors who want to buy the shares of a particular company, offer a certain price, and sellers ask for a specific price. When these two prices match, the sale is executed. To be able to trade in the equity market, you will need a stock trading account. India has two major stock exchanges - National Stock Exchange of India (NSE) and Bombay Stock Exchange of India (BSE). Most of the share trading in the Indian equity market takes place on these two stock exchanges.

6. Trade on the Stock Market:

The easiest way to do share trading is to hire a stock broker or brokerage firm. There are a number of well known stock brokers who can place trades for you and give you advice from time to time. But if you want to do it yourself, follow these:

a. Read: Read books on stock trading as much as possible. Books provide a wealth of information and are inexpensive compared to the other modes of education such as broker classes, seminars, or educational DVDs. You can also subscribe to business news channels and news portals for articles related to the stock market and companies.

b. Monitor market movement: By monitoring the movement of markets each day through TV and print media, investors can expose themselves to trends, expert analysis, company merger, acquisition etc. Observing the effect of news on particular stock price and reading fundamental data can also serve as another good source of exposure for investors.

c. Get paid subscriptions: There are many firms and brokers who provide information on when to buy or sell the stocks based on the market research and

analysis. In turn, the firm will charge you a commission, normally several cents per share. But don't rely 100 per cent on these firms. Use your own insight and research to choose the stocks.

d. Choose the stocks: Follow the market trend for a few days and then select stocks you want to purchase. Once you prepare your portfolio of stocks, try virtual trading for practicing or you can start with small investments, for example 1, 10, or 20 shares. To buy the stock, place your bid through your share trading account. The sellers of that stock will ask for a specific price. When these two prices match, the sale will be executed.

e. Stop loss: A stop loss is important to limit your loss on a security position. Once you buy the stock, you place a sell order so that when the stock price reaches a certain level, the sell will be executed. A stop-loss order can be helpful while you are on vacation or cannot watch your position.

7. Investor Sentiment and Volatility

Investor psychology plays an important role in the stock market. How an investor reacts to information and regulatory procedures of the market has an immediate effect on the equity market which in turn brings volatility. Mittal & Jain (2009) believed that a better regulatory framework does influence investor sentiment especially with regard to legal provisions relating to corporate governance and investor grievance redressal mechanism. Investor sentiment and market returns were highly correlated and in fact influenced each other and so with the volatility. There are a number of factors which are contributing to stock market volatility. Some of these are as follows:

a) Fear Factor: Fear is the reason because of which an investor can see to avoid losses. It can be a few people's opinions giving a trigger to sell. Fear of loss makes the investor very defensive which results in selling. Others also feel the same and start selling at the larger level.

b) Double –Dip Worries: There are two types of people: risk taker and risk averse. Risk takers believe that the market is going to rise and there is a positive signal in the market. On the other hand, risk averse feels that the market can sink any time. So these mixed reactions in the equity market make it more volatile.

c) Changes in Economic Policy: FOMC (Federal Open Market Committee) monetary policy has its influence in the market. The market receives a positive response when news arrives that Fed is going to expand its quantitative easing programme, on the contrary, negative sentiments cover the market on arriving at the news of tapering of quantitative easing programme by Fed.

d) Economic Crisis: Market reacts negatively to any major economic crisis, the more severe the crisis, the more strongly it is reacted by the investors. Because of fear of

loss, most of the investors start selling, and only few people take this as an opportunity to buy. Investors don't go for fundamental and technical analysis of their portfolio instead they just got influenced by the negativity of the economic crisis.

8. Emerging and Developed Economies Indices

A brief introduction of some indices from emerging economies and developed economies is given as follow:

a. DJIA (Dow Jones Industrial Average): The Dow Jones Industrial Average is an index which was created by Wall Street Journal editor and Dow Jones & Company co-founder Charles Dow. It is at present owned by S&P Dow Jones Indices. It was first published on February 16, 1885. The averages are named after the name of Charles Dow and one of his business associates, statistician Edward Jones. It shows how 30 large publicly owned companies based in the United States have done in trading during a standard trading session in the stock market. Dow Jones Industrial Average is the second oldest U.S. market index after the Dow Jones Transportation Average. The Industrial part of the name is largely chronological, as most of the new modern 30 companies have little or nothing to do with traditional heavy industry.

b. DAX (DeutscherAktien Index): The DAX is a blue chip German stock market index of the Frankfurt Stock Exchange which consists of the 30 major German companies. DAX measures the performance of 15 of the Prime Standard's 30 largest German companies by their volume and market capitalization. It is similar to the FT30 and the Dow Jones Industrial Average, but because of its small assortment it does not essentially represent the economy as a whole.

c. Hang Seng: The Hang Seng Index is a free float-adjusted market capitalization index. It is a weighted stock market index in Hong Kong. It is basically used to record and observe daily variation in the prices of the largest companies of the Hong Kong equity market. In Hong Kong, this is the main indicator of the overall market performance in Hong Kong. The 48 component companies of Hang Seng represent about 60% of market capitalization of the Hong Kong Stock Exchange. It was started on November 24, 1969, and Hang Seng Indices Company Limited is currently maintaining and compiling the index. Hang Seng Indices Company Limited is a wholly owned subsidiary of Hang Seng Bank, which is one of the largest banks listed in Hong Kong in terms of market capitalization.

d. RTSI (Russia Trading System): The RTS Index (Russia Trading System) is a free-float capitalization-weighted index of 50 Russian stocks traded on the Moscow Exchange in Moscow, Russia. The RTS Information Committee reviews the list of stocks every three months. The RTS Index value is calculated in a real-time mode. The index was introduced on September 1, 1995 with a base value of 100. In addition to the RTS Index, MICEX-RTS also computes and publishes the RTS Standard Index (RTS

STD), RTS-2 Index, RTS Siberia Index and seven sectoral indices (Telecommunication, Financial, Metals & Mining, Oil & Gas, Industrial, Consumer & Retail, and Electric Utilities). The RTS Standard and RTS-2 are compiled similarly to the RTS Index, from a list of top 15 large-cap stocks and 50+ second-tier stocks, respectively.

e. S&P BSE SENSEX: The Bombay stock exchange most popular index is S&P BSE SENSEX, the sensitive index is also known as BSE30. It is an index which is a free-float and market weighted stock market index. BSE consists of 30 companies which are well settled and financially very strong. These companies are large and very actively traded stocks comprise different industrial sectors of the Indian economy. SENSEX from its inception has become the major indicator to see the health of the Indian equity market. 16 The base value of S&P BSE SENSEX was decided to be 100 on 1st April, 1979 and the base year taken was 1978-79. The free-float market capitalization of BSE was US\$240 billion on the 21st April, 2011. During the period of 2008-12, S&P BSE SENSEX market capitalization reduced from 49% to 25% because some other indices were introduced like BSE PSU, Bankex, BSE-TECK etc. The 30 companies constituted BSE SENSEX index are continually assessed and changed according to changes in their position so that it can indicate the true market conditions. SENSEX is calculated by the use of method free float capitalization. It is different from the traditional method in the sense that in the free float market capitalization method, at a particular point of time, it reflects free float market value of the 30 companies proportional to the base year. To calculate the market capitalization of a company, the price of the company's share is multiplied by the number of the shares.

f. FTSE Straits Times Index (STI): The FTSE Straits Times Index (STI) is a benchmark index for the Singapore equity market. It consists of 30 companies listed on the Singapore stock exchange. It is calculated by Singapore Press Holdings, FTSE and Singapore Exchange. STI was replaced from STII (Straits Times Industrials Index) when there was a sectoral reclassification of the companies listed in the Singapore Exchange and resulted in the removal of the industrial category. STI started trading in August 1998 when STI left off.

g. FTSE 100: The FTSE 100 Index, also called FTSE 100, FTSE, is a share index of the 100 companies listed on the London Stock Exchange with the highest market capitalization. It is one of the most widely used stock indices and is seen as a gauge of business prosperity for businesses regulated by UK company law. The index is maintained by the FTSE Group, a subsidiary of the London Stock Exchange Group. The index began on 3 January 1984 at the base level of 1000; the highest value reached to date is 6950.6, on 30 December 1999. The FTSE 100 consists of the largest 100 qualifying UK companies by Total market value. The constituents of the index are

determined quarterly, on the Wednesday after the first Friday of the month in March, June, September and December. 17

h. Nikkei 225: The Nikkei 225 more commonly called the Nikkei, the Nikkei index, or the Nikkei Stock Average is a stock market index for the Tokyo Stock Exchange (TSE). It has been calculated daily by the Nihon Keizai Shimbun (Nikkei) newspaper since 1950. It is a price-weighted index (the unit is yen), and the components are reviewed once a year. Currently, the Nikkei is the most widely quoted average of Japanese equities, similar to the Dow Jones Industrial Average. In fact, it was known as the "Nikkei Dow Jones Stock Average" from 1975 to 1985. The Nikkei 225 began to be calculated on September 7, 1950, retroactively calculated back to May 16, 1949. Since January 2010 the index has been updated every 15 seconds during trading sessions.

i. BOVESPA: The BM&FBOVESPA is a stock exchange located at Sao Paulo, Brazil. On May 8, 2008, the Sao Paulo Stock Exchange (Bovespa) and the Brazilian Mercantile and Futures Exchange (BM&F) merged, creating BM&FBOVESPA. The benchmark indicator of BM&FBOVESPA is the ÍndiceBovespa. There were 381 companies traded at Bovespa as of April 30, 2008. On May 20, 2008 the Ibovespa index reached its 10th consecutive record mark closing at 73,516 points, with a traded volume of USD 4.2 billion or R\$ 7.4 billion.

j. AORD January 1980: The All Ordinaries (colloquially, the "All Ords"; also known as the All Ordinaries Index, AOI) is the oldest index of shares in Australia, so called because it contains nearly all ordinary (or common) shares listed on the Australian Securities Exchange (ASX). The market capitalization of the companies included in the All Ords index amounts to over 95% of the value of all shares listed on the ASX. The 3-letter exchange ticker in Australia for the All Ordinaries is "XAO". When established, the All Ords had a base index of 500; this means that if the index is currently at 5000 points, the value of stocks in the All Ords has increased tenfold since January 1980, not factoring in inflation.

h. Shanghai Composite Index: The SSE Composite Index is a stock market index of all stocks (A shares and B shares) that are traded at the Shanghai Stock Exchange. SSE Indices are all calculated using a Paasche weighted composite price index formula. This means that the index is 18 based on a base period on a specific base day for its calculation. The base day for the SSE Composite Index is December 19, 1990, and the base period is the total market capitalization of all stocks of that day.

9. Conclusion:

In the current scenario, investing in stock markets is a common trend not only for professionals but also individuals. In Stock market Derivatives acts as a major tool for reducing the risk involved in investing in stock markets for getting the best results out

of it. The investors should be aware of the various portfolio and speculation strategies, such as Portfolio construction, Portfolio theories, stock valuation models, capital market theories and performance measures of Investments and so on which can be used for reducing their risk. Awareness about the various uses of investment portfolios can help investors to reduce risk and increase returns. Though the stock market is subjected to high risk, by using portfolio techniques, the loss can be minimised to an extent.

References:

1. Aggarwal, M. (2012). Efficiency of Indian Capital Market: A Study of Weak Form of EMH on NIFTY. *ACADEMICIA*, 2 (6), 16-28.
 2. Bahng, S. (2003). The Response of the Indian Stock Market to the Movement of Asia's Emerging Markets: From Isolation toward Integration? *Global Economic Review*, 32 (2), 43-58.
 3. Banerjee, A., & Sarkar, S. (2006). Modelling Daily Volatility of the Indian Stock Market Using Intra-Day Data. Working Paper Series, WPS No. 588.
 4. Chia, R. C., & Liew, V. K. (2010). Evidence on the Day of the Week Effect and Asymmetric Behavior in the Bombay Stock Exchange. *The IUP Journal of Applied Finance*, 16(6), 17-30
 5. Fama, E. F. (1965). The Behavior of Stock Market Prices. *Journal of Business*, 38, 34-105.
 6. Fama, E.F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. *Journal of Finance*. 25, 383-417
 7. Mittal, S. K., & Jain, S. (2009). Stock Market Behavior: Evidence from Indian Market. *Vision-The Journal of Business Perspective*, 13, 19-29.
 8. Mukherjee, K., & Mishra, R. K. (2007). International Stock Markets Integration and its Economic Determinants: A Study of Indian and World Equity Markets. *Vikalpa-The Journal of Decision Maker*, 32, 29-44.
 9. www.indiabulls.com
 10. www.nseindia.com
 11. www.stockedge.com
 12. www.bseindia.com
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Chapter
11

CONSEQUENCES OF MOBILE ADDICTION AMONG YOUTH

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Abstract: *The main purpose of this study is to explore the mobile addiction among university students and its consequences of this addiction on students' academic, physical, behavioural and psychological front. A brief, in depth and systematic literature review has been done to get the desired result. Findings of the study explore that, over use of mobile phones not only adversely affects academic performance but also trigger a lot of physical, psychological and behavioural issues.*

Future research will be needed to explore smartphone addiction at other populations such as school students and employees at companies and institutions. We also encourage the comparative investigation of addiction based on various age groups, gender and profession. It would also be advantageous to conduct an experimental study that aims to develop a remedial program to help smartphone addicts overcome addiction as well as conduct research to predict factors affecting smartphone addiction among university students

Key words: *Mobile addiction, Behavioral, Psychological, Physical and Academic consequences*

Introduction:

The growing technology during the 21st century has a heavy impact on different aspects of lives. Out of many advanced smartphones, the most popular device which offers quick access to numerous apps like Twitter, Facebook, Skype and WhatsApp. The smartphone also provides a way for the transmission of fax and SMSs, and navigating the internet. Several other aspects like entertainment is also provided by the smartphone like camera, games, multimedia, Bluetooth, video, radio, movies, GPS and several applications

Our daily lives are affected due to change in the form of communication due to the advancement in technology. The usage of mobiles has reached unbelievable heights since the 1990's, mobile connections of 7 billion and unique mobile subscriptions of 3.5 billion are recorded across the). In this growing world, mobile phones perform several functions like performing instant messaging, upload, download, transfer multiple media contents within a short amount of time. With the availability of instant happiness, they have become really popular among teenagers who spend an unreasonably long amount of time as they are immersed in it Multiple contemporary

studies have stated that the time spent on using social media is growing gradually. To analyze statistically teens are found to be using social media for nearly 9 hours a day in mobiles. Samsung and Apple have launched many attractive applications leading to harmful addiction to grab the audience. The examples for such applications may be the Snapchat application and 360 degree photos. It is considered that the more a student is immersed in the mobile phone the more they are detached from ordinary life.

As the cell phone is a handy device, improper usage of it could result in extreme addiction. This conflict is similar to the presence of behavioral addictions as opposed to substance addictions. The presence of cell phone addiction may be considered as an impulsivity disorder which has been questioned without considering the concept of addiction). As the internet may be considered as the root cause for addiction cell phones have proved that they may cause addictive behavior, due the introduction of the smartphones taking into consideration the global approach to the increasing differentiation of addictions by concrete applications. If the problem is with the cell phone or due to its applications and contents. It is a hot topic to be discussed, which is similar to the past topics related to the internet. With this we can understand that the activities if not performed in a good way in cell phones could lead to complicated use. It is found that the cell phones with advanced applications could induce greater abuse than the regular ones.

Research objectives:

- To find out the amount of mobile addiction among the youth.
- To know the behavioral, psychological, physical and academic issues occurred due to the mobile addiction.

Methodology:

The paper is quite descriptive and qualitative in nature. The paper is the outcome of an in-depth literature study. Literature collected papers published in reputed research journals, periodicals, books, magazines, newspapers and various websites. The collected inputs further studied and reviewed thoroughly to get desired results for research objectives.

Mobile Addiction

Mobile addiction can be defined as a habit of using the mobile regularly even when it causes a negative impact on an individual's well being (Roberts, Yaya, Manolis, 2014). The behaviour's appropriateness can be classified as good or bad. The problem with addiction is that the people feel obliged to continue the activity even if they do not want to do it.

Considering the Social Learning Theory by Bandura, findings from Bian and Leung (2015) the factors that cause mobile addiction consists of people who are shy and lonely. These people engage only through phones and communicate with people

who are interested only in virtual communication. Also these shy people tend to use mobiles to escape from reality and awkward situations. Due to this nature they can be addicted to their mobiles.

The addiction symptoms of the people who use mostly mobile phones to talk or communicate with others can be traced as those who are constantly on their social media and checking their phones (Blachnio & Przepiorka, 2019). Kim, David, Ran, Curtis, and Brickman (2015) stated that people who play a lot of video games on phones for a longer period of time are addicted to these mobiles. A theoretical framework was also formed suggested by the literature review based on several variables.

As per Zamanzadeh, Rice and Hagen (2018), the extreme usage of mobiles is now considered a public health dilemma. This dilemma results in addictive behaviour and extreme usage of mobile phones. Therefore this problem must be identified for the teenagers. These days the users are so immersed in the phones that they look at them even while walking or driving without them knowing. Many mobile addiction cases are shown on the YouTube platform. There was a research conducted by the ABC news in America which proved that many people got injured while using phones and simultaneously walking and also stated that this count increases every year gradually (Dooley, 2015). Falling on the stairs or escalator are some of the incidents caused due to mobile usage or addiction. It is also observed that young people who are driving are seen to be controlling mobiles with one hand and riding the vehicle with the other which is a serious matter. As using mobiles while driving may cause distraction and loss of concentration it may lead to fatal injuries. Using the mobile for a lot of time can lead to loss in family time and decrease face to face interactions and many more.

Mobile addiction may be considered as a technological addiction (Derounian, 2017). Keeping aside the regular interaction with people which may be disrupted due to over usage of phones, the academic performance of the person can also gradually come down due to excessive usage of the phone. It is also found that some teens or students suffer with anxiety, depression, insomnia if they are not provided with their phone. Mobile phone usage is also related to the occupation, marital status and income of the users told by Rice et al.(2018).

Action must be taken before the children turn into teenagers to stop them from this addiction. The Internet can provide any information a person wants which can spoil their minds. Hawi and Samaha (2017) state that the students must be under supervision or security while using mobile phones.

Conceptual background of Consequences of Mobile addiction**Psychological and Physical Health Consequences due to Mobile Addiction**

The smartphone addiction is caused by the overstimulation of mobile phones. This addiction is differentiated from chemical addiction as it doesn't affect the subject physically but psychologically which encourages isolation in today's generation observed through neglecting work, study, and relationships. (Torrecillas 2007) , he also found that 40% of adults and teenagers use their devices for more than 4 hours a day. Researchers thus suggested that when the subject is deprived of this dopamine inducing device they fall into a pit of deprivation resulting in anger, sleep disorders, anger issues and depression which results in compulsive behavior and psychological issues such as the need for touch , social anxiety, and materialism .

Depression and Loneliness

Depressive issues appear in sadness, a sense of emptiness, or irritability; these signs are accompanied through somatic and cognitive changes notably affecting the individual's functioning . Also stress plays an essential role in the emergence of depression . Studies exhibit that people who more frequently experience depressive signs extra regularly go through from social media addiction; for instance, it has been discovered that melancholy is positively associated to Facebook dependency [Błachnio A et al., 2015], cellular phone dependency and phubbing [Davey S, et al., 2018, Roberts JA, David ME. 2016, Wang X et al., 2017]. Moreover, research show that there is a fine relationship between despair and the sense of loneliness. Ayas and Horzum discovered that loneliness as well as depression and self-esteem were related to Internet addiction. It has also been mounted that loneliness is a tremendous predictor of Facebook addiction [Błachnio A, et al., 2016] and cellular phone dependency.

It was once discovered in a study by Divan, Kheifets, Obel, and Olsen (2012) that youngsters the use of the cell phone are greater probable to display behavioral troubles such as nervousness, temperament, mental distraction and indolence. These troubles irritate if the toddler starts to use the cell phone at an early age. Abou-Arab and Al-Qosairi (2014) suggested that, from a parental perspective, the most common behavioral problems ensuing from smartphone use are social issues followed by instructional issues and psychological issues respectively. The researchers found gender differ-ences in smartphone use in favor of males. Differences have been additionally found in preference of users between eight and 12 years and in choice of users who use the smartphone for greater than three h daily. Similarly, Al-Jamal (2014) reported that, from the viewpoint of academic counselors and college directors, the most terrible effects on students' conduct relate to psychological elements accompanied via health, behavioral and social aspects.

Sleep Quality

The sleep interference problem has, if truth be told, been determined in adolescence, the place in cell-phone abuse can interfere with healthy things to do and habits, particularly affecting sleep time and quality. In particular, Sahin et al. (Sahin S et al., 2013) located that the greater students' points are for challenging use on the Mobile Phone Problem Use Scale (MPPUS) A multitude of research have documented that mobile cell phonedependencywould carry about terrible effects on bodily and intellectual health as well as social adaption such as academic problems, interpersonal problems, depression, anxiety and even suicidal ideation (Çağan, Ünsal, &Çelik, 2014; Chen et al., 2016; Dong,Park, Min, & Park, 2016; Wang et al., 2014). Poor sleep best is one of the predominant unfavorable penalties of mobile smartphone addiction (Demrc, Dem, Akgönül, &Akpınar, 2015; Sevil, Kevser, Alaattin, &Nazen, 2013; Thomée, Härenstam, &Hagberg, 2011). A collection of cross-sectional lookups published shows that sleep pleasantness deteriorates with the aggravation of addictive use of mobile telephones (e.g., Demrc et al., 2015; Li, Mei, Niu, & Song, 2015; Sevil et al., 2013). Longitudinal lookup also showed that excessive frequency of cell smartphone use at baseline was a risk element for intellectual health results together with despair and sleep disturbances at 1-year follow-up in younger adults (Thomée et al., 2011).

Rumination

Rumination refers to repetitive and passive wondering about one's distress as nicely as its manageable reasons and consequences (Feinstein et al., 2013; Nolen-Hoeksema,1991; Nolen-Hoeksema, Wisco, &Lyubomirsky, 2008). The response style theory argues that rumination may be a maladaptive response style that prolongs and exacerbates negative affects because it increases negative thinking, deteriorates coping behaviours and interacts with pessimistic cognitive method (Nolen-Hoeksema, 1991; Nolen-Hoeksema et al., 2008). A massive quantity of studies have published rumination appreciably extended depression, anxiety, and suicidal ideation (e.g., Beyderman& Young, 2016; Feinstein et al., 2013; Hsu et al., 2015; Lackner& Fresco, 2016;Miranda & Nolen-Hoeksema, 2007). Depression, nervousness and suicidal ideation, in turn, would purpose negative sleep satisfactory (Bernert, Turvey, Conwell, & Jr, 2014; Jansson-Fröjmark&Lindblom, 2008; Woods & Scott, 2016). Studies on the direct hyperlink between rumination and sleep excellent also verified that rumination was a danger issue for sleep quality. Mobile smartphone dependency may also exert can have an effect on on rumination. Although the direct relation between cellular phone addiction and rumination has now not been established by means of prior research, there are countless motives helping the hypothesis aforesaid. Firstly, cell smartphone addiction leads to educational troubles (Dong et al., 2016; Hawi&Samaha, 2016) and interpersonal problems(Chen et al., 2016). These issues reflect two essential

stress domains (Li et al., 2016), which would inevitably exert pressure on individuals, especially on teenagers who are touchy to tutorial achievement and interpersonal relationships. According to the stress-reactive model of rumination and related empirical research, rumination happens after experiencing a stressful event (Alloy et al., 2000; Michl, McLaughlin, Shepherd, & Nolen-Hoeksema, 2013; Smith & Alloy, 2009). Thus, rumination may also be brought about by way of tutorial issues and interpersonal problems ensuing from mobile phone addiction. Secondly, the use of cellular social networking applications is a huge predictor of cell phone addiction (Salehan&Negahban, 2013). Thus, mobile telephone addiction may additionally induce and exacerbate rumination due to the familiar use of social community sites. Thirdly, mobile telephone addiction can bring about negative thoughts such as melancholy and anxiety (Chen et al., 2016; Jun, 2016). As stated above, rumination is proved to be a secure risk factor that increases the vulnerability to poor emotions such as despair and anxiety (e.g., Hsu et al., 2015; Lackner& Fresco, 2016). It is feasible that cell smartphone dependency influences rumination, which in flip influences despair and anxiety. Consistent with this theoretical notion, a study by means of Shaw et al. (2015) documented that passive use of social network websites will increase brooding (a core shape of rumination), which similarly increases social anxiety.

Substance Use

Substance use in relation to phone telephones is frequently encapsulated inside broader research that considers the user's incapacity to hold healthy lifestyle habits, together with symptomatology and psychiatric comorbidities.

In effect, personality troubles and psychiatric signs coexist with substance and behavioral abuse. If we encompass the psychological and neurobiological bases of addictions, be they associated to supplies or behaviors (Holden C 2001, Bianchi A, Phillips JG 2005, Potenza MN. 2006 , Grant JE et al., 2011, Caplan SE 2007, Alavi SS et al., 2012, De La Puente MP, Balmori A. 2007), it is herbal to examine the coexistence of both, as found in research on the Internet (Yoo YS et al., 2014). In particular, Lee et al. (Lee J et al., 2014) confirmed the existence of a neurobiological pattern of common EEG registers for Internet use and depression.

Impulsivity and Sensation Seeking

Impulsivity is any other traditionally considered predictive dimension of cell-phone abuse, and we have before analyzed its role as a precursor or vulnerability factor for behavioral addictions (De Sola Gutierrez J et al., 2013, De Sola Gutierrez J 2014). In particular, Billieux et al. (Billieux J et al., 2008) analyzed the role of impulsivity according to the 4 aspects of the UPPS [Urgency, (lack of) Premeditation, (lack of) Perseverance and Sensation seeking] reference scale (Whiteside SP, Lynam RD. 2001). They observed that urgency, lack of premeditation, and lack of

perseverance are inversely associated with self-control. However, urgency, defined as the tendency to ride strong impulses that cannot be postponed as a result of poor affective states, is the thing that first-rate predicts complicated cell-phone use. Thus, a high urgency rating relates to an expanded wide variety of calls, duration, and range of textual content messages sent. Urgency is in a similar way related to insufficient strategies for emotional self-regulation, such as ruminating thoughts that provoke and hold poor affective states. Problematic cell-phone use in this case reflects a try to manage these terrible emotional states. On the other hand, lack of perseverance can be reflected in the quantity and period of cell-phone calls as nicely as in related monetary problems, while lack of premeditation entails its use in risky or prohibited situations, which is associated with sensation searching (Billieux J. 2012).

Self-esteem, Self-identity, Self-control, and Social Environment

Park et al. (Park N et al. 2010) determined that imitation of others, low self-esteem, and social nervousness contributed to cell-phone abuse. However, as in other studies, it is no longer necessarily voice conversations however alternatively the number of textual content messages that is regularly the result of challenging use.

Physical and psychological problems have reportedly resulted from cell-phone abuse, along with pressure and muscle pain, ocular afflictions resulting from Computer Vision Syndrome mirrored in fatigue, dryness, blurry vision, irritation, or ocular redness (Aggarwal KK. 2013), auditory and tactile illusions – the feeling of getting heard a ring or felt a vibration of a cell phone (Verma RK et al., 2014, Lin YH et al., 2013), and ache and weak-ness in the thumbs and wrists main to an accelerated number of instances of de Quervain's tenosynovitis (Ali M et al., 2014).

Academic penalties due to cell addiction

Supplementary research stressed the negative effects of Smartphone addiction among college scholars. They recognized the nature of this kind of dependence by indicating its symptoms, classifying its ranges and creating tools to measure it (Hafidha, Abdelmajid, &Naeema, 2015).

According to Ishii (2010), smartphone overuse through college students may additionally have bad consequences on their educational performance. Students overusing the smartphone find out about shorter durations and are in all likelihood to be victims of crimes. Lepp, Barkle, and Karpinski (2014); Javid, Malik, and Gujjar (2011) discovered that the scholar's mobile phone extended use may negatively have an effect on tutorial performance, mental health, and subjective well-being or happiness.

Tindell and Bohlander (2012) mentioned that the majority of university college students use the smartphone in classrooms. In this respect, some studies revealed a poor relationship between smartphone use and university students'

fulfilment. Studies also published that university students view the smartphone as amusement and with time use will become habitual.

A study performed by Kim, Martinovic and Katavic (2019) found that attendance has small value, but extensive effects on pupil learning and performance. Students who skipped class on a given date have been appreciably more likely to reply incorrectly to questions pertaining to fabric protected that day than college students who had been present. In accordance with the current tempo of the globalized world, most college students have their cell phones and are glued to the cell phone mainly due to mobile cell phone addiction. This dependency has an influence on pupil educational performance.

Daily conduct and General lifestyles consequences due to smartphone addiction

The growing use of the smartphone has been accompanied by growing terrible effects. One of these bad outcomes is the detrimental reflection on health that results from exposure to rays and wireless waves. This can motivate cancer, brain tumors, nervous disorders, bad concentration, and troubles with the characteristics of the iris and the immune system. It also has unsafe results on the eardrum, the wrist, the neck and the joints. Fatigue and sleep dis-orders are different terrible outcomes (Alasdair & Philips, 2011).

Maya & Nizar (2016) confirmed that smartphone dependency chance was positively associated with perceived stress, however the latter used to be negatively associated with satisfaction with life. Additionally, a smart-phone addiction danger used to be negatively associated with academic performance, however the latter was once positively related to pleasure with life.

A find out by Campbell (2005) recognized each appropriate and inappropriate way younger human beings use the smartphone. On one hand, it groups young human beings together aside from interference by using adults. On the different hand, it can lead to rejection and exclusion of persons who do no longer have smartphones and hacking for black-mail, which can lead to depression, anxiety and suicide.

As to use patterns, Assabawy (2006) determined statistically significant variations in cell phone use in preference of males (16e25 years) as nicely as unmarried customers and high profits users. The study additionally mentioned a number of poor results that smartphone overuse has on the social and family existence of users.

Abo-Jedi (2008) found that 26% of Jordanian university students are smartphone addicts and that the wide variety of female addicts is twice the range of male addicts. They also located an extensive correlation between smartphone dependency and self-disclosure. A study through Jodda (2009) revealed that a smartphone subculture is being fashioned among Arab young people. The elements of

this subculture consist of material factors of gadgets and technologies, patterns of use, frequency of use and the effects on values, attitudes and the social structure.

Mobile cell phone addiction in this study can be viewed as a shape of technological addiction (Lin, 2014). These addictions are non-chemical behavioral addictions that involve human–machine interaction. Mobile telephone dependency can cause stress, sleep disturbances and symptoms of depression which can lead to mental fitness consequences (Thomée et al., 2011). Study reiterated that teenagers are too closely linked to their cell phones and they show signs and symptoms of behavioral dependency in the direction of cell phones.

Phubbing

The term “phubbing” is a merger of two words: “phone” and “snubbing.” It was coined as phase of the Macquarie Dictionary marketing campaign by means of a crew of lexicographers, poets, and authors [Pathak S. McCann 2013] in order to name the phenomenon of snubbing the interlocutor in the context of social contact by using devoting one’s interest to the mobile telephone as a substitute of focusing on the character one is talking to.² Phubbing manifests itself in focusing on the smartphone while speaking to a person whom the contents in the telephone do no longer subject [Chotpitayasunondh V, Douglas KM. 2016, Karadağ E et al., 2015, Oberst U et al., 2017]. Previous studies have shown that phubbing is positively correlated with mobile cell phone dependency [Chotpitayasunondh V, Douglas KM. 2016, Karadağ E et al., 2015], which in turn is used as a tool helping in conditions of loneliness, anxiety, and worry, and with deprivation in situations of being a long way from one’s phone . Phubbing, however, no longer only does not help but virtually aggravates phubbers’ problems: smartphones enlarge the feel of exclusion from the social environment all through smartphone use .Phubbed persons experience social exclusion too, which in flip increases their want to be in the center of attention in their important reference groups and induces them to use social media in order to limit the experience of exclusion [David ME, Roberts JA. 2017]. Research indicates that phubbing is positively correlated with loneliness [Błachnio A, Przepiórka A 2018], understood as protracted and negatively valence feeling of social exclusion Moreover, previous research have shown that gender can be a moderator of the relationships between phubbing and cell phone, SMS, social media, and Internet addictions; in the woman group, phubbing was once associated to mobile, SMS, and social media addictions, whereas in the male crew it used to be associated with Internet and gaming addictions [Karadağ E et al., 2015], with ladies normally scoring higher than guys on phubbing [Balta S et al., 2018, Błachnio A, Przepiórka A. 2018, Chotpitayasunondh V, Douglas KM. 2016]. This capacity that in the woman team smartphones are extra regularly used to facilitate social interactions, whereas in the male group cell telephones perform instrumental

functions .As is the case with smartphone addiction, phubbing is related to intellectual health: oblique and direct superb associations have been located between phubbing and depression in various age groups [Davey S et al., 2018, Roberts JA, David ME 2016, Wang X et al., 2017].

Conclusion, Limitations and Future Studies

This study is a unique examination of a modern-day phenomenon that is highlighting university students' preoccupation with mobile phones. Mobile phones have transformed communication and connectivity among members of the public that have become indispensable in this contemporary era. Even with all its benefits, unrestricted use of this medium can lead to various academic, physical, and psychological and daily behavior issues with negative impact.

The study presented in this paper has several limitations. Firstly, the sample was narrowed down to university and college students. Based on the findings of the present study, we offer a recommendation to develop counseling programs and symposia where experts can raise the awareness of university students, especially single and undergraduate programs students of how to use smartphones and avoid the negative effects resulting from addiction. Future research will be needed to explore smartphone addiction at other populations such as school students and employees at companies and institutions. We also encourage the comparative investigation of addiction based on various age groups, gender and profession. It would also be advantageous to conduct an experimental study that aims to develop a remedial program to help smartphone addicts overcome addiction as well as conduct research to predict factors affecting smartphone addiction among university students.

References

1. Abo-Arrab, M., & Al-Qosairi, E. (2014). The problem behaviors resulting from smartphone use by children from the perspective of parents in the light of some variables. *The International Journal for Educational Research*, 35, 170e192 (InArabic).
 2. Ali M, Asim M, Danish SH, Ahmad F, Iqbal A, Hasan SD. Frequency of de Quervain's tenosynovitis and its association with SMS texting muscle. *Ligaments Tendons J* (2014) 4:74–8.
 3. Balta S, Emir Tekin E, Kircaburun K, Griffiths. Neuroticism, trait fear of missing out, and phubbing: the mediating role of state fear of missing out and problematic Instagram use. *Int J Ment Heal Addict*. 2018;2018:1–12. <https://doi.org/10.1007/s11469-018-9959-8>.
 4. Beyderman, I., & Young, M. A. (2016). Rumination and overgeneral autobiographical memory as mediators of the relationship between attachment and depression. *Personality and Individual Differences*, 98, 37–41.
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5. Blachnio, A., &Przepiorka, A. (2019). Be aware! If you start using Facebook problematically you will feel lonely: Phubbing, loneliness, self-esteem, and Facebook intrusion. A cross-sectional study. *Social Science Computer Review*, 37(2), 270-278.
 6. Chen, L., Yan, Z., Tang, W., Yang, F., Xie, X., & He, J. (2016). Mobile phone addiction levels and negative emotions among Chinese young adults: The mediating role of interpersonal problems. *Computers in Human Behavior*, 55, 856–866.
 7. Chotpitayasunondh V, Douglas KM. How “phubbing” becomes the norm: the antecedents and consequences of snubbing via smartphone. *Comput Hum Behav*. 2016;63(C):9–18. <https://doi.org/10.1016/j.chb.2016.05.018>.
 8. Davey S, Davey A, Raghav SK, Singh JV, Blachnio A, Przepiórka A. Predictors and consequences of “Phubbing” among adolescents and youth in India: an impact evaluation study. *J Fam Community Med*. 2018;25(1):35–42. https://doi.org/10.4103/jfcm.jfcm_71_17.
 9. David ME, Roberts JA. Phubbed and alone: phone snubbing, social exclusion, and attachment to social media. *J AssocConsum Res*. 2017;2(2):155–63. <https://doi.org/10.1086/690940>.
 10. Dong, G. S., Park, Y., Min, K. K., & Park, J. (2016). Mobile phone dependency and its impacts on adolescents’ social and academic behaviors. *Computers in Human Behavior*, 63, 282–292.
 11. Hafidha, S., Abdelmajid, B., &Naeema, H. (2015). Smartphone addiction among university undergraduates: a literature review. *Journal of Scientific Research & Reports*, 4(3), 210e225. <http://dx.doi.org/10.9734/JSRR/2015/12245>.
 12. Hawi, N. S, &Samaha, M. (2017). The relations among social media addiction, self-esteem and life satisfaction in university students. *Social Science Computer Review*, 35(5), 576-586.
 13. Karadağ E, Tosuntaş ŞB, Erzen E, Duru P, Bostan N, MızrakŞahin B, Babadağ B. The virtual world’s current addiction: Phubbing. *Addicta: Turkish J Addict*. 2016;3(2):250–269. <https://doi.org/10.15805/addicta.2016.3.0013>
 14. Kim, S. U., Martinovic, I., &Katavic, S. S. (2019). The use of mobile devices and applications for health information: A survey of Croatian students. *Journal of Librarian and Information Science*, 1-15.
 15. Lackner, R. J., & Fresco, D. M. (2016). Interaction effect of brooding rumination and interceptive awareness on depression and anxiety symptoms. *Behavior research and therapy*, 85, 43–52.
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16. Li, L., M, S. L., Niu, Z. M., Song, Y. T. (2016). Loneliness and sleep quality in university students: Mediator of smartphone addiction and moderator of gender. *Chinese Journal of Clinical Psychology*, 24(2), 345–348.
 17. Maya, S., & Nazir, S. (2016). Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Computers in Human Behavior*, 57, 321e325. <http://dx.doi.org/10.1016/j.chb.2015.12.045>.
 18. Oberst U, Wegmann E, Stodt B, Brand M, Chamarro A. Negative consequences from heavy social networking in adolescents: the mediating role of fear of missing out. *J Adolesc*. 2017;55:51–60. <https://doi.org/10.1016/j.adolescence.2016.12.008>.
 19. Olofintuyi, O. E., Fashiku, C. O., Fashiku, B. C., & Owombo, P. T. (2012). Access to GSM and students' academic performance in Secondary School of Osun, Nigeria. *Online Journal of Social Sciences Research*, 1(5), 160-165.
 20. Pathak S. McCann Melbourne made up a word to sell a print dictionary: new campaign for Macquarie birthed 'phubbing'. Retrieved November 21, 2013 from <http://adage.com/article/news/mccann-melbourne-made-a-word-sell-a-dictionary/244595/>.
 21. Rice, R. E., Hagen, I., & Zamanzadeh, N. (2018). Media mastery: Paradoxes in college students' use of computers and mobile phones. *American Behavioral Scientist*, 62(9), 1229-1250.
 22. Roberts JA, David ME. My life has become a major distraction from my cell phone: partner phubbing and relationship satisfaction among romantic partners. *Comput Hum Behav*. 2016;54:134–41. <https://doi.org/10.1016/j.chb.2015.07.058>.
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**Chapter
12****PANCHAYATI RAJ SYSTEM IN INDIA (BEFORE AND AFTER THE 73RD CONSTITUTIONAL AMENDMENT)****Dr. M. Nani Babu**

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Abstract : Mahatma Gandhi advocated Panchayati Raj as the foundation of India's political system, as a decentralized form of government in which each village would be responsible for its own affairs. The term for such a vision was Gram Swaraj (village self-governance). Instead, India developed a highly centralized form of government. However, this has been moderated by the delegation of several administrative functions to the local level, empowering elected Gram Panchayats. The Panchayati Raj system is a three-tiered Indian Administrative structure for the development of rural areas. The very purpose behind the Panchayati Raj system has always been to strengthen democracy at the grass-root level. It is a system of local self-government in India which aims to establish local self-government in villages, mandals and districts. The main purpose of Panchayati Raj is to provide livelihood, literacy and health facilities for the villagers by involving them in the process of development. The Panchayati Raj bodies provide a suitable base for a meaningful participation especially of the weaker sections in the local decision-making process and programmes implementations. The administration of local level matters by local bodies that have been nominated by the local citizens is known as local self-government.

Key Words: Panchayati Raj Institutions, Community Development, decision making, 73rd Constitutional Amendment Act, East-India Company, British Rule, Balwant Rai Mehta, Grama Sabha.

Introduction

The system of Panchayati Raj is generally a three-tier structure of the local self-government at the village, Mandal and the district level. The main objective of the Panchayati Raj in general is to extend democracy up to the grass root level and to ensure involvement of the people in all governmental process and welfare programmes. It is accepted by all responsible people that no country can make progress in the nation-building process, unless people at large come forward and participate with due enthusiasm in developmental activities. People's participation is a fundamental right in these bodies which is to be recognised without any reservation because sovereignty lies with the people. The people's participation in running the affairs of the state to strengthen the democratic process is an effective instrument for national growth. It has many achievements to its credit. Politically, it has become a process of democratic seed. Administratively, it has bridged the gap between the bureaucratic class and the people at the village level. Socio-culturally, it has generated

a new leadership culture motivating people. It has helped rural people cultivate a development psyche.

The Panchayati Raj Institutions was established by the 73rd Constitutional Amendment Act, 1992. First it aims to promote democracy at grassroots level and to oversee the country's regional development. Panchayati Raj Institutions has been in existence for 30 years in its current shape and organization. However, there is still more work to be done in terms of decentralization and strengthening democracy at the grassroots level. Every year on April 24, National Panchayati Raj Day is observed.

Ancient period (prior to British Rule)

The Panchayati Raj, though it has come in the wake of “democratization”, the village panchayat is originally an ancient Indian Institution. The village was a self-sufficient little republic, which functioned through the institution like that of panchayat. In this regard Charles Metcalfe who said “the village communities are little republics, having nearly everything they can want within themselves and almost independent of any of foreign relations”. Agriculture has been the mainstay of the entire social and economic life of the Indian village community. The most important one in the day-to-day activities of the village in ancient times was the Grama Sabha, which possessed de-facto powers to control and govern the entire village.

The phrase 'Panchayatan' is recorded in the ancient Sanskrit scriptures, and it refers to a group of five people, one of them is a spiritual person. Gradually, the idea of including a spiritual person in such organizations faded away. Sabha, Samiti, and Vidatha are all mentioned in the Rigveda as local authorities. At the municipal level, they were the democratic organs. These bodies used to give their permission to the king for particular functions and choices. Epic Era refers to India's two main epic periods, the first one is "the Ramayana" and second is "the Mahabharata". According to the Ramayana, the governance was separated into two sections: Pur (City) and Janpad (village). There used to be a Caste Panchayat throughout the state, and one representative of the emperor's Council of Ministers was nominated by the Caste Panchayat. The Mahabharata's 'Shanti Parva,' the Manu Smriti, and Kautilya's Arthashastra all contain passages about village self-government.

British Rule

The credit for introducing the Local Government Institutions as exist in India today goes to the British Government. Local self-Government was introduced from the top. It consists of two periods i.e., the rule under the East India Company and the rule under the Crown. There was no development in the administration of villages under the East India Company period. A beginning of representative Local Government was made in 1687 when a Municipal Corporation was established in Madras. It consisted of a Mayor, twelve Aldermen and sixty Burgesses. The passing of the Charter Act of 1793

established municipal administration in the three presidency towns of Madras, Calcutta, and Bombay by authorizing the Governor General of India to appoint justices of the peace in these towns. The municipal administration was extended to the district town in Bengal in 1842. When the Bengal Act was passed, which enabled the setting-up of a town committee for sanitary purposes upon application made by two – thirds of the holders in a town.

Several committees passed rules from time to time in ushering local self-government in the country. The system of Local Self-Government expanded under the rule of the Crown in India. The financial conditions were pathetic in India, then due to the Great Revolt of 1857. Owing to insanitary conditions, there was an outbreak of cholera which prevailed in Bengal, and the position of government was so miserable that it could not spend money on roads, education, health and other services.

The formation of the Royal Commission on Centralisation in 1907 provides a boost to local self-government structure. The relevance of panchayats at the local level was recognised by the commission. The Montagu Chelmsford Reforms of 1919 were enacted against this backdrop, transferring municipal authority to the provinces. The reform also advocated that local bodies have complete authority over their operations and be as independent from external oversight as feasible. Due to institutional and fiscal restraints, these panchayats only included a tiny number of villages with restricted functions, and they did not develop into democratic and dynamic organizations of local self-government at the grassroots level. However, eight provincial governments had enacted Panchayat Acts by 1925, and six indigenous states had implemented panchayat laws by 1926. Local governments were given new rights, but their ability to levy taxes was reduced. The standing of local self-government organizations, on the other hand, was untouched.

After Independence Period

The advent of independence in 1947 proved the biggest landmark in the historical development of local self-government in India. It ushered new conceptions of local self-government. Nehru in his speech, said that 'Local Self-Government should be the basis of any true system of democracy'. It was thought that it got rather into the habit of thinking of democracy at the top and not so much below. Democracy at the top will not be a success unless it is built on this foundation from below. The constitution of India which came into operation in 1950, turned a new leaf in the evolution of these institutions. It has made a local government a state subject. Article 40 of the Indian Constitution mentions panchayats, and Article 246 authorizes the state assembly to legislate on any topic relevant to local self-government. But, the decision-makers at the time did not universally agree on the incorporation of panchayats in the Constitution.

India launched the Community Development Programmes on the eve of Gandhi Jayanti, October 2, 1952, as a development project, led by American expert Albert Mayer, as a primary influence. It covered practically all aspects of rural development that were to be carried out with the support of village panchayats and public participation. As a prelude to the Community Development Project, the National Extension Service was established in 1953. However, the initiative had little impact. The National Development Council established a committee led by Balwant Rai Mehta in 1957 to investigate the operation of the community development initiative. The lack of engagement in the Community Development Project, according to the team, was the primary cause of its failure. Grama Panchayats at the village level, Panchayat Samiti at the block level, and Zilla Parishad at the district level, according to the committee. On 2nd of October 1959, Rajasthan became the first state to implement this democratic decentralization strategy. The plan was first implemented in Andhra Pradesh on 1st November 1959. Madhya Pradesh, Assam, Odisha, Gujarat, Karnataka, Punjab and Maharashtra, among others, have passed and implemented the essential legislation. Ashok Mehta Committee was established in 1977 resulting in new thinking about the Panchayat Raj's ideals and practices. The committee advocated a two-tier Panchayat Raj institutional framework, with Zilla Parishad and Mandal Panchayat. The district was considered as the initial stage of decentralization below the state level.

The Government of India created different committees in later years in effort to resurrect and revitalize the panchayats. The Hanumantha Rao Committee (1983), G.V.K. Rao Committee (1985), L.M. Singhvi Committee (1986), Sarkaria Commission on Centre-State Relations (1988), P.K. Thungan Committee (1989), and Harlal Singh Kharrar Committee are the most important among them (1990). The G.V.K. Rao Committee (1985) recommended making the 'district' the basic unit of planning and holding regular elections, while the L.M. Singhvi Committee recommended strengthening panchayats by providing more financial resources and constitutional status. The Amendment process started with introduction of the 64th Amendment Bill (1989) by Rajiv Gandhi which sought to broaden the Panchayat Raj Institutions, but was not approved by the Upper House i.e. the Rajya Sabha. In September 1991, while P.V. Narasimha Rao was Prime Minister, a comprehensive modification was submitted in the shape of the Constitution 72nd Amendment Bill. Parliament ratified the 73rd Constitutional Amendment in December 1992. Local self-governance was established in rural India as a result of this modification.

73rd Constitutional Amendment Act, 1992

The union parliament has passed the seventy-third Constitutional Amendment Act, 1992. This act was brought into force by notification dated April 24, 1993. The main provisions of the 73rd Constitutional Amendment Act as follows.

Salient features of the amendment are as follows

The concept of Gram Sabha (Village Assembly) has been incorporated in the Act. There will be Gram Sabha for each village or group of villages. Gram Sabha will comprise all the persons registered as voters in a Panchayat area at the village level.

- Panchayats will have a uniform three-tier system at the village, intermediate and district levels. However, the Panchayat at the intermediate level need not be constituted in a state having a population of less than 20 lakhs.
- Seats are to be reserved for scheduled castes and scheduled Tribes in every Panchayat in proportion to their population; one-third of these reserved seats are meant for SC/ST women.
- Seats on similar basis are also to be reserved in regard to Chairmanship of Panchayats at each level.
- The State Legislature may make statutory reservation of seats in the Panchayats at each level for any backward class of citizens.
- The normal term of the Panchayat is to be five years, if dissolved earlier, elections are to be held within six months.
- A candidate for election should not be less than 21 years of age and also should have been not disqualified under any law made by the state Legislature or any law relating to elections to the State Legislature.

The State Legislature may statutorily endow panchayats with power and authority to enable them to function as 'Institutions of Self-Government'. This development of powers and responsibilities may include 'preparation of plans for economic development and social justice' as well as their implementation.

The State Legislature may by law empower the panchayats to impose taxes and fees and duties; may assign a share in State Government taxes and may provide for grants-in-aids.

In order that enough funds are available with the Panchayats for initiating various development activities the Constitution (73 Amendment) Act, 1992 provides for a constitution of finance commission in every state. This commission is to be constituted by the Governor of each state within one year from commencement of the Constitution Act, 1992 and at the end of every five years thereafter. These commissions will be responsible to review financial conditions of the Panchayats and make recommendations to the respective governors.

The act provided for a State Election Commission in each state for superintendence, direction and control of the preparation of electoral roll for, and the conduct of all elections to the panchayats.

Schedule XI of the Constitution Amendment Act contains 29 items. Some and all of which may be incorporated by the State Legislature in the Amended State Act regarding Panchayat Raj. These items relate to public distribution system and maintenance community assets, social welfare, poverty alleviation, social service, infrastructure and development of rural economy.

Panchayat Raj System after 73rd Amendment

Three decades ago in 1992 the Constitution Amendment Act was enacted. These were the first definitive steps to extend and establish political democracy as the bulwark of governance across the country. This year marks the 30th anniversary of the Constitution Amendment that led to the three- tier Panchayati Raj structures. The 73rd Amendment further led to legislation for its extension into tribal areas and forest rights act. Even after conferring constitutional status and protection through the 73rd Amendment Act (1992), the performance of the Panchayati Raj institutions has not been satisfactory and not up to the expected level. Panchayati Raj Institutions have had a stunning success and a shocking failure throughout the course of their 30-years, depending on the goal line against which they are measured. While the Panchayati Raj Institutions has achieved in establishing a new layer of administration and political participation at the grass roots, this has not been able to improve governance.

The 73rd Constitutional Amendment Act (1992) mandated that women be represented in local bodies by at least one-third of the total seats. SC/ST nominees were also given priority in terms of seats and leadership roles. According to Panchayati Raj Institutions, having women political engagement in local governments increases the likelihood of women coming forward and reporting crimes. Drinking water and public goods are substantially more heavily invested in districts with female sarpanches. Furthermore, several devolution measures have been formally safeguarded by the states, giving local government's significant autonomy. Successive (central) Finance Commissions have significantly boosted fund allocations for local governments, as well as grant amounts. "The 15th Finance Commission" is also contemplating increasing local government allocations to meet international norms.

Challenges faced by Panchayati Raj institutions

Even after conferring Constitutional status and protection through the 73d Amendment Act (1992), the performance of the Panchayati Raj institutions had not been satisfactory and not up to the expected level. The various reasons for the sub-optimal performance are mentioned below.

The 73rd Amendment simply required the establishment of local self-governing bodies, leaving the discretion to delegate powers, responsibilities, and money to state legislatures; this is where Panchayati Raj Institutions failed. Various government functions, including education, health, sanitation, and water, were not required to be transferred. Instead, the amendment identified the functions that could be devolved and left it up to the state government to decide which functions should be devolved. Throughout the last 30 years, there has been relatively little devolution of authority and services. Because these responsibilities were never transferred, state executive authorities have sprung up to fulfill them. The most typical example is indeed the state water boards, which are notoriously inept. Despite the fact that financial commissions at all levels have called for more devolution of finances, governments have taken little action to do so. Panchayati Raj Institutions also have structural flaws, such as a lack of secretarial support and a lack of technical competence, limiting the collection of bottom-up organizing.

Despite the fact that women and SC/STs have representation in Panchayati Raj Institutions due to reservation stipulated by the 73rd amendment act, Panch-Pati and various representation are present in the cases of women and SC/ST leaders, respectively. However, after 30 years of the Panchayati Raj Institutions constitutional framework, accountability procedures are still quite inadequate. The uncertainty in the allocation of functions and funding has allowed states to consolidate power, preventing elective representatives who are much more aware of and emphatic to ground-level issues from taking control.

Suggested Reforms

Its numerous failures need not be mentioned in detail here. But as the paper reveals certain changes and reforms are necessary and vital for strengthening the system of Panchayat Raj. These are major electoral reforms that should be tried in this regard. Some systems of election providing for separate electoral colleges exclusively for Scheduled Castes and Scheduled Tribes are one of them, another is related to the reservation of seats in local bodies for landless poor. It has also been suggested that the system of reservation should be extended not only for seats but also for offices. In fact, the problems of weaker sections are primarily related to their political participation. It is by strengthening their political weight that their disabilities and handicaps can be removed. The adoption of 'Conscientisation, Organisation and Participation (COP) approach' would take adequate care of causes and consequences of continuing deprivation and backwardness of Scheduled Tribes and weaker sections and would facilitate their emergence from the present morass.

The 6th report of the 2nd Administrative Reform Commission, 'Local Governance- an Inspiring Journey into the Future,' advised that the functions of each

tier of government be clearly demarcated. States should implement the notion of 'activity mapping,' in which each state clearly defines the responsibilities and tasks of the various levels of government in relation to the topics specified in Schedule XI. Bottom-up planning, particularly at the district level, is required, based on grassroots inputs collected from Gram Sabha. The central government must also financially reward states to support successful devolution of functions, finances, and officials to the panchayat raj institutions. Local representatives should be given training to help them build knowledge so that they can contribute more to policy and programme design and implementation.

Conclusion

The main purpose of panchayat raj is to provide livelihood, literacy and health facilities for the villagers by involving them in the process of development. The panchayat raj bodies provide a suitable base for a meaningful participation especially of the weaker sections in the local decision- making process and programs implementations. Generally the party in power is expected to look up on Panchayat Raj Institutions as instruments for strengthening the roots of the party at the grass-roots level. On the other hand there is the view that Panchayat Raj Institutions are but a device to distribute political power in the state. However in most places it exists only in name and that too on paper and perhaps on the lips of those few who struggled hard for years for it.

The decline of the Panchayat Raj system has been a set-back for the growth of leadership and community feeling at the village level. It is now accepted by all that no country can make progress in nation building, unless people at the grass-root level are enabled to come forward with enthusiasm to actively participate in developmental activities. The need to revitalize democracy at the grass-root level through Panchayati Raj cannot be overstated. The implementation of the 73rd Amendment Act of constitution should be done in an efficient manner such that the objectives of the Act will be achieved. The Panchayati Raj in Indian should be strengthened as it captures local needs and ensures responsive governance.

References

1. Kedar Singh, Rural Democratisation X-rayed (Ghaziabad, U.P:Vimal Prakasan,1974,
 2. L.S. Tyagi (ed.), "Panchayats in Ancient India", Panchayat Sandesh, monthly Journal of All India" Panchayat Perished and Balwantray Mehta Foundation of Panchayati Raj Training and Research,Delhi,Vol.XXII.September,1982,
 3. Quoted in shivaiah and others, Panchayati Raj – An Analytical Survey (Hyderabad: National Institute of community Development, 1976),
-

4. S.V.Samant, "Village Panchayats", Quarterly Journal of Local Self- Government, No.110, Bombay, 1957,
 5. S.C.jain, Community Development and Panchayat Raj in India (Bombay: Allied Publishers Pvt. Ltd., 1967),
 6. A.S.Altekar, State and Government in Ancient India (Delhi:Altekar publishers (p) Ltd.,1958),
 7. S.R.Maheswari, Local Government in India (Agra:Laxmi Narayana Agarwal publications,1970),
 8. S.L.Sharma, 'Local Self-Government Experiment in India "Quarterly Journal of Local Self-Government, Bombay, vol.XXVII, No.2, October, 1956,
 9. M.Venkatarangaiya and G.Ram Reddy, Panchayati Raj in Andhra Pradesh (Hyderabad:(1967).
 10. Report of Balwantray Mehta Committee, .1957.
 11. B.S.Khanna, Panchayati Raj in India (Delhi: Deep &Deep Publications, 1994).
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**Chapter
13****CRM -BUILDING VALUE FOR CUSTOMERS*****Dr. A. Sivaranjani & ** Dr. S. Thamaraiselvi**

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Abstract: *In today's competitive business scenario, customers have numerous alternatives for a single product. This encourages them to switch from one brand to another based on the factors, such as the quality and price of the product. Therefore, organizations have realized the fact that it is important to grab customer attention by establishing a unique brand identity and providing excellent customer service. The organizations that were initially focused on earning high profits are now shifting their priority towards managing cordial relationships with their customers. For this, organizations need to interact with customers regularly to understand their needs, tastes and preferences.*

Customer Relationship Management (CRM) is a tool that helps an organization to strengthen relationships with its customers. It enables an to identify the needs and expectations of customers and fulfill them, which results in achieving a high level of customer satisfaction. CRM refers to a business strategy that focuses on customer satisfaction and retention.

CRM helps an organization to create and deliver value to its customers. Customer value is defined as a sum of advantages that an organization promises to provide to its customers on purchase of a product.

Keywords: *Customer Relationship Management, Customer value, Customer Value Proposition, Augmented Product.*

Introduction

CRM refers to a business strategy that enables organisations to better serve the needs of their customers, improve customer service, achieve a high level of customer satisfaction, there by maximize customer loyalty and retention. It encompasses a number of technologies used to streamline customer interaction, which helps in finding, acquiring and retaining customers.

CRM is a core business tool than an organisation uses to integrate its internal processes and functions with external networks. This helps an organisation to create and deliver value to its customers. It is important for every organisation to create value for its customers. Customer value refers a sum of advantages that an organisation promises to provide to its customers on purchase of a product.

Concept of customer value

Customer value is something related to customer satisfaction, which a brand needs to serve in return of the price charged from the customer for a particular product or service. Value can be expressed mathematically as:

$$\text{Value} = \text{Benefits} / \text{Cost}$$

Mohanbir Sawhney, has described customer value as, “the perceived worth of the set of benefits received by a customer in exchange for the total cost of the offering, taking into consideration available competitive offerings and pricings”. A customer generally derives value from three sources, such as economic, functional and psychological. This definition involves seven basic models of customer value,

- Customer value (in terms of utility)
- Value is opaque (even sometimes to the customers)
- Contextual (end user, end situation and environment)
- Multi dimensional (economic, functional and emotional)
- Transaction between benefits and cost
- Related to next best alternatives
- Sole purpose is to create value

While creating customer value, an organisation should take into account the following aspects:

- Identifying the requirement of customers and offer the product accordingly
- Determining the aspects that can be important to customers
- Finding out the unique factors about the product that can help in achieving customer profitability
- Locating the value gaps in the market

For creating customer value, an organisation first needs to formulate an effective business plan that states business goals and strategies. The whole process of creating customer value can be illustrated through a Pyramid known as Customer Value Pyramid. This pyramid represents three phases, namely strategy, customer focus, and operational effectiveness. Which is shown in Figure:

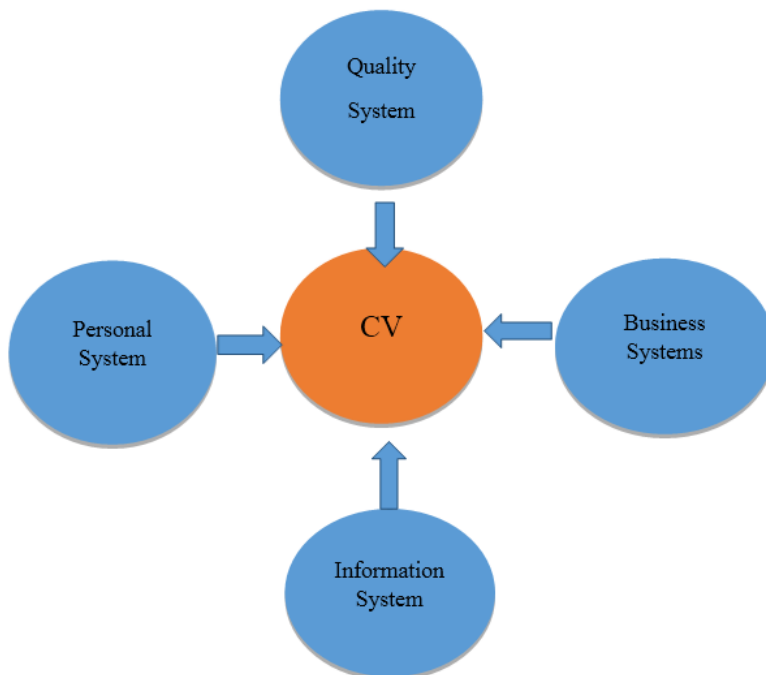
Customer Value Pyramid



It is a challenging task for an organisation to maintain long-term relationships with its customers by providing them the desired value. An organisation should consider the following factors to create customer value:

- Identifying the desired and real value for customers
- Analyzing the procedures to bring in required changes
- Involving employees for contributing to customer value

The following figure the primary systems to create customer value:



1.Customer Value Proposition (CVP)

CVP has become one of the most widely used terms in the business environment . It is a description of advantages that a customer would experience after Purchasing and using an organization's product. CVP can be defined as a business statement that summarizes why a customer should purchase a particular product. It is an important tool that an organization uses to understand how its products would be valued by customers. CVP lays a foundation for effective marketing activities of an organisation. It integrates customer intelligence, competitive insight, and product value.

The **steps** involved in developing CVP as Follows:

- **Reviewing and testing the existing CVP**

Refers to the first step of developing CVP . An organization's product that is already introduced in the market has current CVP. For developing new CVP, it is important for an organization to analyze the existing CVP of its products.

- **Identifying critical improvement areas**

Implies that an organisation needs to determine the gaps in the CVP of its existing products.

- **Improving the existing CVP**

Refers to one of the most crucial step of developing CVP. An organisation should fill the gaps identified in the existing CVP.

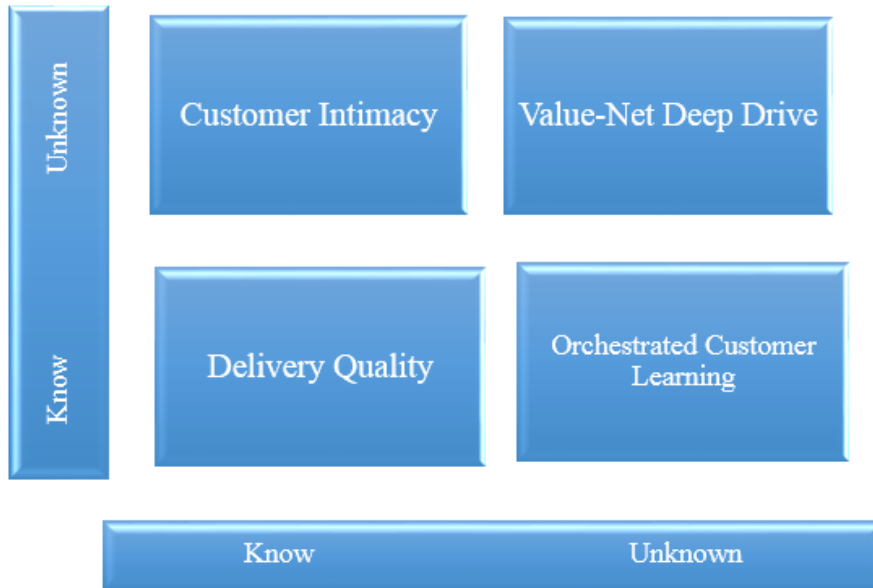
- **Verifying and documenting**

Involves validating whether the improved CVP is capable of persuading customers to purchase an organisation's products. After this, the organisation should thoroughly document the results of the verification process. Documenting CVP helps the sales and marketing departments of an organisation in placing the product in the new market.

2.Framework for Customer value

A customer value framework involves identifying customer requirements for creating value for customers and retaining them. In this framework involves four elements, such as delivery quality, customer intimacy, orchestrated customer learning, and value-net deep dive, Which is shown in the following figure:

Elements of Customer Value Framework



The Elements of Customer Value Framework are explained as follows:

- **Known -Known:** indicates the first box that focuses on delivering quality. When the requirements related to quality are known to both organizations and customers value is created.
- **Known-Unknown:** Represents the second box of customer value framework. Here, an organisation needs to understand the requirements of its customers through customer intimacy. This involves the process of scanning, observing, detecting, examining and recognizing customer needs through a thoughtful process based on trust and confidence.
- **Unknown-known:** shows the third box of customer value framework where an organization needs to let customers learn through a process of coordination. For this, an organisation conducts workshops and customer interactions to understand the needs of customers.
- **Unknown-Unknown:** Indicates the situation where no one knows the needs of each other. In such a case, it becomes difficult for an organisation to create value for customers. Here, the value net deep dive model is used to create value for customers.

Sources of creating customer value

An organisation can create customer value by using three strategies, which are discussed as follows:

Strategies

(i) Operational Excellence: Refers to one of the most widely used strategies to create customer value. Operational excellence is a philosophy of making continuous improvement in organizational processes by focusing on the needs of customers and empowering employees. Wal-Mart, Toyota and McDonald's are the organizations which have adopted the operational excellence strategy for creating customer value. These organizations use strategies, such as lean manufacturing, rigorous cost and quality controls, and process measurement and improvement, to achieve operational excellence.

(ii) Product Leadership: Implies that an organization can create customer value by providing excellent products and service to its customers. The product leadership strategy involves product innovation and research and development. Some of the organizations that have adopted the product leadership strategy are Intel, Life's Good(LG), and Singapore Airlines.

(iii) Customers Intimacy: Refers to another important strategy for creating customer value. This strategy involves performing an in-depth analysis of customer requirements and fulfilling these requirements. Saatchi and Saatchi, McKinsey, and US Department Store are some of the organizations that have adopted the customer intimacy strategy.

Important Sources of Creating Customer Value

1. Value from products
2. Value from services
3. Value from process
4. Value from people
5. Value from Physical Evidence
6. Value from customer communication
7. Value from Channels

The important Sources of Creating Customer Value are explained as follows:

1.Value from products

Customers do not purchase an organization's products rather they buy solutions to their problems. Products that provide better solutions to customer problems create more value for customers. A better solution can be defined as one that provides a set of advantages to customers and create value for them. An organization creates value for customers at different levels of product. There are three levels of product, namely core product, enabling product, and augmented product. A core product is the basic advantage that a customer purchases.

(i) Product innovation:

Generally, a new product is the result of modification of the existing product, cost reduction, or product line extension. There are very few products that are developed from scratch. The process of creating new products or modifying the existing product is known as product innovation. Sony Walkman and Apple iPod are some of the examples of product innovation.

(ii) Additional benefits:

Most organizations offer additional benefits along with the basic products and services to its customers. The organization focuses on creating value for customers. Additional benefits help an organization to increase the level of customer involvement in its products or services. This enables an organization to achieve a high level of customer satisfaction and customer loyalty.

(iii) Product-Service bundling:

Product-Service bundling refers to the practice of providing customers a package of products and services at a single price. For example, travel organizations provide holiday packages, which include the charges of flights, transfers, accommodation, and in a single price. Product-Service bundling helps customers in reducing costs and efforts involved in searching for product services. On the other hand, Product-Service bundling helps organizations in achieving economies of scale.

(iv) Branding:

Brand refers to a name, design, word, or, symbol, used by an organization to differentiate its product from its competitors. Brand helps in creating value for customers by reducing the search cost of a product as a customer can easily identify the products.

(v) Product synergies

Some of the organizations create value for customers by identifying synergies among its different products. For example, in a Virgin flight, customers are offered Virgin Cola. Similarly, if a customer buys Microsoft, the organization would also provide complementary software for related applications. In this way, product synergy helps in creating customer value.

2.Value from services

A service can be defined as an economic activity that is performed by an organization to satisfy the requirements of its customers. It plays an important role in developing the CVP of an organization's product. An organization can create value from services by ensuring service quality, providing service guarantees, and conducting service recovery programs.

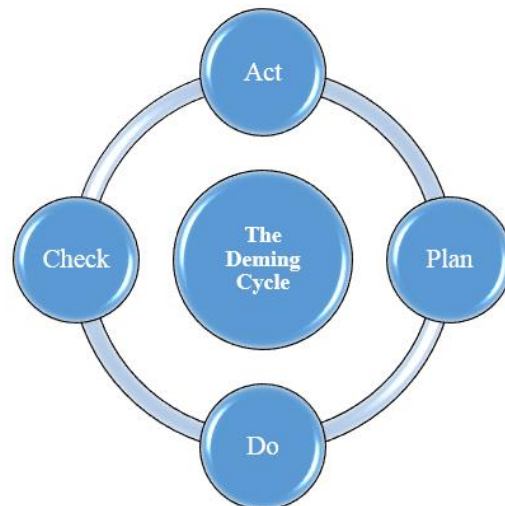
- a. **Service quality:** Service quality refers to the comparison of the organisation's Expectation from a service and its actual performance. Service quality has two major perspectives:
 - (i) Quality is conformance to specification
 - (ii) Quality is fitness for purpose
- b. **Service Guarantees:** Service guarantee is defined as a promise made by the organisation to its customer that it would deliver the prescribed level of service. It helps in reducing the risk related to service for the customer and increases value for customers.
- c. **Service Recovery Programs:** Service Recovery Programs involves all the activities performed by an organisation to solve service failure. Some of the common reasons for service failure are failure of technical service quality, functional service quality, organisation's fault, customer's fault or network member fault. An organisation conducts various service recovery programs to solve these problems.

3.Value from process

A process can be defined as a set of activities performed by an organisation for achieving a specified outcome. For instance, the manufacturing process of an organisation involves converting inputs. Such as raw material, into output. An organisation has a number of process that can be used as resources to compete and create value for customers as well as for the organisation.

One of the most commonly used methods for improving an organisation's work processes is the Deming Cycle, which is also known as the PDCA Cycle.

The Deming Cycle



The four phases of the Deming Cycle are explained as follows:

- a. **Plan:** Refers to a phase in which an organisation formulates a plan that contains objectives with regard to a particular project and outlines the processes that it is planning to implement for attaining the expected output.
- b. **Do:** The second phase of the Deming Cycle in which an organisation executes the plan that it has formulated in the plan phase. This phase involves implementing the plan to produce the desired output.
- c. **Check:** The most important phase in which the actual output (achieved in the Do phase) is compared with the expected output (defined in the plan phase). In case there is any deviation between the actual and expected outcome, an organisation identifies the root cause of such deviation.
- d. **Act:** The last phase in which an organisation take corrective actions against the deviation identified in the check phase.

4.Value from people

Most organisations believe that people are the main factor that differentiates one organisation from another and creates value for customers. This is basically applicable for the organisations that provide professional services, such as counselling, consulting and coaching. In such services, people are the main products of the organisation.

The main objective of an organisation for implementing CRM is to maintain good relationship with customers. This can be possible by interacting with customers regularly and collecting information regarding their needs and expectations. Therefore, it is necessary for an organisation to have employees who are able to satisfy the needs of customers and achieve the organisation's goals and objectives.

5.Value from Physical Evidence

Many organisations create customer value through physical evidence. On the other hand, most customers find it difficult to determine value without physical evidence. Physical evidence refers to tangible facilities, equipment and materials that are used to communicate value to customers. A web portal acts as physical evidence that helps customers to get relevant information and resources. Organisation develop a web portal for their customers from where they can access through a secure login procedure and collect related information.

6.Value from Customer Communication

In today's technology – driven world, organisations also create value for customers by maintaining a strong communication structure. An organisation used to communicate with their customers through various modes, such as advertising, sales promotion, publicity, public relations, and personal selling. However, with the advent of technology, customers can also approach organisations through different modes, including e-mail, web forms, instant messaging, phone, fax and web collaboration.

Apart from this, organisations facilitate customer communication through blogs, chat rooms, newsgroups and online communities, which are together known as Customer Generated Media (CGM) . Most organisations create communication-based value for customers by applying two main strategies:

- (i) **Disintermediation:** Involves Direct -to - Customer (DTC) communication tools. Today's, customers can communicate directly with the organisation or the organisation can directly contact its customers through e-mail, direct mail, and SMS.
- (ii) **Personalization:** Involves communicating with customers on one-to-one basis. These technologies also enable customers to personalize their own corporate pages and express their interests and preferences.

7.Value from channels

Most organisations distribute their products and services using different distribution channels. These distribution channels include wholesalers and retailers. On the other hand, in B2B market, an organisation either sells its products directly or through distributors. The Distribution channels of an organisation are largely affected by the needs and requirements of customers. Therefore, an organisation should always opt for an effective channel.

Conclusion

Customers are the be-all and end-all of every company and customer relationship management is also significant. But given today's customers' demand in this new business environment, it is complicated to align with their needs. So it has become crucial to stress customer satisfaction. In this fact an organizations are trying to find out excellent ways to capture customer attention and understand their needs, yet most of them lack the knowledge of useful and practical ways. That is the reason it has become imperative for every modern entrepreneur to measure how well you satisfy your customer's needs. By measuring customer value, you can build actionable plans to improve your marketing strategies and finally modify your company.

References:

1. Andre Vilares Morgado ., (2018), "The Value of Customer References to Potential Customers in Business Markets" Journal of creating value 4(1),pp. 1-23.
 2. Lanning, M. and Michaels, E., "A Business is a Value Delivery System, McKinsey Staff Paper, 1988.
 3. Dr. Jaspreet Kaur Bhasin., "Customer Relationship Management" Kogent Learning solutions Inc.2014., pp.73-81.
 4. Anderson J and Narus J.A (1998), Business marketing: Understand what customer value, Harvard Business Review, 76(6).
-

5. Anderson J ., Narus J.A., and Rossuun W.Van (2006), Customer Value Propositions in Business markets, Harvard Business Review, 84 (3), pp. 90-99.
 6. Yonggui wang, Hing Po Lo, Renyong Chi and Yongheng Yang (2004)., “An Integrated Framework for Customer Value and Customer-Relationship-Management Performance: A Customer-Based Perspective from China” Journal of service Theory and practice 14(2/3), pp.169-182.
 7. Butz H.E.J and Goodsrein L.D (1996), “Measuring Customer value: Gaining the strategic advantage”, Organisational Dynamics, Vol.24 Winter, pp.63-77.
 8. <https://www.exactlly.com/blog/index.php/customer-value-management/>
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**Chapter
14****JUDICIAL PROTECTION OF THE RIGHTS OF
MARRIED WOMEN AGAINST DOWRY VIOLENCE
IN INDIA****Dr. L. V. K. Prasad**

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Abstract : *Women in our Society are in a disadvantaged position on account of several social barriers and impediments. Women have the right to be respected and treated as equal Citizens. Women right from vedic period were subjected to discrimination and unequal treatment. It is only after the commencement of the Indian Constitution that the State began to insert constitutional provisions, enacted laws and Judiciary also play vital roles to protect the honor and dignity of women. The Judiciary is considered as the protector and guardian of the basic human rights of the people. The Supreme Court of India by its innovative interpretative techniques liberally interpreted the Constitutional and statutory rights for the promotion and protection of the dignity of women. Judicial contribution for the protection of the rights of women is positive but the impact of judicial decisions is minimal. Dowry harassment and dowry death is a social problem. Hundreds and thousands of women silently suffer harassment and indignities for having brought insufficient dowry. In this Article an attempt is made to evaluate the role of the Supreme Court of India and various High Courts in promotion and protecting the rights of married women in India against dowry violence.*

Keywords: Dowry, dying declarations, harassment, criminal justice system, supreme Court.

Introduction

In the criminal justice system, courts occupy a position of primary importance. Courts are so powerful that they can direct the government to do certain things, which they deem fit in the public interest. The court system is central to administration of justice and to a large extent, determines its fairness, efficiency and character. Although, the Constitution of India and several other legislative enactments are in existence for the protection of women's rights, the credit for highlighting and enforcing justice goes to the Supreme Court and various High Courts. Judiciary is considered as the guardian of the basic rights of the people. It is also considered as the protector of the constitutional and statutory rights of the citizens. The Courts in India are playing an active role in enforcing the rights of women and neglected sections of the society. The Supreme Court and the High Courts by exercising their powers under Articles 32 and 226 of the Constitution are protecting the right to life and rights of the women to line with human dignity. Article is this Article an attempt is made to evaluate the role of the Supreme Court of India and various High Courts in promising and protecting the rights of married women in India against dowry violence.

Dowry normally means a gift given during the marriage to the son-in-law or his parents either in cash or kind. The practice of giving dowry was meant to assist a newly wedded couple to start their life together with ease. However, now it has degenerated into a sordid commercial transaction in which monetary considerations receive priority over the merits of the bride. Dowry today is being demanded and paid without any relation to the bride's father's income and wealth. With the increased desire for quick money and the luxuries of life, these demands are not confined to the middle class alone. Failure to meet these demands results ill-treatment of young wives, often driving them to commit suicide and in many instances they have even been murdered. These deaths are generally represented as (accidents) the most common form being stoves bursting while cooking.

Dowry harassment and dowry death is a social problem. Every single dowry death and harassment have gripped the attention of not only the common people but also the legislature, the judiciary, the executive, as well as social scientists. Hundreds and thousands of women silently suffer harassment and indignities for having brought insufficient dowry. Section 304B and the cognate provisions are meant for eradication of the social evil of dowry which has been the bane of Indian society and continues unabated in spite of emancipation of women and the women liberation movement. Society continues to perpetuate the difference between them for the purpose of marriage and it is this distinction which makes the dowry system thrive. Even though for eradication of this social evil, effective steps can be taken by the society itself and the social sanctions of the community can be more deterrent, yet legal sanctions in the form of its prohibition and punishment are some steps in that direction.

On a number of occasions courts have expressed anguish and shock regarding the phenomenon of deaths of young brides under suspicious circumstances. In *State of Karnataka v. M.V. Manjunathgowda*¹, commenting upon the objects of Dowry Prohibition Act and role of the judiciary, the Supreme Court observed that:

The practice of giving and demanding dowry is a social evil having deleterious effects on the entire civilized society and has to be condemned by the strong hands of the judiciary. Despite various amendments providing deterrent punishment with a view to curb the increasing menace of dowry deaths, the evil practice of dowry remains unabated.

In *Shobha Rani v. Madhukar Reddy*², the ground of divorce was cruelty caused by incessant demand of dowry. She produced a letter from her husband which was disclosed as follows. "Now regarding dowry, I still feel that there is nothing wrong in my parents asking for a few thousands of rupees. It is quite a common thing for which my parents are being blamed for harassment." The trial court agreed with the husband of Shobha Rani and came to the conclusion that there was nothing wrong on the part of

the husband to ask his wife to give money when he was in need of it. The A.P. High Court also agreed with the trial court by holding that there was nothing wrong and unusual in asking a rich wife to spare some money. Fortunately for being rich, the wife could approach the Apex Court, which differed from the courts below and reversed the findings of both the High Court and the trial judge. The sociological understanding of dowry abuses by the Apex Court is reflected in the following words:

"The Indian woman is brought up and trained in a traditional atmosphere and told that it is better to die in the husband's home than return to her parents' home and bring disgrace to them. She finds it very difficult to violate this cardinal principle and prefers to die at her husband's place. This is the social reality of a woman's life. The legal agents in power need to understand this and be sensitive to it."The message must percolate down the line to the grass-root level of the judiciary in the country.

In *S. Gopal Reddy v. State of A.P.*³ the Supreme Court held that demand for dowry even before marriage amounts to cruelty.

*Akula Ravinder v. State of A.P.*⁴, is a case of dowry death. Her husband and parents-in-law were involved in the crime. In the instant case the parents of the deceased wife failed to pay the balance of the dowry amount as promised at the time of marriage. The accused husband was working in the Army and used to demand the balance of the dowry from the parents of the deceased and also harassed the deceased wife along with his parents. Within seven years of her marriage the deceased died and the dead body showed some external injuries. The medical evidence established that the death was not suicidal but homicidal. In this case death had occurred otherwise than in normal circumstances and within seven years of her marriage. All the accused were tried under Sections 498-A, 302 and 201 of the IPC. But no charge was framed under Sec. 304 of IPC. The trial court convicted them. The High Court confirmed the conviction. However, the Supreme Court did not agree with the view of the Trial court and the High Court and said "it has become very difficult, rather impossible to hold that the death occurred otherwise than in the normal circumstances and consequently we were constrained to hold that this important aspect of Sec. 304-B is not met out. Consequently, the appellants are entitled to acquittal of the said offense", but the Court maintained the conviction under Sec. 498-A of the IPC as there was adequate evidence to show beyond all reasonable doubts that all the three accused were harassing the deceased and making demand for dowry.

In *Kundala Bala v. State of A.P.*⁵, a student of Intermediate class aged 18 years was married to a young man with sufficient dowry. The parents of the bride paid the amount of dowry and also gave gold ornaments. But they got certain land registered in the name of their daughter instead of their son-in-law. This led to the harassment of the bride. Mother-in-law also started torturing the deceased and hurling dirty and wild

abuses at her. A strict vigil was kept on her at the house and she was not even allowed to meet any one nor were the neighbors permitted to come and meet or talk to her. She was completely isolated and was prevented from writing letters to her parents or sisters also. Stealthily she wrote some letters stating that she was being subjected to torture and harassment by her husband and mother-in-law, one after noon on hearing the screams and cries of the young bride some neighbours rushed to the house and found that her husband and father-in-Law were hurriedly coming out of the kitchen while the deceased was ng on the floor engulfed in flames. Neither the husband nor her father-in-law made any attempt to save her. The neighbors tried their best to save her and admitted her in the hospital where the deceased gave a dying declaration stating that her mother-in-law kerosene on her and her husband ignited it. The Supreme Curt held that this was a clear case of dowry murder and upheld poured the conviction made by the High Court.

1. Evidence in Bride-burning cases

Most of the cases of Bride-burning are pre-planned murders committed within the safe precincts of the culprit's home. It is not an easy task to get direct evidence or any witness in such cases. The material witnesses are the husband, his parents, relatives and neighbors. Many times the case is based on circumstantial evidence like letters written by the victim to her parents, evidence of the neighbors and the dying declaration, if made by the victims. It is the last piece of evidence that has been generally relied upon by the prosecution in support of a charge of bride-burning.

1. *Dying declarations*: While placing reliance on dying declarations greatest caution must be exercised in considering the weight to be attached to it on account of many considerations which may affect its truth. If after careful scrutiny the court is satisfied that the dying declaration is true and free from any effort to induce the deceased to make a false statement and if it is coherent and consistent, there is no legal impediment to form such a dying declaration the basis of action, even if there is no corroboration ⁶.

If there are more than one dying declarations then the court is to scrutinize all the declarations to find out if each one of them passes the test of being trustworthy. The court must further find out whether different dying declarations are consistent with each other in material particulars before accepting and relying upon the same. Where there were three dying declarations, regarding burning by the accused in a bride burning case viz., one recorded by the doctor, another by the police constable and the third by the executive magistrate, they were held sufficient to prove the offense and result in conviction. Though answers were not elicited by way of questions and answers and the declarations were accepted to be truthful, they formed the basis for conviction⁷. A dying declaration recorded by a doctor is of great value if there is no time to call the magistrate

to record such declarations⁸. All that is required is that the person who records the dying declaration must be satisfied that the deceased was in a fit state of mind⁹. Similarly a declaration recorded by a police officer during the course of investigation is admissible under Section 32(1) of the Indian Evidence Act¹⁰.

In *Smt. Kamala v. State of Punjab*¹¹, the parties were married and the relations between the husband and the wife were cordial and son was born to them. But the parents in law were not satisfied with the articles of dowry brought by her and often picked up quarrels with her and ill-treated her. One day, even in the presence of her husband, the parents-in-law picked up a quarrel with her and when she went into the kitchen to cook food, they poured kerosene oil on her and set fire. Due to the alarm raised by her, her husband rushed to the spot and extinguished the fire. Later she succumbed to the burn injuries. The trial court and the High Court of Punjab and Haryana had convicted the mother-in-law. But the Supreme Court found that the victim had given three dying declarations, one that her mother-in-law had poured kerosene, another that some body from behind, probably either of the parents-in-law poured kerosene. And the last, both the parents-in-law poured the kerosene and killed her. The court held that these dying declarations are inconsistent on material particulars and that the deceased was wavering for reasons best known to her. So the court chose to believe the husband who had deposed that his parents were not there near the kitchen on that fateful day and that his wife had committed suicide. The court acquitted the mother-in-law by observing that "it is highly unsafe to convict the appellant on the sole basis of dying declarations".

The court, in so saying, had obviously overlooked its earlier judgements in *Mohanlal v. State of Maharashtra*¹², where it had been held that where there are more than one statement in the nature of dying declarations, the one, first in point of time must be preferred. This dictum had already been approved by the Supreme Court in *Smt. Paniben v. State of Gujarat*¹³. In this case there were frequent quarrels between the victim's wife and her mother-in-law. Once the daughter-in-law had even gone to her parents' house. But she went back to her husband's house on the assurance given by her father-in-law. But the mother-in-law continued to nurture a profound dislike for the girl and one night when the victim was sleeping alone, she poured kerosene on her and lit the fire. In her dying declaration, she clearly stated that it was her mother-in-law who killed her. The trial court acquitted the mother-in-law on the ground that the dying declaration suffered from an inherent infirmity because the daughter-in-law had grievance against the mother-in-law. The High Court reversed the decision and convicted the mother-in-law. The Supreme Court upheld the conviction and observed that "It is rather strange that the mother-in-law who is herself a woman should resort to killing another woman".

In *Uka Ram v. State of Rajasthan*¹⁴, the Supreme Court maintained that before relying upon a dying declaration the court would be satisfied that the deceased was in a fit state of mind to make the statement. For that purpose a scrutiny of the dying declaration with meticulous circumspection is necessary. It must be vetted through the judicial cullender and if it passes through the press it can be made the basis of a conviction¹⁵. Once the court is satisfied that the dying declaration was true, voluntary and not influenced by any extraneous considerations, it can base its conviction without any corroboration.

2. Circumstantial Evidence

It is a settled principle of criminal jurisprudence that circumstantial evidence must be consistent with only the guilt of the accused. Circumstantial evidence in its very context means a combination of facts creating a network from which there is no escape for the accused, because the facts taken as a whole do not admit any inference but the guilt of the accused. In other words, the circumstances as a whole must be thoroughly inconsistent with the hypothesis of the innocence of the accused. Sometimes, letters written by the victim to her parents showing that she had suffered mental or physical torture in the demands for dowry or the evidence of neighbours are taken into account

In *Guruditta v. State of Rajasthan*¹⁶, the Rajasthan High Court held that when a married woman dies in her matrimonial home within seven years of marriage, it is of considerable difficulty to assess the precise circumstances in which the incident occurred as in such cases direct evidence can not be obtained as torture and harassment is confined to the four walls of the house. The Rajasthan High Court further said that whatever be the circumstances, the courts are vigilant to scrutinize the circumstantial evidence of harassment and torture by the relatives of the husband and strained relationship between her and her-in-laws. The court added that the urge to live was a natural phenomenon and no person would commit suicide unless she was living in troubled and impossible circumstances of physical and mental torture and harassment. Then alone a person would think of extinguishing her life. However, in this case, prosecution evidence was considered not reliable and could not be established that she committed suicide because of harassment or cruelty resulting on account of her failure to bring dowry.

In *Godabarish Mishra v. Kuntala Mishra*¹⁷, the Supreme Court maintained that circumstantial evidence must be absolutely clinching in establishing complicity of the accused in murder. While appreciating circumstantial evidence the court must adopt a very cautious approach and should record a conviction only if all the links in the chain are complete pointing to the guilt of the accused. In *Pratibha Rani v. Suraj Kumar*¹⁸, the Supreme Court held that the "stridhan", i.e. any property given to the wife in the form of or other assets, is her absolute property, and even if she placed this in the

custody of her husband or in-laws, they would be bound to return the same if and when demanded by her. The court held that if the husband and his family did not return the 'stridhan' property of a woman on demand, they would be guilty of the offense of breach of trust and would be liable for punishment up to three years with fine or both, as stipulated in the IPC.

In *L.V. Jadhav v. Shankarrao Absaheb*¹⁹ the bridegroom's father demanded Rs.50,000 during pre-marriage negotiations, but the demand was rejected by the father of the bride. The sum is demanded for payment towards the air fare of the bride and father-in-law to join the husband in the USA. However, the marriage took place on intervention of a common family friend of both the parties. The bride was not sent to the USA to join her husband for one year after marriage for non-payment of Rs.50,000 demanded by the father-in-law. In the absence of an agreement to pay, this undisputed demand was not construed as dowry by the Bombay High Court which quashed the complaint against the father-in-law. However, on appeal, the Supreme Court set aside the judgment of Bombay High Court and held that even unilateral demand for dowry would constitute an offence under the Dowry Prohibition Act, 1961.

In *Samunder Singh v. State of Rajasthan*²⁰, the Court opined that anticipatory bail ought not to be granted in bride-burning cases and acknowledged the validity of the widespread belief that dowry deaths are even now treated with some casualness at all the levels.

In India, because of the complete dependency of a young married girl on her husband and in-laws, in quite a few dowry murder cases the burnt woman has given contradictory dying declarations. If she has felt that she might survive she has given a statement in favor of her husband which she has later changed when she realized that death was imminent. It has also been pointed out that burn victims often do not realize that they have suffered severe burns as they feel no pain and therefore do not believe that they may not survive.

In *the Stree Atyachar Virodhi Parishad v. Dilip National Chordia*²¹, even though the dying declaration of the deceased stated her sari had caught fire accidentally while she was preparing tea. The court refused to believe this. In this case, the deceased was seen in flames crying frantically for help, and the neighbors on seeing this rushed to help the deceased and extinguished the flames. This was just 5 days after the marriage. When the Police investigated the case, they found that the deceased had been ill-treated and that her in-laws had demanded dowry. The brother of the deceased and her father gave evidence of this, and how even during the wedding ceremony the in-laws had behaved badly. After the marriage when the deceased's brother had come to take his sister to her matrimonial home for a few days, he was not even permitted to meet the

deceased. A maid who had accompanied the deceased from her parent's home also described the ill-treatment.

The report of the chemical analyzer and the post-mortem report also indicated that the death was not accidental and the Trial Court accordingly framed the charge against the brother-in-law of the deceased. The High Court held that no case was made out against the brother-in-law and squashed the charge. The Supreme Court, however, after noting the post-mortem report which also showed contusions besides burn injuries, and the fact that the High Court had ignored the statements of the deceased girl's brother, father, and maid, allowed the appeal by the state. In this case, the Supreme Court mentioned that the criminal justice system must respond to the need of the hour, and the Courts must display greater sensitivity in cases of this nature and avoid "soft justice". The court noted the changes in the criminal law, which introduced the offenses of cruelty and Dowry death, and appreciated the women's organization, which had also appealed to the Supreme Court.

In *State v. Laxman Kumar*²², a young girl who was almost 9 months pregnant was burnt alive by her mother-in-law and husband. The Supreme Court reversed the order of the Delhi High Court and convicted both the accused with imprisonment for life. The girl Sudha had been tortured and harassed with demands for dowry before burning. Neighbors, on hearing Sudha's screams, barged into her home and after trying to put out the flames arranged for a taxi to take her to the hospital. Sudha told the neighbors that her mother-in-law had set her on fire. She repeated this statement to another person (who later became a prosecution witness) in the taxi. Sudha's in-laws and husband stood watching while Sudha was being burnt. The defense relied upon a dying declaration, which was alleged to have been taken down by the investigating officer in the case.

Disbelieving the police officer's testimony the Supreme Court said that the High Court was wrong in relying upon the written dying declaration as this had not even been taken down by the Magistrate. It is relevant to mention that Sudha had also written some letters to her sister-in-law, which did not refer to any harassment or torture. The Supreme Court had relied upon the oral testimony of the neighbors and relations of Sudha, as it felt they had no reason to lie.

Conclusion

The dowry at present is a source of curse in the society, and also it is a curse to the bride's parents who have to bear enormous cost to satisfy the unreasonable demands of the bridegrooms. The dowry system is thought to put a great financial burden on the bride's family. In some cases, the dowry system leads to crime against women, ranging from emotional and abuse and injury to even death. The payment of dowry has long been prohibited under specific laws including Dowry Prohibition Act,

1961 and subsequently by section 304B and section 498A of the Indian Penal Code. The Supreme Court of India and various High Courts are playing a vital role in promoting and protecting the rights of married women in India against dowry violence is a positive, but the impact of judicial decisions is minimal.

References

1. (2003), 2 SCC 188
 2. AIR 1988 SC 121
 3. AIR 1996 4 SCC (609)
 4. AIR 1991 SC 1142
 5. AIR 1993, SCC 684
 6. "Rajasthan v. Kishore, 1996 Cri. L.J., 2003;
 7. Ganapat Mahadev Mane v. Maharashtra AIR 1993 SC 1180
 8. 'Abdul Majid, Abdul Rehman v. Gujarat, AIR 1976 SC 1782;
 9. Lallu Bai Devchand v. State, AIR 1972 SC 1776;
 10. AIR 1997 SC 286;
 11. 1993, Cri. L. J. 68
 12. AIR 1982, S.C. 839
 13. 1992 Cri. L.J. SC 2919
 14. 2001 CrL. L.J. 1821
 15. Dandu Laxmi Reddy v. State of AP, AIR, 1999 SC. 3255
 16. 1992 CrL. L.J. Raj. 309
 17. AIR 1997 SC 286
 18. AIR 1985 SC 628
 19. 1983 (4) SCC, 231
 20. AIR 1987 SC 737
 21. 1989 (1) HLR 635;
 22. AIR 1986 SC 250
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Chapter 15

A STUDY ON EXPLORING THE DETERMINANTS OF STRESS AMONG COLLEGE STUDENTS

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Abstract: *Stress among college students is a common problem and is part of their life. Many social scientists have analyzed the topic to control the sources of stress. Adolescents are mostly vulnerable to the problems related with academic stress as changes happen at an individual and social level. It therefore, becomes imperative to understand the causes and effect of academic stress in order to originate adequate and efficient intervention strategies. The five dimensions of causes such as personal inadequacy, fear of failure, interpersonal problems with teachers, teacher pupil rapport and inadequate study amenities were further analyzed and gender variances were also found. Understanding the causes of stress would enable the growth of actual counseling modules and intervention approaches by college psychologists and counselors in order to help students alleviate stress. Positively, stress in the college setting cannot be eradicated but we can and should do a better job making our students to manage it.*

Keywords: *Stress Management, Anxiety, Psychological signs, Fear, Behavioral signs, Workplace.*

Introduction to Stress

Stress can be well-defined as any type of revolution that causes physical, emotional, or psychological strain. Stress is your body's reply to anything that requires attention or action. Everybody experiences stress to some extent. The way you react to stress, however, makes a big change to your overall well-being. The definition of a stressor is something that causes pressure or anxiety. In other words, a stressor is a mediator, condition, or other provocation that causes stress to an organism. Stress is not continuously easy to identify, but there are some ways to recognize some signs that you might be facing too much pressure. If you think stress might be disturbing you, there are a few things you can listen for:

1. **Psychological signs** such as trouble concentrating, worrying, nervousness, and trouble recalling
2. **Emotional signs** such as being angry, annoyed, moody, or frustrated
3. **Physical signs** such as high blood pressure, changes in weight, frequent colds or infections, and fluctuations in the menstrual cycle and libido
4. **Behavioral signs** such as poor self-care, not taking time for the things you enjoy, or trusting on drugs and alcohol to cope.

Literature Review

Academic stress has been identified as the primary cause of these alarming figures. Lee & Larson (2000) explain this stress as an interaction between environmental stressors, student's appraisal and reactions for the same. It has now become a grave reality that is termed as a "career stopper" (Kadapatti Vijayalaxmi, 2012). It therefore, becomes a significant cause of concern as it is symptomatic of rising mental health concerns in India (Nadamuri & Ch, 2011).

Depression, anxiety, behavioral problems, irritability, etc. are few of the many problems reported in students with high academic stress (Deb, Strodl & Sun, 2015; Verma, Sharma & Larson, 2002). Incidences of depression were also found among stressful adolescents as it is linked with inability to concentrate, fear of failure, negative evaluation of future, etc. (Busari, 2012). Adolescents were also reported to be indulging in various risky behaviours such as increased consumption of alcohol and drugs, unprotected sexual activities, physical inactivity, poor eating and sleeping patterns (American College Health Association, 2009; Bennet & Holloway, 2014; King, Vidourek & Singh, 2014). The pressure these students face to perform is so severe resulting in five-fold increase in suicide attempts.

It becomes imperative to also understand that low stress does not necessarily ascertain that students will perform better, but in fact under these circumstances, they would perceive the task as unchallenging and may also get easily bored (Uchil, 2017). Though certain levels of stress push students towards optimum performance, when it is not managed efficiently due to inadequate resources to cope with the stress, it can have dismal consequences for the student as well as the institution.

Objectives of the Study

1. To Identify the existing level of academic stress among college students.
2. To find out the impact of stress among college students.
3. To provide suggestions to overcome the stress of college students.

Methodology

This study was carried on by adopting descriptive design. The sample size consists of 100 Arts and Science College Students in Tiruchirappalli District, Tamilnadu. Participants for the study were selected from a general pool using random sampling technique where the classes were chosen based on names picked out from a fish bowl. Informed consent form and demographic profile sheet were given to all the participants and the objectives of the study were explained. Finally, an interview was conducted among all the selected students to collect the required data. This interview used to determine the major sources of stress among college students. The findings from this study may be further used to examine which sources of stress cause the

highest levels of stress among college students, and may be helpful in creating stress management programs.

Sources of Stress

Effective stress management starts with recognizing your sources of stress and emerging tactics to manage them.

External Exasperations

- **Major life changes.** These variations can be positive, such as a new marriage, a preplanned pregnancy, elevation or a new house. Or they can be negative, such as the expiry of a loved one or a break up.
- **Environment.** The contribution from the world around us can be a cause of stress. Consider how you respond to unexpected noises, such as a barking dog, or how you respond to a bright sunlit room or a dark area.
- **Unpredictable events.** Out of the blue, undesirable houseguests arrive. Or you discover your rent has left up or that your salary has been cut.
- **Workplace.** Common stressors at work comprise an unbearable workload, infinite emails, urgent deadlines and a challenging boss.
- **Social.** Meeting new people can be stressful. Just think about going on a blind date, and you possibly start to sweat. Relationships with family frequently spawn stress as well. Just think back to your last fight with your spouse or child.

Internal Irritations

- **Fears.** Common ones comprise fear of disappointment, fear of public speaking and fear of flying.
- **Uncertainty and lack of control.** Few people like not knowing or not being clever to control what might occur. Think about how you might respond when waiting for the results of a medicinal test.
- **Beliefs.** These might be attitudes, thoughts or expectations. You may not even think about how your beliefs outline your experience, but these predetermined views frequently set us up for stress. Consider the expectations you put on yourself to generate a perfect holiday party or advance up the profession ladder.

Other Causes of Work Stress Include

- Being hopeless in your job
 - Having a heavy workload or too much accountability
 - Working more hours
 - Having unfair management, uncertain expectations of your work, or no say in the decision-making process
 - Working under risky environments
 - Being uncertain about your chance for advancement or risk of dismissal.
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- Having to give speeches in front of peers.
- Facing discernment or harassment at work, especially if your company isn't helpful.

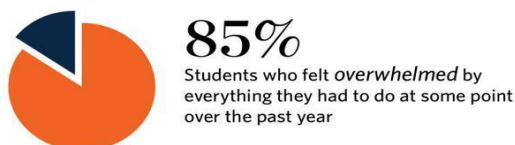
Other Life Stresses Are

- The expiry of a loved one
- Divorce
- Loss of a job
- Increase in financial responsibilities
- Getting married
- Changing to a new home
- Chronic illness or grievance
- Emotional problems (depression, anxiety, anger, grief, guilt, low self-esteem)
- Taking care of an ageing or sick family member
- Disturbing event, such as a natural calamity, theft, rape, or violence against you or a loved one.

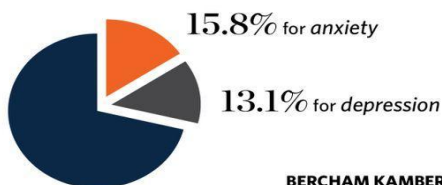
Stress and the College Student:**College stress by the Numbers:**

- **20%** of college students say they are stressed “most of the time.”[Source: AP.]
 - **10%** of college students had feelings of suicide. [Source: AP.]
 - **34%** of college students report feeling unhappy at least at one point within the last 90 days.[Source: ADAA.]
 - **13%** of college students have been identified with depression, nervousness or other mental health disorders. [Source: ADAA.]
 - **80%** of college students say they sometimes or often feel stressed. [Source: ADAA.]
 - About half of reported college students felt overwhelmed with nervousness at least once within the last **12 months**. [Source: APA.]
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Stress among college students



Of students diagnosed or treated by a professional over the past year:



BERCHAM KAMBER THE DAILY ILLINI
SOURCE AMERICAN COLLEGE HEALTH ASSOCIATION

Causes of College Stress

Living Away from Home: For several students, college is the opening time they have lived away from home or been away from their family. Besides that, it's a very unaware environment. All are different – the food, the people and the living rooms. Even though maximum students ultimately get used to these new things without a problem, the initial few weeks of college can generate a stressful atmosphere. This is right even if you are really eager about the changes. Remember that even positive deviations can cause stress.

Academic Demands and Test Anxiety: This may be the most usual long-term source of stress for college students. After all, that's why students go to college – to study. When you don't achieve the results you think you should get, or you feel worried about getting particular academic results, this can cause a lot of stress. For some students, college is the primary time they are academically challenged. Test anxiety is nervousness that frequently comes before or during the writing of tests. The signs can be physical and mental and regularly inhibit your capability to achieve as well as you otherwise could.

Role of College Students Stress Emerging as a Disease:

There are many kinds of diseases triggered by stress connecting both the body and the mind. Here are some of the health complications and diseases that may be linked to your body's fight with stress.

1. Insomnia

Stress keeps people awake at night due to worry, nervousness, or ambiguity about the future. Some people worry about their jobs, while others are concerned over family issues or health difficulties. Many situations in life can be stressful and stress, if left unmanaged, can disturb or delay sleep. To Fight sleeplessness produced by stress, try drinking a glass of milk before bedtime, avoid caffeine, exercise at least four hours before going to bed and have your bedroom cool, softly lit and relaxed.

Do not remember about stress-related problems when you get ready for bed. In its place, fill your mind with peaceful or happy feelings to make a good night's rest. Retain the television in the family room, since many violent or theatrical programs can improve stress.

2. Eating disorders

Have you ever touched for something sweet and tasty when you felt speechless by stress? You are not alone. Thousands of people respond to stress by feeding an eating pattern that naturally move for sweets or carbohydrate-laden foods for a fast sugar rush. While your blood sugar may skyrocket temporarily, it is sure to fall afterward, often sending you feeling worse than before. If you must nibble when stress has you in its clip, stick to crunchy veggies or light butter popcorn. Fiber will make you think full and possess you health, too. Don't let stress move you to the cookie jar or candy counter. Eat a balanced diet to cool your nerves and stay on top of stressful circumstances.

3. Depression

Uncertain stress can make a person feel irritated or hopeless, both of which can cause depression. If you feel frequently sad, have problem thinking clearly, feel alone or unloved, fight with fault or shame, chances are you are fighting a serious situation of depression connected to stress. Illnesses produced by stress may seem unconnected, but when doctors, counselors, or the patients themselves take a nearer look, often there is a cause-and-effect association between stress and conditions like depression. A doctor should be clever to identify the cause of the stress-related depression and recommend suitable treatment.

4. Anxiety and panic attacks

Like depression, nervousness disorders and panic attacks often have a stress-related connection. People who fight with ongoing circumstances that make them feel anxious may experience high levels of stress that can manifest in nervousness and fear, speciously for an unidentified cause. Through careful investigation, it can be distinguished whether a stressful condition may be the reason for one of these syndromes. If the disorders remain to occur or increase in occurrence, it is a good idea to see with a counselor or psychologist to deal with root problems.

5. Colds and viruses

Physical diseases instigated by stress may be as common as the garden variety cold or a periodic virus. People who are stressed often have immune systems that are not working appropriately. Subsequently, they can get sick quicker and easier than they otherwise might. To improve stress that may be contributing to an extended cold or sickness, be sure to get adequate rest, eat healthily and avoid worrying. Take care of your physical requirements to keep your body resilient to germs, particularly throughout the winter months.

6. Circulatory problems

Stress can make your body's roots and veins stiffen up in reaction to the fight-or-flight complex. This density can decrease blood flow throughout the body and generate problems like blood clots, poor circulation, or even strokes. In accumulation to dealing with the reasons of stress with your doctor or a counselor, brief relief may be found in a warm bath or shower, hot tea drinking, or mental relaxation therapy, such as daydreaming or positive imagination. Do not let this assistance substitute for a thorough medical checkup and professional diagnosis, however.

7. Systemic or local infections

Unluckily, mental or emotional stress can even delay physical curing of local contaminations, like a bug bite, or systemic infections, like food poisoning. Stress drains the body of positive energy as it tries to manage with the challenging worry of the stress-related problems. This leaves insufficient energy to tolerate bodily immune functions that heal communicable illnesses and injuries. It is significant to get plenty of rest when you are affected by an infection and try to put stress out of your mind until you are well again. Absorb how to share tasks at work and at home so that you do not have to fear them while trying to get well.

8. Diabetes

One of the common illnesses produced by stress is out-of-control blood sugar for diabetes patients. People with diabetes have to take a lifestyle that retains their blood sugar within suitable limits. Those with diabetes who are feeling important stress need to check their blood sugar regularly and take their medication constantly.

9. Heart problems

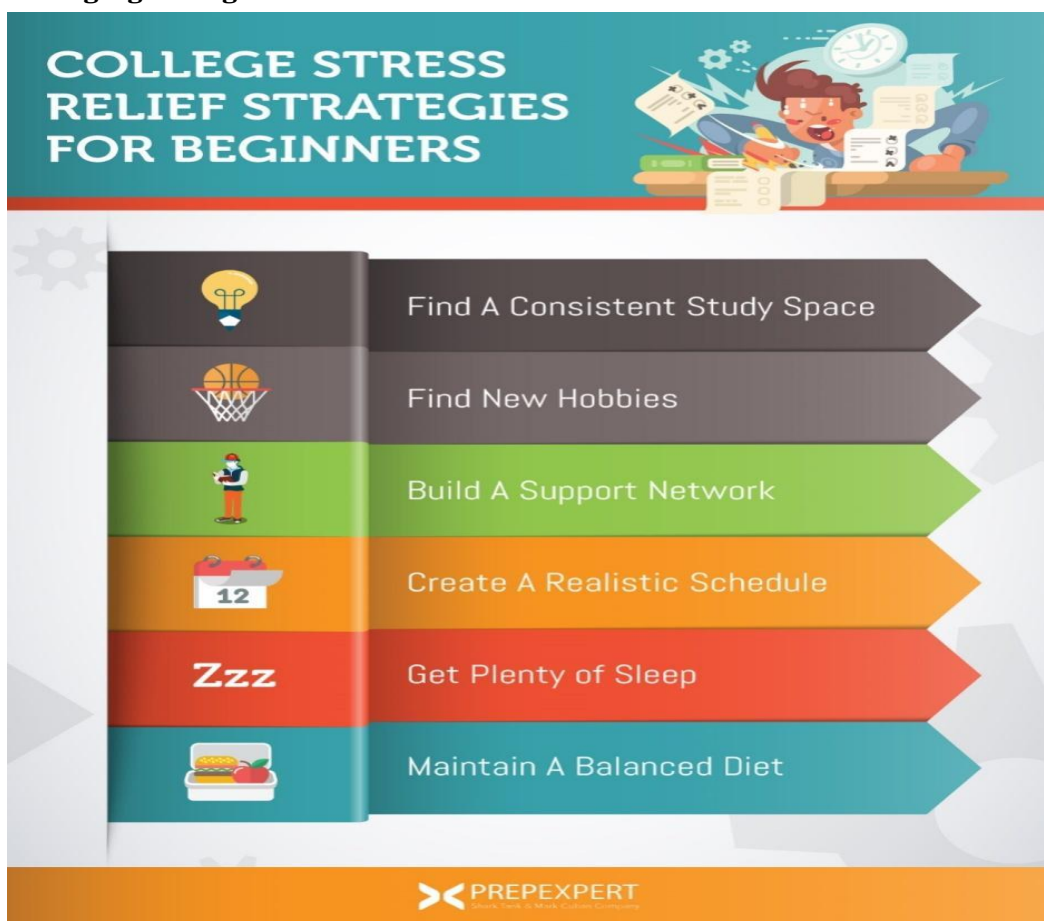
Stress can make anybody's heart palpitate wildly and induce pulse rate as well as blood pressure. Over time, serious stress can harm the heart with augmented wear and tear for the reasons just stated.

Raised stress levels can even increase your blood cholesterol. That is why it is significant to check blood pressure frequently. If your blood pressure is raised, see your doctor to find out why. If it is due to stress, take steps to deal with the fundamental sources.

10. Cancer

More and more research are screening links between stress and numerous kinds of cancer. Since stress is known to decrease the body's immune system, someone who is struggling with continuing stress may be ill equipped to battle a major illness such as cancer. Newer medication for cancer patients include with medical treatments such inventions as relaxation therapy, musical therapy and even pet therapy, all of which can help to deflect stress related with the disease as well as exterior issues. Stress can be tougher on the body than severe physical labor. If you are worried about contracting one of these illnesses triggered by stress, take time to assess the issues that may be contributing anxiety to your life.

Managing College Students Stress



However, a number of strategies can help to decrease stress levels and increase well-being. Some approaches for managing stress include:

- **Understanding the signs and symptoms.** These symptoms can vary, but if a person can diagnose their own signs of stress, they will be better able to manage them.
- **Speaking to friends and family.** They can offer emotional support and the enthusiasm to take action.
- **Identifying triggers.** It is not always probable to avoid causes of stress. However, taking note of specific causes can help a person to enhance coping and management strategies, which may encompass reducing exposure.
- **Exercising regularly.** Physical activity rises the body's construction of endorphins, which are chemicals that lift the mood and diminish stress. Exercise can comprise walking, cycling, running, working out, or playing sports.
- **Trying mindfulness.** People who exercise this form of meditation use breathing and thought practices to create an awareness of their body and environments. Research recommends that mindfulness can have a positive influence on stress, anxiety, and depression.
- **Improving sleep quality.** Having too little sleep or sleep of poor quality can donate to stress. Try to get at least 7 hours each night, and set systematic times for going to sleep and waking up. Avoid caffeine, eating, and intense physical movement in the hours before bed.

Conclusion:

The present study taken into light that stress still continues to be an overwhelming problem affecting a student's mental health and well-being. Management of the disorder thus becomes important at all levels namely, personal, social and institutional. Methods like biofeedback, yoga, life-skills exercise, mindfulness meditation, psychotherapy have been identified to be effective in reducing stress among students. Additionally, students should be informed of the campus resources offered to support them and address these resources. A better method may be the use of a stress management workshop, exactly geared to the stressors encountered by college students. Definitely, stress in the college location cannot be removed but we can and should do a better job making our students manage it.

References

1. Agrawal R. K & Chahar S. S. Examining role stress among technical students in India. *Social Psychology of Education*.2007;10(1):77-91.
 2. American College Health Association. American College Health Association-national college health assessment II: Reference group executive summary fall .*Linthicum. MD: American College Health Association*. 2009.
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3. Ang R. P & Huan V. S. Relationship between academic stress and suicidal ideation Testing for depression as a mediator using multiple regression. *Child psychiatry and human development*. 2006;37(2):133-143.
4. Awino J. O & Agolla J. E. A quest for sustainable quality assurance measurement for universities: case of study of the University of Botswana. *Res. Rev.* 2008;3(6):213-218.
5. Banerjee N. C. Academic Stress Suicidal Ideation & Mental Well-Being Among 1st Semester & 3rd Semester Medical, Engineering & General Stream Students. *Researchers World*. 2012;73-80. Retrieved from <https://search.proquest.com/docview/1816764514?pq-origsite=gscholar>
6. Behere S. P., Yadav R & Behere P. B. A comparative study of stress among students of medicine, engineering, and nursing. *Indian journal of psychological medicine*. 2011;33(2):145.
7. Bennett T. H & Holloway K. R. Drug misuse among university students in the UK Implications for prevention. *Substance use & misuse*. 2014;49(4):448-455.
8. Bourne L. E & Yaroush R. A. Stress and cognition: A cognitive psychological perspective. *Unpublished manuscript. NASA grant NAG*. 2003;2-1561. Retrieved from <http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20040034070.pdf>
9. Busari A. O. Evaluating the Relationship between Gender Age Depression and Academic Performance among Adolescents. *Scholarly Journal of Education*. 2012;1(1):6-12.
10. Byron C., Brun J. P & Ivers H. Extent and sources of occupational stress in university staff. *Work*. 2008;30(4):511.
11. Deb S., Strodl E & Sun J. Academic stress, parental pressure, anxiety and mental health among Indian high school students. *International Journal of Psychology and Behavioral Sciences*. 2015;5(1):26-34.
12. Chernomas W. M & Shapiro C. Stress depression and anxiety among undergraduate nursing students. *International journal of nursing education scholarship*. 2013;10(1):255-266.
13. Crime in India National Crime Records Bureau. Retrieved from <http://ncrb.nic.in/cii2008/cii-2008/figure%20at%20a%20glance.pdf>. 2014.
14. Goff A. M. Stressors, academic performance, and learned resourcefulness in baccalaureate nursing students. *International journal of nursing education scholarship*. 2011;8(1).
15. India has the highest suicide rate among youth. Retrieved from <https://www.thebetterindia.com/108700/suicide-prevention-a-growing-public-health-concern-in-india/>. 2017.

16. Jimenez C., Navia-Osorio P. M & Diaz C. V. Stress and health in novice and experienced nursing students. *Journal of Advanced Nursing*. 2010;66(2):442-455.
 17. Kadapatti. G & Vijayalaxmi A. H. M. Stressors of Academic Stress- A Study on Pre-University Students. *Indian Journal of Scientific Research*. 2012;3(1):171-175.
 18. King K. A., Vidourek R. A & Singh A. Condoms, Sex, and Sexually Transmitted Diseases: Exploring Sexual Health Issues Among Asian-Indian College Students. *Sexuality & Culture*. 2014;18(3):649-663.
 19. Lee M & Larson R. The Korean 'Examination Hell' Long Hours of Studying Distress and Depression. 2000.
 20. Masih P. P & Gulrez N. K. Age and gender differences on stress. *Recent trends in human stress management*. 2006;97-104.
 21. Moscaritolo L. M. Interventional strategies to decrease nursing student anxiety in the clinical learning environment. *Journal of nursing education*. 2009;48(1):17.
 22. Nandamur P. P & Ch G. Sources of Academic Stress, A Study on Management Students. *Journal of Management and Science*. 2011;1:31-42.
 23. Saha D. Every hour one student commits suicide in India. *Hindustan Times*. Retrieved from.
 24. <http://www.hindustantimes.com/health-and-fitness/every-hour-one-student-commits-suicide-in-india/story-7UFFhSs6h1HNgrNO60FZ2O.html>. 2017.
 25. Sreeramareddy C. T., Shankar P. R., Binu V. S., Mukhopadhyay C., Ray B & Menezes R. G. Psychological morbidity, sources of stress and coping strategies among undergraduate medical students of Nepal. *BMC Medical education*. 2007;7(1):26.
 26. Uchil H. B. The Effect of Stress on Students' Performance. *Stress Management Professional International Journal*. 2017;5(1):17-21.
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Chapter
16

**'WOMEN OF FORTE' IN SELECT NOVELS OF
SUDHA MURTHY**

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Abstract : *Sudha Murthy, a prolific writer in Kannada and English, a visionary technocrat, a philanthropist and Chairperson of Infosys, pens down the psyche of Indian women, changing along with the times, in pursuit of sustaining their identity as 'Woman' in the patriarchal Indian society. Sudha Murthy's novels revolve around the prime concern for women and issues pertaining to identifying themselves as 'Women of Forte'. This paper, presents the saga of 'Anupama' in 'Mahashweta' and 'Shrimati' in 'Gently Falls the Bakula', intricately woven by Sudha Murthy, focusing on the social and psychological subjugation faced by them and the plightful ordeals which they underwent in the process of their 'Quest for Self' as 'Woman', in this patriarchal society. Their saga of perseverance and their unparalleled grit in exemplifying themselves as 'Women of Forte' is highly applaudable. Sudha Murthy's female protagonists emerge successful in accomplishing their dreams and intellectual aspirations.*

Key words: *Subjugation, Aspirations, Introspect, Patriarchal Society, Saga, Perseverance, Woman, Forte.*

Introduction:

Women writers, especially novelists, have carved a niche in Indian Writing in English. Their works are distinct and act as dynamic witness to the various socio-cultural, political, economical and psychological conflicts faced by the Indian women of different social strata. They emphasized and synthesized the varied traditional and modern reactions of Indian women, under various circumstances and finally succeeded in portraying their female protagonists as "Phoenix" in their phenomenal works.

Sudha Murthy, a versatile writer, a multifaceted technocrat, in her novels, sketches out the tribulations faced by women in the conventional patriarchal Indian Society. Sudha Murthy firmly believes that education and financial independence are the tools which not only enable women to face dire situations but also nurture their confidence to move ahead in life, thus surpassing all the tribulations they confront and finally emerge victorious through their sheer grit and courage. This is clearly evident in Sudha Murthy's 'Mahashweta', the female protagonist, Anupama exhibits immense extraordinary forte in sustaining her identity as 'Woman'.

Anupama, the protagonist, in Sudha Murthy's 'Mahashweta', is a talented and cheerful woman who is of down-to-earth nature. She is well versed in Sanskrit. Dr.

Anand, sees Anupama for the first time when she enacts the role of 'Mahashweta'. He falls in love with her and marries her against the wishes of his family. Anupama faces unconcealed animosity in her new household and becomes a subservient daughter-in-law. When Anupama is afflicted with Leukoderma, the real nature of her husband Dr. Anand is revealed. He is resentful, uncaring and abandons her. The insensitive nature of her husband and family breaks down the spirit of Anupama and she contemplates suicide. She prays to the Goddess,

"Give me the courage to live, no matter what happens". (Murthy,79)

With the help of her friend Sumitra, Anupama rebuilds her life and career against all odds, with great maturity of thought and action. Anupama moves to Bombay (Mumbai) and works as a Sanskrit lecturer in a college. She faces sexual harassment from Hari, Sumitra's husband and she shifts to another accommodation. She meets with an accident while crossing the road and Dr. Vasant, who is an ardent lover of Arts and Literature, attends her case. Dr. Vasant notices the white patches, a sign of Leukoderma, on Anupama's hand and thinks for a moment,

"What a blemish on this beautiful portrait!" (Murthy,97)

Anupama has a leg injury and recovers with the help of Dr. Vasant. She writes many letters to her husband, Dr. Anand but in vain. She doesn't receive any reply. When Satya, a close friend of Dr. Vasant, becomes depressed because she was betrayed by his lover, Anupama says about her husband,

"He had loved 'Mahashweta' as a heroine. But when in real life I developed this white patch and became a real Mahashweta, the white one, he couldn't handle it. This Mahashweta was not acceptable to him" (Murthy,116)

Dr. Anand goes to Bombay, to attend a conference. Dr. Prakash Apte, Anand's friend comes across him near the beach and suggests that they should watch a Sanskrit play being staged at Tata Theater.

Dr. Anand reluctantly agrees to his friend's proposal because watching a Sanskrit play reminds him of Anupama, their love, marriage and separation. When he hears the voice of the compere, he recollects the voice of Anupama and realizes that though he deserted her for no fault of hers, yet she is an integral part of his life.

Anupama directs the Sanskrit play, "Swapna Vasavadutta", written by Bhasa. The play is enacted with outstanding performance by the students and Anupama and her team receive a standing ovation, lots of acclaims and accolades. Dr. Anand recognizes Anupama and takes her address from the manager of the theater and pays a sudden visit to her. Anupama is shocked by seeing her husband and remains speechless. A clear transition is seen in her personality. Anupama, who was once a subservient daughter-in-law and submissive housewife, has now transformed as a woman of immense forte.

“Her eyes sparkled with confidence, there was not a trace of self-pity in her demeanor.

Anupama seemed to have grown in stature” (Murthy,146)

Despite, many requests by Dr Anand for reconciliation, she rejects all his pleas, she sternly questions him,

“Did you speak when you first got to know about my condition? Was it my fault that I got this white patch? Is it my fault that I am a poor man’s daughter?” (Murthy,146)

“You never treated me as a human being. I was only a beautiful object that you wished to possess and flaunt...“Suppose you had got Leukoderma, do you think I would have left you for some other man”? (Murthy,147)

“How can you possibly expect a burnt seed to grow into a tree? ... I am no longer the naive Anupama, whose world revolves around you. I know what my goals are and where I am heading and I don’t need anyone’s help to reach my destination. God has been very kind to me”. (Murthy,148)

Dr. Anand watches as Anupama walks away from his life, forever. Dr. Vasant proposes to Anupama but she politely declines his proposal and says that they can be good friends.

Anupama, signifies herself as ‘Mahashweta’, the white one. ‘White’ symbolizes purity and peace. Anupama builds a remarkable identity of her own – an identity of purity in thoughts and behavior. Anupama, who was socially excluded and ruthlessly abandoned by her husband and family, emerges out successful in her career, commands respect and the promise of an enduring friendship and rekindles the spark in her life, thus justifying her ‘Saga of Perseverance’ and emerges out as a ‘Phoenix’, and exemplifies herself as a ‘Woman of Forte’.

‘Shrimati’, the protagonist of ‘Gently Falls the Bakula’, a well-educated and intelligent woman, marries her neighbor and childhood friend – Shrikant Deshpande. Shrimati is a plain-looking yet charming woman and Shrikant is an amiable and handsome man. They both excel in their academics. The “Bakula Tree” stands as a witness to their relationship of love. However, after marriage ‘Shrimati’ confines herself to the happiness of Shrikant. She abandons all her academic aspirations and indulges herself in household chores. On the contrary, Shrikant joins an IT company and rapidly climbs the corporate ladder. He enjoys a lucrative pay, he works relentlessly and reaches the pinnacle in his career. He neglects Shrimati’s personal aspirations. Shrimati, silently fulfills her duties as a Corporate leader’s wife. She follows her husband as his uncomplaining shadow.

Shrimati has an inclination towards Indian History. Prior to her marriage, Professor Rao introduces her to Prof. Mike Collins. Prof. Collins is highly impressed

by the extensive notes prepared by Shrimati on Buddhism. Prof. Collins requests Shrimati to guide him on his tour to the caves of Badami. Shrimati accompanies him and Prof. Collins wonders at the potential of Shrimati, her sharp intellect, knowledge of Indian History. He feels that Shrimati can be an excellent Research Scholar, and suggests the same to her. However, she puts aside the thought of pursuing Ph.D.

Prof. Collins thinks,

'It was her decision and her life. Perhaps what she was doing was normal in India'. (51)

Shrimati and Shrikant are childless. When Shrimati proposes to adopt a child, Shrikant refuses the idea. This deeply hurts Shrimati and the thought that she will be deprived from the bliss of motherhood pricks her constantly. Shrimati, receives a letter from Prof. Collins stating that he will be on a visit to India and seeks her guidance during his tour. Shrimati is elated by seeing Prof. Collins' letter and agrees to join him on his tour. One day, when Prof. Collins questions her about her silence, Shrimati replies,

'My loneliness, Sometimes it is very depressing.'

Prof. Collins says,

One should have the basic happiness within oneself. That happiness comes from confidence and confidence comes from the kind of work one does whole-heartedly'. (Murthy,113)

Shrikant becomes the Managing Director of his company. In due course of time, he ignores Shrimati's presence and she feels distressed. Shrimati is filled with sorrow and bewilderment. She realizes the naked truth that Shrikant didn't pay any heed towards her emotions and aspirations. She introspects her life and realizes that it is a fiasco.

'She had to live like his shadow all the time. She wouldn't have any identity of her own. Her life would be that of a planet which shines with reflected light, rather than that of a star which radiates its own light.' (Murthy,150)

She also remembers how Shrikant sneered at her,

'The whole world says that you are more intelligent than me. You think over it and whatever you feel is right, go ahead and do it'. (Murthy,150)

She thinks,

'She always disliked being dependent on anyone. Living like this was worse than death to her'(Murthy,151)

Shrimati says to Shrikant,

'I cannot live in this kind of an atmosphere with these artificial values. I need to breathe fresh air. I do not want to live as your shadow. I want to find my own happiness. Shri, if I had not been sensitive and bright, I wouldn't have had to suffer

such loneliness. I could have enjoyed your wealth. When I was thinking about my life so far, what my goal has been, I have realized what I want'. (Murthy, 161)

She questions her husband about her importance in his life and she is aghast when she receives a cold reply. She firmly decides to pursue Ph.D. in History in the U.S. and with the help of Prof. Collins, she gets a scholarship to pursue her Ph.D. She reveals her decision to Shrikant who is shocked, and pleads with her to reconsider her decision. However, Shrimati firmly decides to open the doors of her aspirations and achieve her goals.

'Shri, I loved history and I loved you. In fact, once upon a time I loved you more than history. But when you lost your finer sentiments, chasing your success in the world of business, I was left with nothing other than history. For me, the glamor of money, house, car is immaterial... If you were in my shoes, what would you have done? The same thing that I am doing.' (Murthy,161)

'I am also clear about my goal and I want to achieve it'.(Murthy,162)

'Shri, I cannot get a better friend than you'.

Before bidding good-bye to Shrikanth, Shrimati mentions that he is always welcome to meet her whenever he visits the US. She kisses him gently on his forehead, gives him a warm hug & walks out with her bag without even turning back. Shrikant feels that she was taking his spirit away with her. Thus the 'Bakula', which had immense significance in their relationship, falls down gently. The 'Saga of Perseverance' exhibited by 'Shrimati' is extremely commendable. Shrimati, emerges as "Paradigm of Perseverance" through her sheer grit and courage, finally surpassing the subjugation she endured and empowering herself by exhibiting her forte as a 'Woman.'

At the outset, 'Anupama' in 'Mahashweta' and 'Shrimati' in 'Gently Falls the Bakula', manifest unparalleled self-reliance realizing their dreams. Sudha Murthy emphasizes on the 'Quest for Self' through her protagonists, who are bereft of their identity as a 'Woman' in patriarchal Indian society.

In all her novels, Sudha Murthy, connotes the significance of the famous Sanskrit saying,

"Yatra Naryastu Pujyante, Ramanthe Tathra Devatha." which means 'Where women are respected, Gods tread there'.

Sudha Murthy's pen, in true sense, proves mightier by curbing the social stigma and taboos deeply rooted in the Indian society, as is evident, as in the case of Malathi, whose marriage was canceled as she was afflicted with leukoderma. The groom confessed that he finally changed his opinion about leucoderma and married Malathi after reading Sudha Murthy's 'Mahasweta'.

True to the belief that 'A drop of ink makes millions think', Sudha Murthy's novels stand as testimonials to the impact of literature on society.

Sudha Murthy has been successful in inspiring and motivating the present day Indian Women in retaining their self -esteem and proving themselves as 'Women of Forte'.

Works Cited

1. Murthy, Sudha. Mahashweta. New Delhi: Penguin Books, 2007.
 2. Murthy, Sudha. Gently Falls the Bakula. New Delhi: Penguin Books, 2008.
 3. Krishna Swamy, Shantha, The Woman in Indian Fiction in English, New Delhi: Ashish Publishing House, 1984.
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**Chapter
17****IMPACT OF OUTCOME BASED EDUCATION IN
HIGHER EDUCATIONAL INSTITUTIONS.****Dr. M. Neela**

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Abstract

“Education is the most powerful weapon which you can use to change the world”
-Nelson Mandela.

This chapter discusses the basic understanding and importance of Outcome-Based Education among higher education institutions. The outcome-based education is considered as important in Higher Educational Institutions in recent days. The traditional education system is losing its significance in the era of globalization and technological advancements. It is necessary to cope up with emerging technologies that expect additional skills and efforts. It becomes mandatory to adapt and become familiar with Outcome-Based Education (OBE) to survive in the Educational Sector. This chapter focuses on the various parameters and principles of OBE, Framework and Challenges of OBE for the better understanding of faculty members in the Higher Educational Institutions.

Keywords: OBE, PO, PSO, CO, Bloom's Taxonomy

Introduction

One of the most crucial components of life is education. It supports national, socioeconomic development and individual growth. Success has always been attributed to education. It is the process of making knowledge, skills, values, beliefs, and habits more easily learned or acquired. It is not dependent on doing well in school or college. It actually is a way to acquire fresh knowledge.

The essence of Human Resource Development is education, which plays a significant and remedial role in balancing the socio-economic framework of the country. There are different levels of education. They are, Elementary Level, Primary education, higher secondary and higher education. Higher Secondary Education is tertiary education, which provides academic degrees to the students. It is also called post secondary education, third level or tertiary education. It takes place after completion of secondary education that is Plus 2.

India's Higher education system is the third largest in the world, whereas USA stands first and China stands second. The main governing body at the tertiary level is the University Grants Commission. The UGC enforces its standards, advises the government and coordinates the Central and the State. Accreditation of higher learning is overseen by Autonomous institutions established by the UGC.

Quality in Education

Quality in Education is very important because it provides learners with the capabilities they require to become economically productive to develop sustainable livelihood. To Contribute peaceful and democratic societies, Enhance individual well being , and ensure quality in higher education is one of the most important things we can do for future generations.

Objectives of the Study

The main objectives of the study are;

1. To study the deficiencies of the traditional education system
2. To ascertain the impact of Outcome-Based Education (OBE) System

Research Methodology

During the study, information was acquired utilizing a variety of research papers, journals, and documents created by various institutions.

Traditional education System

The Traditional Education System is otherwise called customary education or conventional education. It is mere transmission of information from the teacher to the student. It is content oriented, teacher centered and curriculum centered education, the role of the student is absent here. The purpose of the traditional education system is to make them as degree holders. The teacher covers only the Syllabus and the examination is also based on the syllabus. In the traditional educational system, the teacher will deliver lectures and the students will listen and take notes. The teachers use chalk and talk and lecture methods. The traditional education system purely based on teacher centric and the student involvement level is low

Deficiencies of Traditional Education system

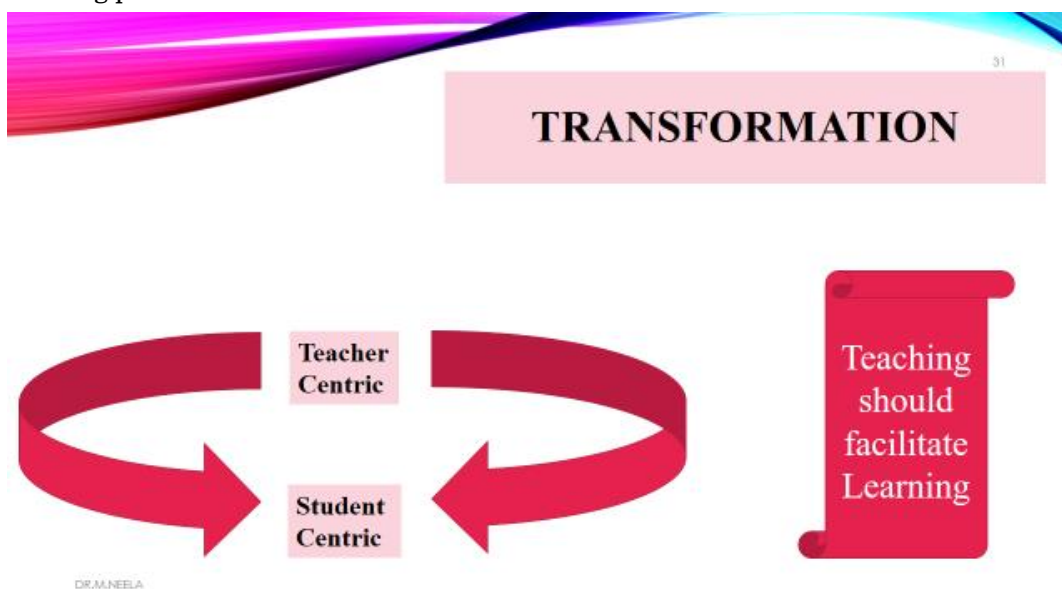
- It was a rigidly structured curriculum process without any stakeholders involvement in the decision making process.
 - It was an inflexible and Prescriptive Curriculum. In the traditional education system we cannot change the curriculum as per the student requirements.
 - It was a Content Based Curriculum whereby the teacher instructed and the students memorized.
 - The traditional education system is a teacher centered education rather than learner centered. There is a lack of collaboration and group learning.
 - The traditional education system provides a learning environment ,with little attention to know whether the students are learning the materials or not.
 - Students are given marks/ grades or ranks . It is a completely exam oriented system.
 - The young graduates are not completely prepared for the workforce.
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- Lack of importance on skill development, that is skills needed for the job such as communication skills, interpersonal skills, analytical skills and working attitude.

These are the main deficiencies of Traditional Education which paves the way for outcome based Education

How can education be improved?

The Traditional education system doesn't provide students with necessary knowledge and skills and it does not fulfill the employers expectations from the graduates. OBE transforms the traditional education into personalized learning and enables the educational institutions to design instruction models that are tailored to the learning preferences of students.



Outcome Based Education

Outcome based education (OBE) is a student-centered instruction model that focuses on measuring student performance through outcomes. The outcomes include knowledge, skills and attitudes. It is a performance-based approach, offers an appealing and innovative way of reforming and managing higher education. It gives importance to the product that is the outcome, it means what sort of graduate would be produced based on the employability rather than Educational process. OBE can be summed up as results-oriented thinking

Benefits of OBE

Outcome Based Education is a learner centered approach to education that focusses on what a student should be able to do in the real world after completion of their course. The learning outcomes are complex statements of the skills, knowledge,

attitudes, abilities and proficiencies the learner will desire to have at the end of the course.

- It provides a strategic way to enhance the quality of teaching and learning.
- Preparing the students for the rest of their life, that is they will apply what they have learnt during their period of study.
- Outcome Based Education Provide a framework for teaching, learning and assessment methods.
- The Outcome Based Education helps to promote a collaborative way for curriculum planning;
- The Outcome Based Education helps to ensure the approval and accreditation of new and existing programs;
- It provides a mechanism for ensuring Accountability and quality assurance;
- OBE Promotes Self-directed and autonomous way of learning.
- It provides a means for students to articulate knowledge, skills, attitudes and experience acquired during their programme.
- It is a tool for monitoring, evaluating and improving the curriculum.

These are the benefits of implementing OBE in Higher Educational Institutions to enhance the quality of teaching and learning.

Shift from Content Based to Outcome Based Education

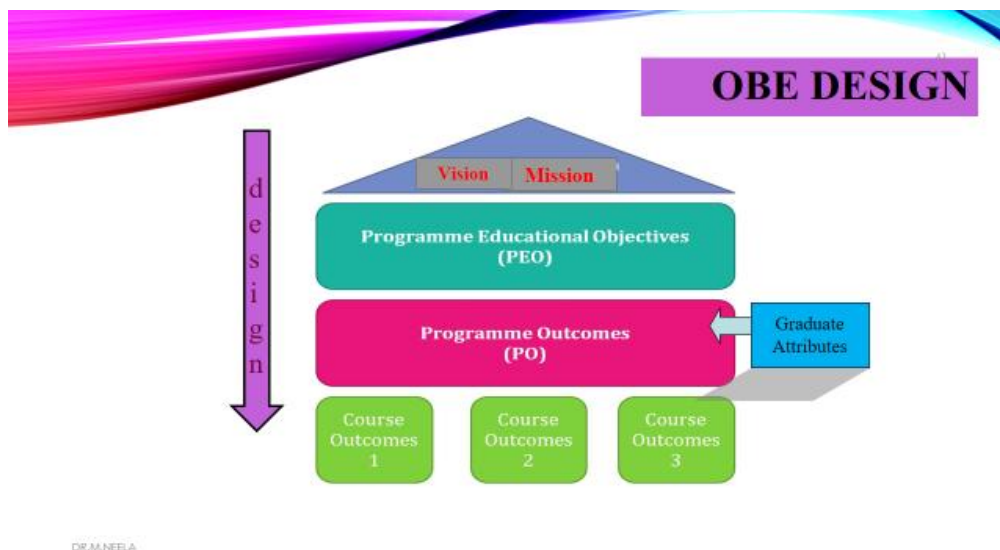
Traditional Teaching Approach	Outcome Based Approach
Learners are passive	Learners are active
Teacher-centered	Learner/student-centered
Teacher's role as instructor	Teacher's role as partner/facilitator
Focus on teacher's input	Focus on learner's output
Course objectives and syllabus is rigid	Flexible and empowering
Content-based and content delivery	Ability building and skills development
Emphasis on products	Emphasis on progress and overall learning
Exam Driven	Learners are assessed on the ongoing basis.
Rote learning is encouraged.	Critical Thinking, reasoning, reflection and action are encouraged.
Teachers are responsible for Learning	Learners take responsibility for their own learning.

Principles of OBE

- **Clarity of focus:** This means that the teachers should focus on helping the students to develop the knowledge, skills and personalities. The clarity of focus clearly states the education system should be student centric or the learners centric.

- **Designing Back:** Designing back or designing down is the second principle of OBE. It means the curriculum design must start with a clear definition of the intended outcomes that the students are to achieve by the end of the programme.
- **High Expectations:** It refers to the fact that teachers should establish high, challenging standards of performance in order to encourage them to engage in what they are learning. Helping students to achieve high standards is linked with the idea that it will help in successful learning.
- **Expanded opportunities:** The teachers must be ready to provide expanded opportunities for all the students. The principle is based on the idea that not all learners can learn the same thing in the same way and at the same time. However, many students can achieve high standards if they are given appropriate opportunities.

Parameters of OBE



The following parameters are used by the OBE model:

1. Program Educational Objectives(PEO)
2. Program Outcomes(PO)
3. Course Outcomes(CO)
4. Program Specific Outcomes(PSO)

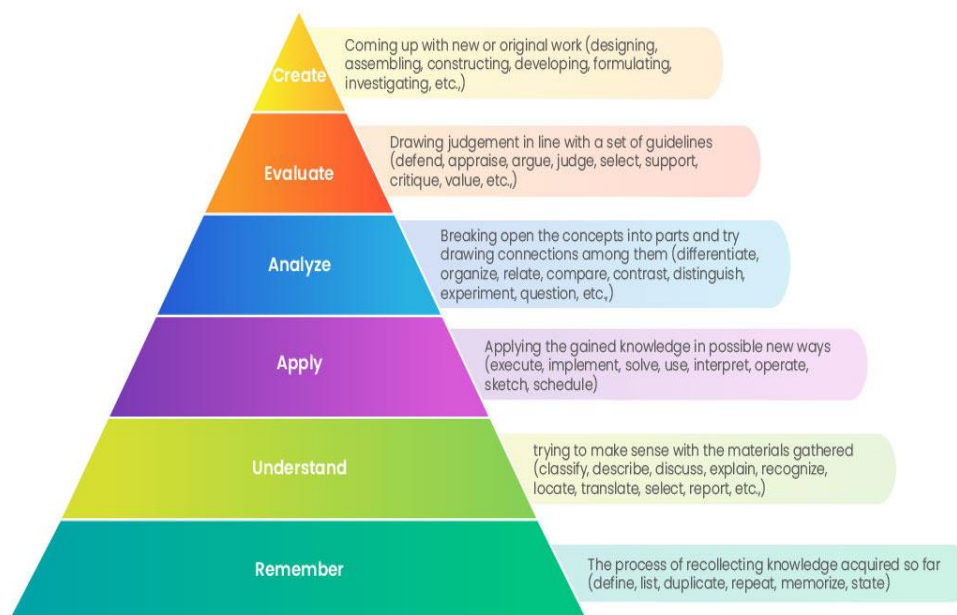
Program Educational Objectives(PEO) :PEOs are broad statements that describe the career and professional accomplishments that the programme is preparing graduates to accomplish (after 3-5 years of graduation).PEOs should associate with Vision& Mission of the institution &the Department . PEOs should be measurable, appropriate, realistic, time bound and achievable.

Program outcomes(PO):Program outcomes are more specific statements that outline the knowledge and skills students should have by the time they graduate. Program outcomes basically describe knowledge, skills and behavior of students as they progress through the program as well as by the time of graduation. POs should not be too broad. Graduates Attributes are the heart of Program Outcome.

Programme Specific Outcomes(PSO):PSO's are what the graduates of a specific UG/PG program should be able to do at the time of graduation. PSOs are written by the Department offering the program. The PSOs are program specific. PSOs should be two to six in number. A Department can differentiate its program through PSOs.

Course Outcome: Course Learning Outcomes are statements clearly describing the meaningful, observable and measurable knowledge and skills the students will learn from the course. It describes what students are expected to know, the attitude they expect to have and what they are able to do as a result of taking the course. Typically 4-6 CO's are identified in the course. Course outcomes are major domain specific outcomes written using action verbs.

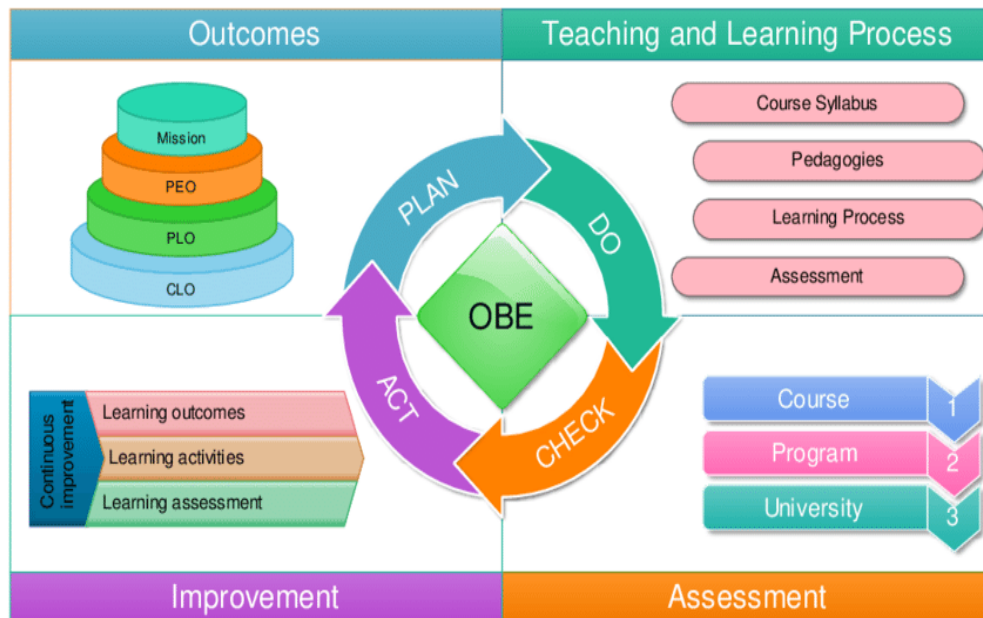
Bloom's Taxonomy



 REVISED Bloom's Taxonomy Action Verbs

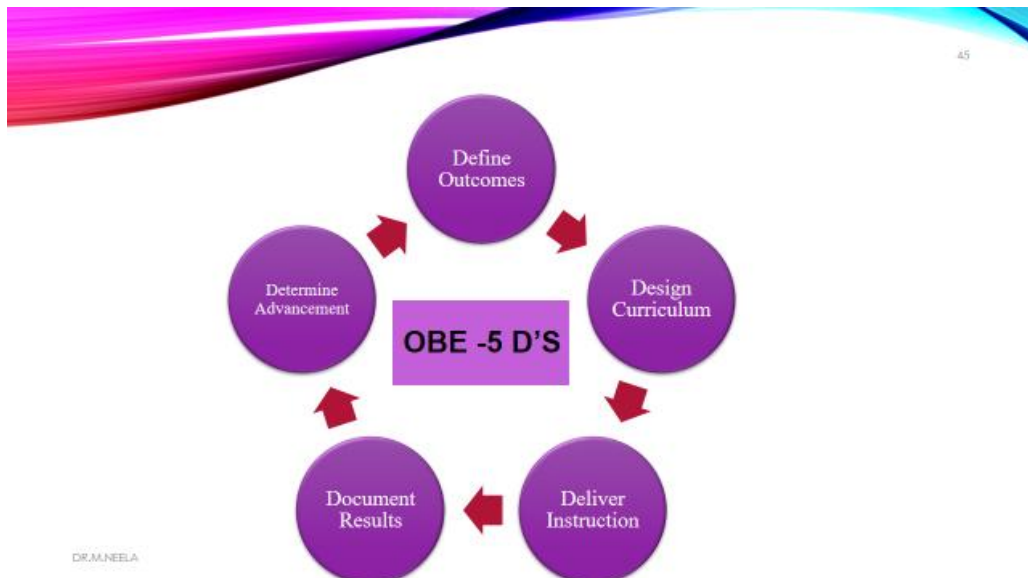
Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	- Choose - Define - Find - How - Label - List - Match - Name - Omit - Recall - Relate - Select - Show - Spell - Tell - What - When - Where - Which - Who - Why	- Classify - Compare - Contrast - Demonstrate - Explain - Extend - Illustrate - Infer - Interpret - Outline - Relate - Rephrase - Show - Summarize - Translate	- Apply - Build - Choose - Construct - Develop - Experiment with - Identify - Interview - Make use of - Model - Organize - Plan - Select - Solve - Utilize	- Analyze - Assume - Categorize - Classify - Compare - Conclusion - Contrast - Discover - Dissect - Distinguish - Divide - Examine - Function - Inference - Inspect - List - Motive - Relationships - Simplify - Survey - Take part in - Test for - Theme	- Agree - Appraise - Assess - Award - Choose - Compare - Conclude - Criteria - Criticize - Decide - Deduct - Defend - Determine - Disprove - Estimate - Evaluate - Explain - Importance - Influence - Interpret - Judge - Justify - Mark - Measure - Opinion - Perceive - Prioritize - Prove - Rate - Recommend - Rule on - Select - Support - Value	- Adapt - Build - Change - Choose - Combine - Compile - Compose - Construct - Create - Delete - Design - Develop - Discuss - Elaborate - Estimate - Formulate - Happen - Imagine - Improve - Invent - Make up - Maximize - Minimize - Modify - Original - Originate - Plan - Predict - Propose - Solution - Solve - Suppose - Test - Theory

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.

Keys of OBE System (William G. Spady)

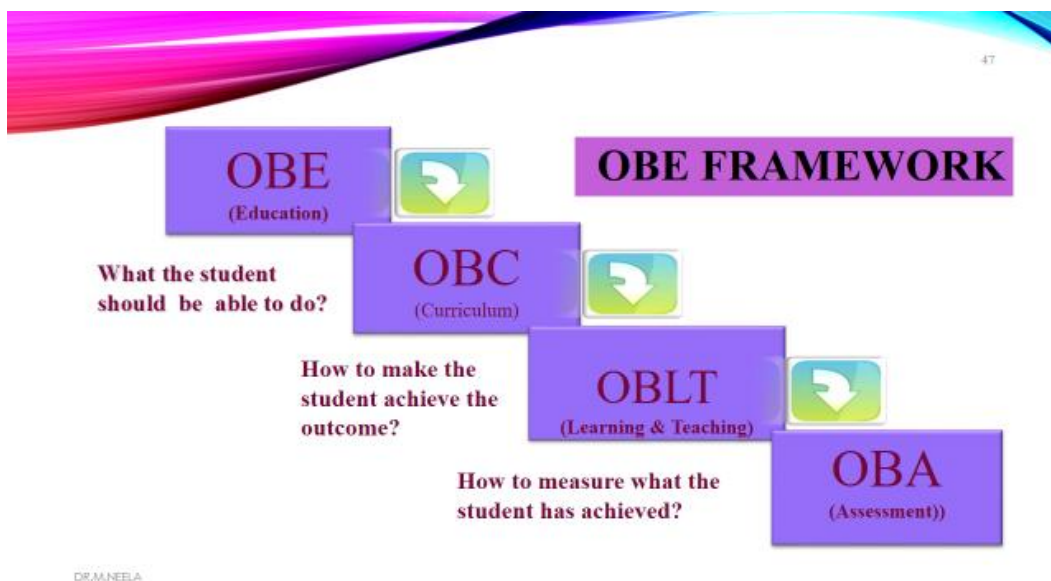
- Developing a clear set of learning outcomes.
- Establishing the conditions and opportunities.
- Learners do important things with what they know
- Defined in Terms of Actual Competencies

OBE -5 D's: In short, OBE can be summed up in 5 Ds.



OBE Framework:

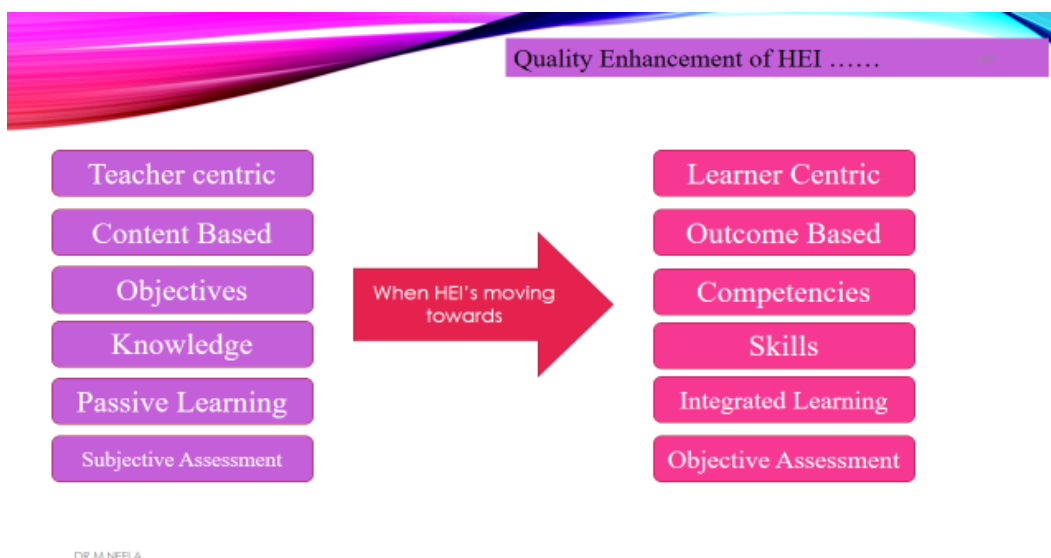
The OBE Framework is a paradigm shift from the traditional education system into the OBE system because there is greater focus on program and course outcomes. For the effective functioning of the educational system, the OBE framework is important. It assures that curriculum, teaching and learning strategies, and assessment tools are continuously enhanced through an evaluation process.

**Challenges in implementation of OBE:**

- Framing of OBE Elements itself requires lot of innovation, futuristic ideas and clear understanding
- The Concept does not provide one single procedure for achieving outcome
- Management of large size classes is a complex one.
- Lack of preparedness of the faculty is also one of the main challenges of implementing OBE.
- Getting quality inputs from stakeholders is not possible at all times.

Conclusion:

Quality Enhancement in Higher Education Institutions are possible when higher educational institutions moving towards,



This chapter provides an overview of the Outcome Based Education and its application in various contexts. The approach is based on sound educational principles and provides a strong framework for students to acquire the necessary skills. The understating level of OBE in higher educational institutions is not up to the mark. For successful implementation of OBE, the HEIs should understand the importance of OBE. We cannot completely ignore the traditional educational system, but should be used as a means towards implementing OBE. The academic institutions should follow the common way of producing the graduates following the OBE system. Then only the importance of OBE can be recognized by Higher Educational Institutions.

References:

1. Abbhilash, M. (2016, November 25). *4 things you need to know about Outcome-Based Education in India*. Retrieved August 20, 2020, from myclassroom: [https://www.myclassroom.com/blog/4-things-to-know-about-outcome-based-education/#:~:text=Outcome%20based%20education%20\(OBE\)%20is,include%20knowledge%2C%20skills%20and%20attitudes](https://www.myclassroom.com/blog/4-things-to-know-about-outcome-based-education/#:~:text=Outcome%20based%20education%20(OBE)%20is,include%20knowledge%2C%20skills%20and%20attitudes).
2. K.G. Kharade, R. K. (2019). Automation of Paper Setting Process to Improve Effectiveness of The Examination System of The University. *Journal of Emerging Technologies and Innovative Research*, 490-493.
3. K.G.Kharade, R. S. (2019). Online Library Package to Boost the Functionality and Usability of the Existing Libraries. *International Journal on Future Revolution in Computer Science & Communication Engineering*, 5-7.

4. R.Nakkeeran, R. R. (2018). Importance of Outcome Based Education(OBE) to Advance Educational Quality and enhance Global Mobility. *International Journal of Pure and Applied Mathematics*,483-1492.
 5. Rhaffor, K. a. (n.d.). Students' Perception on Outcome-Based Education (OBE) Implementation: A Preliminary Study in UniKL MSI. *COLLOQUIUM ON MANUFACTURING ENGINEERING TECHNOLOGY (COMET 2017)*. Lumut, Perak.
 6. Risheth. (2019, September 30). *Benefits of Outcome-Based Education (OBE)*. Retrieved August 20, 2020, from Relearning: <https://www.myclassroom.com/blog/benefits-of-outcome-based-education-obe/>
 7. Rohaila Yus of, N. O. (2017). Implementation Of Outcome- Based Education (OBE) In Accounting Programme In Higher Education. *International Journal of Academic Research in Business and Social Sciences*,1186-1200.
 8. Suvin, M. C. (2018, May 07). *Outcome Based Education - what is it all about?* Retrieved August 21, 2020, from Creatrix Campus: <https://www.creatrixcampus.com/blog/outcome-based-education-what-is-it-all-about>
 9. Team, L. (2020, March 13). *The ultimate guide to Outcome Based Education*. Retrieved August 20, 2020, from linways: <https://stories.linways.in/the-ultimate-guide-to-outcome-based-education-82dcff363944>
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**Chapter
18****QUALITY LEADERSHIP: A CONCEPTUAL
UNDERSTANDING REVIEW ON PREVIOUS
LITERATURE*****Dr. M. V. Subba Rao & **Mr. K. Babulu**

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Abstract: *Good leadership demands emotional strengths and behavioral characteristics which can draw deeply on a leader's mental and spiritual reserves. Qualities needed for prosperous relationships between leaders and staff members include integrity, honesty, confidence and compassion. Quality leadership is the key to quality management and Quality leadership is a prerequisite for implementing quality management. How organizational leaders structure and direct an organization as well as how they behave within an organization are critical elements to the success of an effective quality management process. The importance of leadership as an integral part of quality management is well documented. Quality leadership is where quality principles become a basis for guiding, empowering and supporting the constant pursuit of excellence by the employees throughout the organization. With a good leadership, an organization can create a vision and can motivate people to make it a reality, so, leadership needs to attract, inspire, and ultimately retain as much talent as possible. In this paper many previous writers' literature were considered and observed to draw an appropriate conclusion.*

Key Words: *Prerequisites, Compassion, Excellence, Empowering, leadership, strengths.*

Introduction

Quality leadership is a preplanning for implementation of quality Administration and management. How organizational leaders design and direct an organization as well as how they behave within an organization are critical elements for the success of an effective quality management process. Quality leaders should be self-aware and prioritize personal development as well as having focus on developing others. Good leaders listen to people with great attention and sincerity. It helps them understand people and their perspectives. Active listening builds trust and relationships in the long run. Good leaders communicate with care, focus on the person and the message; they don't interrupt and acknowledge what is being said.

Objectives of the Study

1. To draw relevant conclusions on proper administration
2. To impart the knowledge of leadership skills to achieve organizational goals
3. To recap the leadership skills from the previous literature reviews

4. To improve the decisiveness of quality of leaders
5. To concentrate on employees occupational health and safety

A Literature Review on Quality Leadership Work Life and Leadership Skills Essential Leadership Qualities: a brief literature review

Literature review has shed a light upon essential qualities for individuals holding leadership positions in organizations. Having a clear vision and the ability of articulating it in an efficient manner appears as one of the most important leadership skills in the majority of sources addressed during the preliminary literature review. According to Wart (2008) effective leaders are able to formulate motivating vision and create a situation where the vision is shared by all employees within the organization to run the organization smoothly and to achieve prosperity.

Communication skills are also crucially important to be possessed by organizational leaders to communicate things systematically for the benefit of the employees and organization. (Gallos, 2008, Bertocci and Bertocci, 2009). Gallos (2008) explains the importance of communication skills for organizational leaders by referring to the fact that leaders need to communicate with different organizational stakeholders on a daily basis, and each category of these stakeholders pursue varying aims and objectives.

According to Stanfield (2009) and Bertocci and Bertocci (2009) decisiveness marks an important trait for organizational leaders. When discussing this specific leadership trait Stanfield (2009) refers to The Great Man leadership theory, and argues that individuals born with leadership skills tend to be more decisive than individuals who have acquired their leadership skills over the course of their lives. However, Stanfield (2009) does not offer any evidence based on empirical studies to justify this viewpoint.

Similarly, self-confidence has been viewed by Goldsmith et al. (2010) and Gold et al. (2010) as another important leadership trait. Goldsmith et al. (2010) conclude that the value of self-confidence as a leadership trait increases in times of crises when leaders need to be able to take decisions while a wide range of factors remain uncertain.

In their analysis of an alternative leadership quality, integrity, Goldsmith et al. (2010) convincingly argue that the lack of integrity associated with any organizational leader is difficult to conceal in modern times due to the rapidly advancing levels of internet and various forms of information technology. As per the opinion of the Goldsmith range of factors to be considered to make a decision must be certain.

Moreover, a high level of dedication to work is perceived to be highly important leadership skills by Shriberg (2010). To justify his stand Shriberg (2010) mentions the case studies of successful organizational leaders such as Apple's late

Steve Jobs and former CEO of General Electric Jack Welch, where high levels of dedication to the company and employees have enabled organizational leaders to achieve unparalleled success. So dedication to the work and organization are very important for a leader to get flourished himself. Additional important leadership skills and competencies identified as a result of preliminary literatures review include assertiveness (Wart, 2007, Kreitner and Cassidy, 2012), humility (Gallos, 2008), sense of humor (Stanfield, 2009, DuBrin, 2012), openness (Goldsmith et al., 2010), creativity (Kezar et al., 2011) and fairness (Stanfield, 2009, Kezar et al., 2011). Additional skills and competencies never get wasted, they will give added advantage to develop leadership skills.

Research Gaps

Common gaps cited by leaders and their performance implications:

- Information abundance
- Information silos
- Information specialists
- Hindsight doesn't equal foresight

Research Method

This study uses a comparative review approach method to draw conclusions by considering the opinions of earlier writers. And the literature reviews concerned with earlier writers have also been included for drawing reviews and concluding part of results.

Quality of Work Life

The employees will have the opinion that leadership will directly influence the quality of Working Life. The relationship between quality leadership and the quality of the working life, compensation, and welfare of the employees affects job satisfaction. Employee satisfaction depends on the quality of working life and on compensation. This indicated that employees paid more attention towards the quality of their working lives than to income or welfare benefits, as long these were high enough to provide a reasonable living. Income and benefits are a part of a support structure that promotes employee quality of life, helps them accomplish their potential, and creates special compensation for participation by performing their duties to their fullest capacity. All these will be possible only when there is good quality leadership.

According to G NaslSaraji, and H Dargahi survey QWL is a comprehensive, department wide program designated to improve employee satisfaction, strengthening workplace learning and helping employees had better manage change and transition by conducting descriptive and analytical study they showed that the majority of employees were dissatisfied with occupational health and safety, intermediate and senior managers , their income, balance between the time they spent working and with

family and also indicated that their work was not interesting and satisfying. According to Guna Seelan Rethinam, Maimunah QWL is a multi-dimensional construct, made up of a number of interrelated factors that need careful consideration to conceptualize and measure. It is associated with job satisfaction, job involvement, motivation, productivity, health, safety and well-being, job security, competence development and balance between work and non-work life and he concluded that QWL from the perspective of IT professionals is challenging both to the individuals and organizations. Cunningham, J.B. and T. Eberle, (1990) described that, the elements that are relevant to an individual's quality of work life include the task, the physical work environment, social environment within the organization, administrative system and relationship between life on and off the job. Chan, C.H. and W.O. Einstein, (1990) pointed out QWL reflects a concern for people's experience at work, their relationship with other people, their work setting and their effectiveness on the job. European Foundation for the Improvement of Living Conditions (2002) described that the QWL is a multi-dimensional construct, made up of a number of interrelated factors that need careful consideration to conceptualize and measure. It is Cunningham, J.B. and T. Eberle, (1990) described that, the elements that are relevant to an individual's quality of work life include the task, the physical work environment, social environment within the organization, administrative system and relationship between life on and off the job. Chan, C.H. and W.O. Einstein, (1990) pointed out QWL reflects a concern for people's experience at work, their relationship with other people, their work setting and their effectiveness on the job. European Foundation for the Improvement of Living Conditions (2002) described that the QWL is a multi-dimensional construct, made up of a number of interrelated factors that need careful consideration to conceptualize and measure. It is associated with job satisfaction, job involvement, associated with job satisfaction, job involvement, motivation, productivity, health, safety, job security, competence development and balance between work and non-work life. Hackman and Oldhams (1980) highlight the constructs of QWL in relation to the interaction between work environment and personal needs. The work environment that is able to fulfill employees' personal needs is considered to provide a positive interaction effect, which will lead to an excellent QWL. They emphasized that the personal needs are satisfied when rewards from the organization, such as compensation, promotion, recognition and development meet their expectations. Seyed Mehdi Hosseini (2010) argues that career satisfaction, career achievement and career balance are not only the significant variables to achieve good quality of work life but quality of work life (QWL) or the quality of work system as one of the most interesting methods creating motivation and is a major way to have job enrichment which has its roots in staff and managers' attitude to motivation category

that is more attention to fair pay, growth opportunities and continuing promotion improves staff's performance which in turn increases QWL of employees.

Leadership

Organizational leadership is a Managerial approach in which managers act as leaders and help to set strategic goals for the organization while motivating individuals within the group for successfully carry out tasks in service to those goals. There are several Leadership Styles in Management such as Democratic, Autocratic, Laissez-Faire, Strategic, Transformational, Transactional, Coach-Style, Bureaucratic.

When it comes to Leadership models that we can find The Authentic Leadership Model. Autocratic Leadership. Laissez-Faire Leadership. Situational Leadership. Shared Leadership. All these are particularly useful to think of leadership at three levels, the organizational level, the team level and the individual level. All three levels are equally important and must work together. Organizational leadership is made up of five key components, Leadership, Ethics, Communication, Strengths, and Worldview.

Quality Leadership

The key role of leadership in quality management forms the backbone of any development strategy. Leaders provide a unity of purpose, while also showing the development direction of the organization. As such, the responsibility of leaders consists of creating and maintaining the internal environment.

The quality leadership shows the important qualities like the ability to communicate is deemed an important leadership quality, Setting good examples, Readiness to take on and give up responsibility, Motivating the employees, Recognize and foster potential, Tolerate mistakes done by employees. Flexibility of changing ideas and plans. Leadership ensures to translate a vision of quality into reality through excellence of execution. The ability of a leader to build a strong base, develop and lead a long-term vision for the prosperity of the organization, driven by ever changing customer tastes and preferences, are guided by the interrelated core values and concepts.



How to Develop Leadership Skills and be A Great Leader

Even the most junior members of a team can learn how to be a good leader, if they are using their talents to motivate and assist their teams in moving forward and ultimately accomplishing their goals (individually, on a departmental scale, and organization-wide). And more broadly, one can lead in many contexts beyond the workplace, in any community with which you might be involved (for example, a religious community, a volunteer community, or a neighborhood community). Even if your sphere of influence is relatively small, you can play an integral role in leading the organization to success.

Leadership does not belong to those at the top of the organizational hierarchy, nor does it only apply to the people, who have good leadership qualities. It's also important to note that though we often refer to leadership as a singular skill, in reality, it's an accumulation of skills (most of which can be developed through experience and training) that are uniquely influenced by an individual's personality and background. Think about your own experience: of the leaders you've interacted with throughout your life, chances are, there are a number of different leadership styles represented. However, most of them probably possessed a similar set of good leadership qualities that they drew from to be successful.

Luckily, unlike some highly specialized or technical skills, leadership is a competency that can be accessible to anyone, regardless of where they fall on an organizational chart, and similarly, anyone can develop leadership skills, whether it's through formal training or simply through self-education and on-the-job practice.

For example, if you are a relatively junior member of your organization, you might want to look at the qualities of leadership listed above and assess how you do on each of them. Maybe you'll recognize some of them as traits you possess, and maybe some of them are places you could work on developing. That could mean practicing active listening during meetings with coworkers, being proactive about bringing new ideas to your team, or asking for assistance from a peer or manager in developing one of your weaker areas.

If you are looking to be considered for a promotion or a job change into a higher-level position (or even if you're already in a management role and are looking to hone your leadership skills to be as successful as possible), you may want to consider a more formal education or training in leadership. There are many programs out there, from short-term leadership seminars to full degree programs that can help you become a visionary, transformative leader and experience enhanced career success. Obviously, the longer and more in-depth a program is, the deeper the education you receive will be.

A master's degree program in leadership can be a great option for mid- to senior-level professionals. Today, many there are many fully accredited institutions offering this degree both on-campus and online, which can be a plus for students who must juggle a full-time job, family commitments, and their education.

Conclusion

As per the study of the above literature reviews it is realized that Quality leadership and quality commitment must be the main factors for improving the organizational performance. Leaders should have essential qualities of having clear vision and the ability of articulating it in an efficient manner. Communication skills are also crucially important for a quality leadership. It is also reviewed that decisiveness marks important traits for quality leadership. Majority of employees were dissatisfied with occupational health and safety, intermediate and senior managers, their income, the time they are working and spending with family. Leaders being skilled people they should avoid these views and opinions from the minds of the employees for organizational development.

References

- [1] Nahavandi, A. 2002. The art and science of leadership. 3rd ed. Upper Saddle River, nj: Prentice Hall
 - [2] Omolayo, B.O. (2004) Influence of job variables on workers' commitment and satisfaction in four selected Nigerian manufacturing industries. Unpublished thesis, University of Ado-Ekiti.
 - [3] Smith, B.D. (1998) Leadership: Psychology, science and understanding. Ca: AddisonWesley,686-687
-

- [4] Cunningham, J.B. and T. Eberle, 1990. A guide to job enrichment and redesign. Personnel, 67: 56-61.
 - [5] Chan, C.H. and W.O. Einstein, 1990. Quality of Work Life (QWL): What can unions do? SAM Advanced Management J., 55: 17-22.
 - [6] McNeese-Smith D., "Job Satisfaction, Productivity, and Organizational Commitment". Journal of Nurse Association, 25(9), 1995. 17-26
 - [7] G NaslSaraji, H Dargahi(2006), Study of Quality of Work Life (QWL), Dept of Health CareManagement, School of Allied Medicine, Tehran University of Medical Sciences, Iran. Iranian J Publ Health, Vol. 35, No. 4, 2006, pp.8-14
 - [8] RaduanChe Rose, LooSe eBay, JegakUli and KhairuddinIdris, 2006: Quality Of Work Life: Implications Of Career Dimensions, University of Malaya, Malaysia.
 - [9] Seyed Mehdi Hosseini, Gholamreza Mehdizadeh Jorjatki(2010): Quality of work life(QWL) and Its relationship with performance, University Of Firouz south Branch, Tehran
 - [10] ZHU Su-li, LONG Li-rong 2008: TheTreadmill Effect on the Utility of Quality of Working Life, Wuhan University of Technology, P.R.China.
 - [11] Chao, Chih Yang Huang, Yi Li Lin, Chih Wei: The Relationship between Leadership Behaviorof a Principal and Quality of Work Life of Teachers in an Industrial Vocational High School in Taiwan.
 - [12] D.R. Saklani, 2004 Quality of Work Life in the Indian Context: An Empirical Investigation, Commerce Department, Shaheed Bhagat Singh College, University of Delhi.
 - [13] Goldsmith, M. Baldoni, J. & McArthur, S. (2010) "The AMA Handbook of Leadership" AMA
 - [14] Shriberg, A. (2010) "Practicing Leadership: Principles and Applications", 4th edition, John Wiley & Sons Stanfield (2009) "Defining Effective Leadership: Lead in Whatever You Do" Tate Publishing
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**Chapter
19****NREGA PROGRAMME ACTIVITIES IMPACT ON THE
BENEFICIARIES JOB PROVISION WITH REFERENCE
TO WEST GODAVARI DISTRICT****G. Arun Kumar**

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Abstract: *The current study used primary data to try to determine how NREGA operations affect beneficiaries' access to work. The research considered two divisions (Bhimavaram and Narasapuram) from the Andhra Pradesh state's west Godavari district. The study considered 200 by considering the convenient sampling method. The study focused on four factors of NREGA activities namely basic rights, workplace amenities, social security, and grievance resolution. The chi-square statistical approach was utilized in the study to examine the association between the socioeconomic profile of the respondents and the activities parameters, and the results revealed a significant link. According to the structural equation model, basic rights and workplace amenities are given more weight in the MGNREGA Job Provision.*

Keywords: *Awareness, Beneficiaries, Grievance, Income, Redressal and Social security*

Introduction

MGNREGS is a wage employment program in rural development programs with a paradigm shift. A first ever law that guarantees unprecedented wage employment. Unique characteristics of the Act include guaranteed employment within 15 days in work linked to the development of sustainable resources, failure of which leads to the entitlement of unemployment benefits, prohibition of equipment and contractors at the worksite. The Act also mandates 33 percent of women's involvement in work linked to MGNREGS. In addition to these primary characteristics, the system includes participatory planning characteristics through Gram Sabha's proactive role, strict and ongoing surveillance through social audit, childcare facilities, and RSBY health insurance. MGNREGA is important for a variety of purposes, in addition to providing guaranteed wage employment, it seeks to enhance the livelihood safety of rural families by creating sustainable development assets by improving agricultural output. MGNREGA's uniqueness of 'right-based guaranteed employment' requires sufficient awareness among beneficiaries of various provisions of the Act to be implemented successfully and to meet its ultimate goal of sustainable rural development through the inclination of more and more rural people towards this development programme. Development woes are exacerbated until ultimate stakeholder involvement in the

scheduling process is not guaranteed. This research investigates in detail MGNREGA's work in terms of awareness level of its unique job provisions.

Awareness is considered a major accountable factor leading to the effective implementation of poverty alleviation systems including employment guarantee systems. As a matter of reality, the capacity of an individual to benefit from MGNREGA depends on awareness of the system. The study was performed in the West Godavari District to assess the level of awareness of Beneficiaries on the functioning of MGNREGA towards rural development.

Review of Literature

Dkhar D. S, Tripathi, A. Roy (2017)¹: The study focused on the development of rural families' livelihoods with reference to the effect of MGNREGA in Meghalaya's East Khasi Hills District. It was projected that the proportion of income and average monthly spending of beneficiaries increased compared to non-beneficiaries after joining MNREGA and that there was a 27.23 percent rise in beneficiaries' income following the creation of jobs via MNREGA.

Rahul Bahuguna, Akhilesh Chandra Pandey, Vishal Soodan (2016)²: In order to determine the effects that MNREGA has had on the overall economic and social development of beneficiaries, a research was conducted in regions of the Rudraprayag district in the state of Uttarakhand that had been affected by natural disasters. According to the findings of the survey, they have seen a significant rise in both their social and economic well-being after the implementation of MGNREGA.

Sanjay Kanti Das (2013)³: The study focused on MGNREGA performance in Assam by examining criteria such as average number of days of employment per home, percentage of families completing 100 days of employment under NREGA, percentage of spending against total available funds, and so on. The first two criteria had disappointed and worsened over time, and the proportion of spending to total available cash had increased. According to the report, just 3.7 percent of job card holders received 100 days of workout of the total jobless registered with MGNREGA, making it impossible to infer that the MGNREGA has not succeeded successfully.

Bigi Thomasa and Ruby Bhatiaa (2012)⁴: By measuring the various variables connected with an increase in overall quality of life, the study concentrated on the influence of MGNREGA on the beneficiaries' overall quality of life in three districts of Gujarat State. The findings showed that MGNREGA had improved recipients' quality of life, despite the fact that some respondents thought these improvements were minor and short-lived.

Shubhadeep Roy, Baldeo Singh (2010)⁵: The study examined the influence of MNREGA on the empowerment of jobless people in the West Bengal districts of Burdwan and Dakshin Dinajpur, with 200 beneficiaries serving as respondents. The

effect of MNREGA resulted in 24.5 percent of jobless people benefiting, while 100% of respondents were in the low empowerment group before MGNREGA implementation. According to the study, there is a good influence on the empowerment of its recipients.

Norton, Seddon, Agrawal (2020)⁶: Governments and international development agencies must identify effective policy tools to address global inequality, climate change, and biodiversity loss. Social aid reduces the susceptibility and livelihood hazards of poor, vulnerable, and disadvantaged people and improves their rights and status. Globally, social assistance programmes are well-funded. Lower- and middle-income nations spend a minor portion of GDP on social assistance. The study concentrated on how paid employment may encourage environmental stewardship. To overcome these issues, social assistance delivery systems must evolve to better combine social and environmental goals.

Banik, Ghosh and Choudhury (2021)⁷: This is the first study to use worker answers to validate MGNREGA's influence on manual labor market wage rates. The study utilized the Workers Level Schedule database from India. They have considered the control factors such as the number of days worked under MGNREGA, the number of days worked for creating MGNREGA assets, the number of days worked for non-MGNREGA related works, the wage rate per day for MGNREGA work and the wage rate per day for non-MGNREGA work, and the number of hours worked per day under MGNREGA work and non-MGNREGA work. The study concludes that a pan-Indian programme without location-based regional features would fail to reach India's target population of impoverished rural families.

Research Gap

Based on the literature survey it has been observed that less studies have focused on the impact of MGNREGA activities on the job provisions. Thus, in order to fill the research gap the present study made an attempt with the proposed title of "NREGA Programme activities Impact on the Beneficiaries Job Provision with reference to West Godavari District." The study has framed the following objectives for the examination of framed objectives.

Objectives of the Study

1. To examine the MGNREGA scheme beneficiaries socio economic profile
2. To study the effect of MGNREGA activities on the Beneficiaries Job Provisions

Hypotheses of the Study

H0: There is no significant association between the beneficiaries socio economic profile with MGNREGA Job provision.

H0: There is no impact of MGNREGA activities on the Beneficiaries Job Provisions

Scope of the Study

The present study examined the Beneficiaries Awareness on the MGNREGA scheme in creation of job provision. The study has considered the two revenue divisions i.e., Bhimavaram and Narasapuram. From Bhimavaram division – Attili and Bhimavaram were considered and whereas for Narasapuram – Tanuku and Penugonda were considered for the registered beneficiaries under the MGNREGA. The study has considered four areas of i.e., Basic Provisions, worksite facilities, Social security and Grievances and Redressal relating to the scheme.

Research Methodology

The present study has considered the primary data from the beneficiaries with the help of a convenient sampling method. The following statistical tools were applied for the framed two objectives.

Chi-square Test: The study applied the Chi-Square test to know the beneficiaries' Socio-economic factors association with the parameters of the awareness level of MGNREGA scheme. The study has considered the four Socio-economic factors and four awareness related parameters.

Structural Equation Model: The study framed the structure equation model to know the impact of multiple independent variables (MGNREGA activities) on the dependent variable (Beneficiaries job provision).

Tabulation of Data Analysis & Interpretation

Objective-1: To examine the MGNREGA scheme beneficiaries' socio economic profile

The research regarded beneficiaries of the MGNREGA plan to examine the consciousness of the sponsored central government system for jobs generation in rural areas. The research regarded the West Godavari District as the place of the research. The current research gathered the primary data with four Socio-economic variables with a convenient sampling method.

Table – 1

Beneficiaries Socio-Economic profile

Age	Classification	Frequency	Percent
	18-25 yrs	86	43.00%
	25-30 yrs	72	36.00%
	30-45 yrs	26	13.00%
	Above 45 yrs	16	8.00%
Educational Qualification	Classification	Frequency	Percent
	Below Primary	88	44.0%
	SSC	68	34.0%
	Intermediate	26	13.0%
	Graduation and above	18	9.0%

Occupation	Classification	Frequency	Percent
	Agriculture	55	27.5%
	Non Agriculture	53	26.5%
	Skilled Labour	38	19%
	Unskilled Labour	54	27%
Annual Income	Classification	Frequency	Percent
	Below 20000	44	22%
	20000 to 30000	58	29%
	30000 to 50000	49	24.5%
	50000 and above	49	24.5%

Source: Primary Data

The primary data shows that the Age Socio-economic factor of 18-25 yrs contributed 43 percent for the research, followed by the 25-30 yrs with the sample size of 36 percent. With the 8 percent, the participation is noted to be reduced over 45 years. The research noted Socio-economic factor Education Qualification among the beneficiaries of the MGNREGA system, the majority of whom are below primary with 44 percent and graduation and above are found to be the least contribution with 9 percent. The Occupation of the beneficiaries found through the primary data that the bulk of them belonged to Agriculture with 27.5 percent and followed by the unskilled labor of 27 percent. The research discovered that most participants had a neighboring annual income of Rs. 50,000/-. Majority of beneficiaries' Annual Income ranged from 20,000 to 30,000. The current research therefore examines the consciousness of the MGNREGA system in the rural region by considering the mandals of the West Godavari District.

Table-2

Chi Square Result Regarding Awareness Factors in MNREGA Scheme

Awareness Factors		Age	Education	Occupation	Annual Income
Awareness about Basic Privileges	Chi Square Value	25.845	26.451	30.211	21.845
	DF	12	12	12	12
	Sig.	0.012	0.032	0.025	0.036
	Critical Value	21.026	21.026	21.026	21.026
		Reject	Reject	Reject	Reject
Awareness about Worksite Facilities and Works	Chi Square Value	26.845	28.451	32.845	36.451
	DF	12	12	12	12
	Sig.	0.025	0.036	0.004	0.012

	Critical Value	21.026	21.026	21.026	21.026
		Reject	Reject	Reject	Reject
Awareness about Provisions for Social Security	Chi Square Value	32.412	29.665	31.425	25.314
	DF	12	12	12	12
	Sig.	0.041	0.036	0.025	0.001
	Critical Value	21.026	21.026	21.026	21.026
		Reject	Reject	Reject	Reject
Awareness about Monitoring and Grievances Redressal Mechanism	Chi Square Value	34.125	29.854	21.854	32.415
	DF	12	12	12	12
	Sig.	0.044	0.021	0.014	0.009
	Critical Value	21.026	21.026	21.026	21.026
		Reject	Reject	Reject	Reject

Source: Primary Data

Table illustrates the chi square result with respect to awareness factors under MNREGA Scheme in Nizamabad. It includes Awareness about Basic Privileges, Awareness about Worksite Facilities and Works, Awareness about Provisions for Social Security and Awareness about Monitoring and Grievances Redressal Mechanism and result of chi square are explain below

Awareness about Basic Privileges

Awareness about Basic Privileges had shown significant association with beneficiaries' age group by observing that calculated chi-square value seems to be greater critical value ($25.845 > 21.026$) which indicates reject H_0 , while "Education", "Occupation" and "Annual Income" had shown significant association with Awareness about Basic Privileges, meaning that accept H_1 and reject H_0 .

Awareness about Worksite Facilities and Works

Chi square result indicates that Beneficiaries socio-Socio-economic factor "Age" and "Education Qualification" had shown significant association with Awareness about Worksite Facilities and Works and found p-value is less than 0.05, meaning Reject H_0 . While, Occupation chi square value (32.845) and Annual Income Chi square value (36.451) are greater their respective critical value, meaning that Reject H_0 and Accept H_1 i.e., Significant association exist between these beneficiaries socio-economic factors with Awareness about Worksite Facilities and Works.

Awareness about Provisions for Social Security

The result indicates “Age and Education Qualification with Awareness about Provisions for Social Security” had shown significant association. Beneficiaries’ socio Socio-economic factors “Occupation” chi square calculated (31.425) and “Annual Income” Chi square calculated (25.314) seems to be greater than their respective table value (21.026) which indicates that, Reject H₀ and accept H₁ i.e., Significant association exist between these beneficiaries socio Socio-economic factor with the “Unemployment Allowance”.

Awareness about Monitoring and Grievances Redressal Mechanism

Age, Education Qualification and Occupation of group of Beneficiaries chi square calculated value seems to be greater than table value which indicates Reject H₀, similarly “Annual Income” p-value observed to be less than 0.05 and Chi square calculated value is higher than critical value (32.415 > 21.026), meaning that significant association exist between the socio Socio-economic profile with Awareness about Monitoring and Grievances Redressal Mechanism.

Objective 2: To study NREGA programme activities impact on the beneficiaries Job provision.

The study made an attempt to know the NREGA programme activities impact on the beneficiaries Job provision. The study considered four parameters such as Basic Privileges, Worksites facilities & work, Social Security and Monitoring & Grievances Redressal Mechanism.

Goodness of Fit

Path diagram has been framed and found the model is fit and the results are as follows

Table-3

Goodness of Fit

Fit statistic	Recommended Value	Obtained Value
Chi square		157.616
Df		171
Chi square significance	$p \leq 0.05$	0.012
Goodness Fit Index	>0.90	0.932
Adj. Goodness Fit Index	>0.90	0.959
Normed Fit indexes	>0.90	0.843
Relative Fit Index	>0.90	0.866
Comparative Fit Index	>0.90	0.916
Tucker Lewis Index	>0.90	0.947
RMSEA	<0.05	0.002

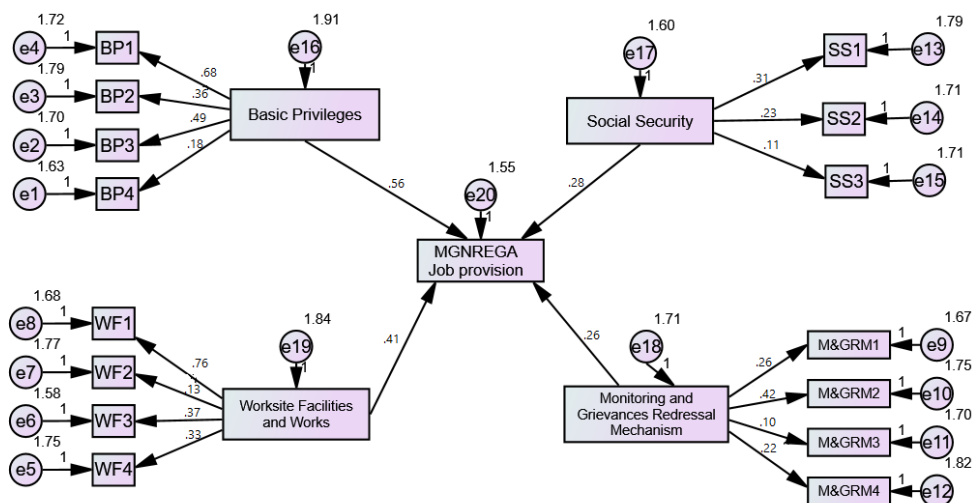
Source: Primary Data

Tables represent the chi-square at the degree of freedom the value seems to be greater than critical value and probability value is statistically significant which indicates association exists between the MGNREG activities and beneficiaries Job provision. Goodness Fit index (0.932) and Adj. Goodness Fit Index (0.959) are model fitness indicators which are above the recommended level (>0.90), meaning that model is strongly fit, while Normed Fit Index and Relative Fit Index are below the recommended level, signifying the model is acceptable. Comparative Fit Index and Tucker Lewis Index are 0.916 and 0.947 respectively and Root mean square Residual is less than 0.05 ($0.002 < 0.05$). Hence it is concluded proposed models are fit to construct the SEM.

The model is observed to be strong fit and statistically significant. The coefficient value of the model has been executed which is shown in below figure.

Figure -1

Path diagram with respect to MGNREG activities and beneficiaries Job provision



Source: Primary data

Path diagram represents the NREGA programme activities impact on the Beneficiaries job provision. The result as follows

Basic Privileges

Guaranteed 100 days of employment (BP1) is the parameter which had influenced high and low by the parameter Additional Allowances (BP4). Beneficiaries towards Parameter such as BP2 (Work in 15 days of application) and BP3 (Unemployment Allowance) are found to be moderately influenced Job Provision

Work facilities and Work

Drinking water facilities (WF1) is the parameter under the head of Work facilities that seems to be highly impacted, meaning that beneficiaries are strongly satisfied with these facilities and found that Beneficiaries had low awareness of the parameter Day care facility for Children (WF2).

Social Security

Rashtriya Swasthya Bima Yojana (RSS1) is the parameter which had mild effect on MGNREGA Job provision schemes and remaining two parameters such as Hospitalization (SS2) and Ex Gratia Payment (SS3) had observed to be having low influence on the beneficiaries job provisions.

Monitoring and Grievances Redressal Mechanism

Attendance in Muster roll (M&GRM2) estimated value seems to be mildly influenced on MGNREGA job provision (i.e., with 0.42) and Work for 14 continuous days (M&GRM3) is the parameter which had low influence (0.10).

Overall path diagram signifies that, estimate value of Basic Privileges (0.564) and Worksite facilities and work (0.413) are moderately influence on MGNREGA Job provision schemes, meaning that moderate awareness level had found and Weak awareness level had observed on social Security (0.283) and Monitoring & grievances redressal mechanism (0.257) parameters.

Findings of the Study

1. Chi-square test stated that beneficiaries Socio-economic had significant association with the parameters under the Basic privilege, Work facilities, Social Security and Grievance Redressal Mechanism.
2. Beneficiaries had shown a high level of awareness on the "Guaranteed 100 days of employment" and Low on the parameter "Additional Allowances" under the head of basic privileges.
3. "Children's day care facility" is the parameter found to have a low level of influence on the beneficiaries job provision and followed by the "Drinking Water Facilities".
4. Rashtriya Swasthya Bima Yojana (0.31) under social security and "Attendance in Muster Roll" (0.42) under grievance redress mechanism estimated value appears to be slightly affected on MGNREGA work provision.
5. Basic Privileges (0.564) and Worksite facilities and work (0.413) are found to be mildly conscious and observed with low influence by the Social Security (0.283) and Monitoring & Grievances Redress mechanism (0.257).

Conclusions of the Study

The present study has been focused to examine the Impact of MGNREGA activities on the beneficiaries Job provisions in West Godavari district of Andhra Pradesh state. The study has considered the primary data and collected the

beneficiaries' opinions with a convenient sampling method. The study mainly focused on four areas namely basic privileges, Work facilities, Social Security and Grievance redressal mechanism. The study made an attempt to examine the association of beneficiaries' socio-economic profile with the parameters of the MGNREGA awareness level. The result of the chi-square indicated that socio-economic profiles are significantly associated with the selected four parameters. The SEM has been framed with the selected four parameters and the result depicts that the basic privilege and work facilities are having the slightly higher influence but grievance and redressal and social security are having the lower influence on the job provision. Hence, there is a need to do further research in this area by considering the entire nation, how far MGNREGA is effective for the rural people empowerment.

References:

1. Dkhar, A.K. Tripathi, A.Roy (2017), "MGNREGA: A Paradigm Shift in Employment and Income Generation in Meghalaya", "Indian Association of Hill Farming", volume no: 30(1), pp. 110-115.
 2. Rahul bahuguna, Akhilesh Chandra Pandey, Vishal Soodan (2016), "A study on Socio Economic impact of MGNREGA on beneficiaries in Rudraprayag district of Uttarakhand, India", "International Journal of Management and Applied Science" volume no -2(10), pp. 44-47.
 3. Sanjay Kanti Das(2013), "A Brief Scanning on Performance of Mahatma Gandhi National Rural Employment Guarantee Act in Assam, India", "American Journal of Rural Development", volume no: 1(3), pp. 49-61.
 4. BigiThomasa and Ruby Bhatiaa (2012), "Impact of NREGA Scheme: A Study on the overall Quality of Life of Its Beneficiaries (A Study Undertaken among beneficiaries of 3 districts of Gujarat State)", " International Society for Asia-Pacific Studies (ISAPS)" volume no –IV(2), pp. 213-227.
 5. Subhadeep Roy, Baldeo Singh (2010), "Impact of NREGA on Empowerment of the Beneficiaries in West Bengal", "Indian Research Journal Extension Education", Vol no: 10 (2), pp. 20 -23.
 6. N Banik, B Ghosh, RR Choudhury (2021)Impact of MGNREGA on labor wage rate dynamics in India Ksh. hu/docs/hun/xftp/terstat/- ceeol.com
 7. A Norton, N Seddon, A Agrawal(2020) of the Royal ..., 2020 Harnessing employment-based social assistance programmes to scale up nature-based climate action- royalsocietypublishing.org
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**Chapter
20****A COMPARATIVE ANALYSIS OF MACHINE LEARNING
AND DEEP LEARNING MODEL FOR DETECTING
NATURAL DISASTER*****Mr. S. Sureshkumar, **Dr. M.P. Revathi & *** Mr. S.P. Suresh Raj**

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Abstract: *Natural disasters like landslides, avalanches, floods and debris flows can result in enormous property damage and human casualties in mountainous regions. Landslides are gravitational movements of soil or rock down slopes that can cause serious damage to civil infrastructure. Numerous fatalities and structural failure caused by landslides have been reported over the years. Therefore, efforts to measure and to monitor potential landslides are essential to ensure human safety and to protect civil infrastructure. To observe the behavior of slopes, monitoring systems have been installed or manual inspections by human experts have been conducted. Land Slide monitoring is based on geotechnical instrumentations. In this proposed method Machine Learning and Deep Learning algorithms have been used, by focusing Machine Learning and Deep Learning based algorithms in disaster management will result in efficient determining, disaster detection, early warning systems, disaster monitoring, damage assessment and post-disaster response. Furthermore, some recently developed Machine Learning and Deep Learning applications for disaster management have been analyzed.*

Keywords: *Natural disaster, landslide, Machine learning, deep learning.*

1. Introduction

Natural disasters and man-made disasters cause more hazards to human lives and it mostly affects the livelihoods around every country [1]. Landslide, also known as a landslip, is a geological phenomenon that includes a wide range of ground movements such as rock falls, deep failure of slopes and shallow debris flows. India has been affected by hydro-geological hazards like landslides since years ago. History depicts that it has happened mostly in Himalayan regions, Hill ranges of Northeast, Western & Eastern Ghats of India. The North East (NE) region of India is badly affected by bewildering varieties of landslides; specifically the state of Arunachal Pradesh. This makes the landslide monitoring an important aspect and challenges for the geo-scientists in India. Most of the landslides in India are caused due to heavy rainfall. Rainfall events can cause slope failures in areas of limited extent or in large

regions. Developing an early warning system for the monitoring of landslides requires its domain expertise not just to build the instruments but to use them properly and interpret their output for rational purpose. Other than this also causes significant impacts on the economy and it will take years to attain normal situations [2].

The effectiveness of disaster management is important to address the disaster scale and the place of occurrence. This alert system is analyzed using Machine Learning (ML) and Deep Learning (DL) algorithms. The identification of effects includes hurricanes, earthquakes, floods, wildfires and landslides [3]. Mitigation relates to activities that will either prevent the disaster occurrence or to reduce the impact of the disaster. The disaster relief and response includes the safety measures like implementation of emergency plans, emergency reuse and medical care, shelter and management and also damage assessment. The active involvement of the local area peoples in disaster management can lead to community resilience [4].

Recent reviews in disaster management have focused on applications of AI in disaster management and the use and potential of big data in natural disaster management. An overview of example AI applications in various application areas of disaster management such as hazard risk assessment, vulnerability assessment, early warning systems, disaster detection, event mapping, damage assessment, disaster rescue and relief and resource allocation. There is an increasing trend in using AI to analyze and process big data coming from various data sources for informed decision making in disaster management [4].

Artificial Intelligence (AI) techniques are used to detect disaster occurrences. The Machine Learning and Deep Learning algorithms are considered for the data training. Machine Learning (ML) algorithms include Decision Tree (DT), Logistic Regression (LR), Naive Bayes (NB), Support Vector Machine (SVM), Random forest (RF) and K-nearest neighbor (KNN). Similarly for the Deep Learning algorithms includes different architectures of artificial Neural Networks (ANNs), Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNNs), Multi-Layer Perceptron (MLP), Long Short-Term Memory Neural Network (LSTM), Transformers Architecture and Generative Adversarial Networks (GANs) [5]. ML and DL enhance the big and complex datasets in order to predict the disaster. The theoretical background in some main ML and DL methods used in disaster management follows. Recent studies presented since 2022 are analyzed next, categorized according to the sub phases of disaster and hazard prediction, risk and vulnerability assessment, disaster detection, early warning systems, disaster monitoring, damage assessment and post-disaster response. Case studies for disaster management and a section presenting in more detail technological applications of ML/DL methods for disaster

management follows. Comparison of the results is presented next. Finally, conclusions are drawn.

2. Methodology

The main objective of this study is to analyze the ML and DL algorithms used in natural disaster detection and the efficiency of the model has been compared based on the disaster occurrence parameters. The purpose of this study was conducted in Google Scholar and also in a journal / conference database. The natural disaster datasets were collected and using Machine Learning, Deep Learning model has been used for training the dataset. The software used for implementing this process is the Matlab/Simulink environment.

3. Machine Learning and Deep Learning Algorithms

Machine Learning has an effective processing of data and eliminates the unrelated data for the model selected. It also analyzes the information related to the disaster events effectively in all phases of disaster management [6]. The Traditional ML methods are unable to learn directly representing a complex system for the raw data. DL is the subset of ML that has the advantage of automatically learning the representation of a complex system for prediction and classification purposes. The DL model generally uses a casual chain of Neural Network (NN) layers that has higher and more computational models of the real systems [7]. The complete dataset processing, training, loss calculation and prediction process involved using ML model is represented below as follows;

3.1 Creating Dataset for ML and DL Model

This process involves collecting data from the hybrid energy resources. The dataset combines the input and target data. Input data includes the values of the system response with error value and target data is the reference value of the system [8].

Now, the raw data is preprocessed to make an efficient Training dataset are discussed below section.

3.2 Data Pre-processing and Training using ML and DL Model

The dataset created from the above section is taken for data preprocessing. The data preprocessing task is executed for cleaning, smoothing, and grouping the raw data which is collected for the system with a problem statement. The major factor that affects the efficiency of the Machine Learning algorithm includes the representation of irrelevant information in raw data and unreliable data gathered for the learning process. This kind of data will make training difficult and less amount of knowledge gathered by the model from the data as shown in figure 1.

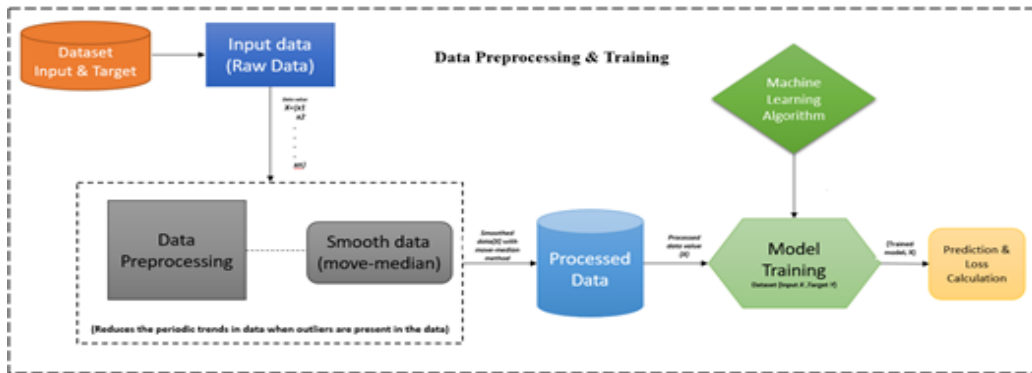


Figure 1: Data Preprocessing and Training using ML/DL Model.

Figure 1, shows the schematic representation of data preprocessing and training of the dataset using ML/DL algorithms. At the initial stage the raw data is pre-processed using the smooth data (move-median) function. The move-median function used to reduce the periodic trends in the data when outliers are present in the data. Then processed data is given as input for ML/DL model training after completion of training, prediction and loss calculation and accuracy of the trained data is determined.

3.3 Machine Learning – GPR Model:

Machine Learning Algorithm – GPR comes under the specialization of Supervised Learning. This Supervised learning has been further categorized as Regression and Classification techniques. The Classification method is used to classify the input data with its discrete labels and Regression are mainly used to predict the continuous data values [7]. Here the Gaussian Process is considered with nonparametric regression which does not analyze prediction in a predetermined form, rather than it makes predictions based on the input data. For the GPR model, the training datasets are defined as follows $\{D = (x_i, y_i)\}$ where $i = (1, 2, 3, \dots, n)$ sequence of data values, x and y denote the input vector and scalar targets or ground truth correspondingly. All the input vectors of n values are collected in X and scalar targets value y as Y respectively. The Input Data X has the data values with noisy or mismatched values and target or ground truth Y has the real values of the system, which is further given to the GPR model for the training process.

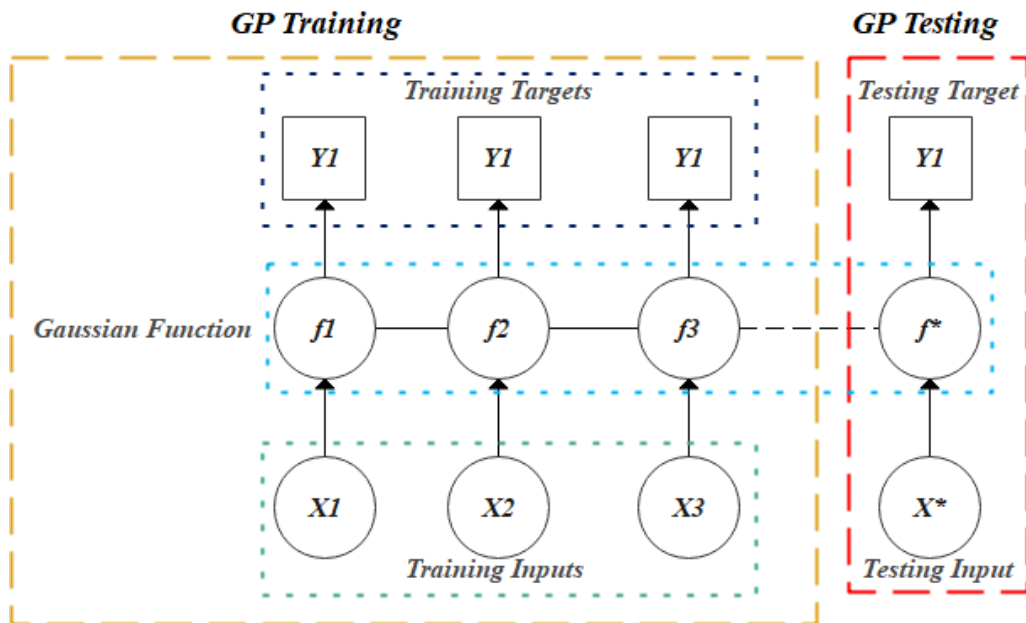


Figure 2:Gaussian Process Function Representation

The Gaussian Process Function is illustrated as a Gaussian field in figure 2, where the Gaussian function includes the mean and covariance function of the input data. The Input data is given to the Gaussian field, then the function compares with observation data (target data) and reduces the variation in the input values by computing the mean and covariance which is further taken as a kernel function by GP for their input data respectively.

In general the Gaussian process is defined by mean function $m(a)$ and covariance function $k(a, a')$ of real function $f(a)$ as in [8].

$$ma = E[fa] \quad (1)$$

$$ka, a' = E[(fa - ma)(fa' - ma')] \quad (2)$$

Where fa' and ma' is function and mean variance of input data a . The term E denotes expectation for example $E_{q(a)}[z(a)]$ which means expectation $z(a)$ when $x \sim q(a)$. From the above two equations (1) and (2) the Gaussian Process (GP) can be written as [8].

$$f_x \sim GP(ma, ka, a') \quad (3)$$

The Gaussian function includes the mean and covariance function as given in equation (3) of the input data. The Input data is given to the Gaussian field, then the function compares with observation data (target data) and reduces the variation in the input values by computing the mean and covariance which is further taken as a kernel function by GP for their input data respectively.

3.4 Convolutional Neural Network (CNN)

This CNN architecture involves convolutional layers (CL). These layers take the data with tabular multiplication of $n \times m$ tabular filters called kernels, where n equals to m in most of the cases. This method will represent a different input data on the filter that is applied to it. In most of the cases the representation of various features are uncovered and protected by feature maps. Finally, the convolution multiple unique transformations of input data are generated. The overall convolution key performance of the network depends on the number and size of the kernels. After this kernel step, the data is processed to the next step, which is the Pooling Layer (PL), this layer is used for grouping the convolution results and retains only the most important information to the network. Depending on the depth of the network the entire process is repeated several times. The softmax layer converts the data into probability distribution. It is important to mention that each CL in the network provides a level of abstraction in the feature extraction process [9].

3.5 Long Short Term Memory (LSTM)

The Long Short Term Memory is a special kind of Recurrent Neural Network (RNN). It is capable of handling long term dependencies. LSTM are commonly used for the text classification in social media datasets. RNN are networks that recurrently apply the same computation for every element in a set of sequential data while passing some information along to the next iteration. A prediction is made on the input data which will be used for future predictions. This operation makes the network understand the complex data. These LSTMs differ from the regular RNN due to its internal cell architecture. It will utilize memory cells called constant error carousels (CECs). The predictions of LSTM may vary for different datasets. The network output can be used with a probabilistic classifier for classification processes. The most important hyper parameters used for training LSTM are the learning rate and network size. In LSTM the hyper parameters can be tuned independently, which is used to save the time duration of training and experimentation process.

3.6 Space Vector Machine (SVM)

The Space Vector Machine (SVM) is one of the most effective and simplest Machine Learning algorithms for classification and regression problems. This algorithm comes under the supervised learning method, which means it requires a labeled data dataset for the training process. On the other hand space vector clustering can also categorize unlabeled data. The hyperplane used to separate data in their respective categories to make the margin maximum. A hyperplane in an n -dimensional Euclidean space is defined as a flat $n - 1$ dimensional subset of that space which separates the space into two disconnected parts. The margin is the minimum distance between the hyperplane and the closest elements from each category. Maximizing the

margin in essence makes it more clear for the model to differentiate the categories therefore making it more possible to make better predictions [9]. This SVM mainly works with vectors in a linear path and is also able to perform non-linear classification kernel tricks. The data is augmented in a multidimensional space where the features can be represented. The reverting of the original plane will project the hyperplane in a nonlinear transformation. The kernel function allows the SVM to learn invariant features of complex datasets while maintaining its simple and fast processing nature. The recent studies in disaster management uses SVM as a starting point due to its great results as compared to Deep Learning Systems.

4. Machine Learning and Deep Learning Methods for Disaster Management

Many innovations are taking place in various industries Research and Development departments. Likewise this natural disaster occurrence prediction also plays a major role as discussed in the introduction section. The existing system for disaster relief operation is named as Eagle EYE which is an aerial system. Using the present datasets will make the mechanism to be object fusion and the training time is being reduced. In case of ML and DL model implementation a study is carried out and analysis detailed in graphical representation.

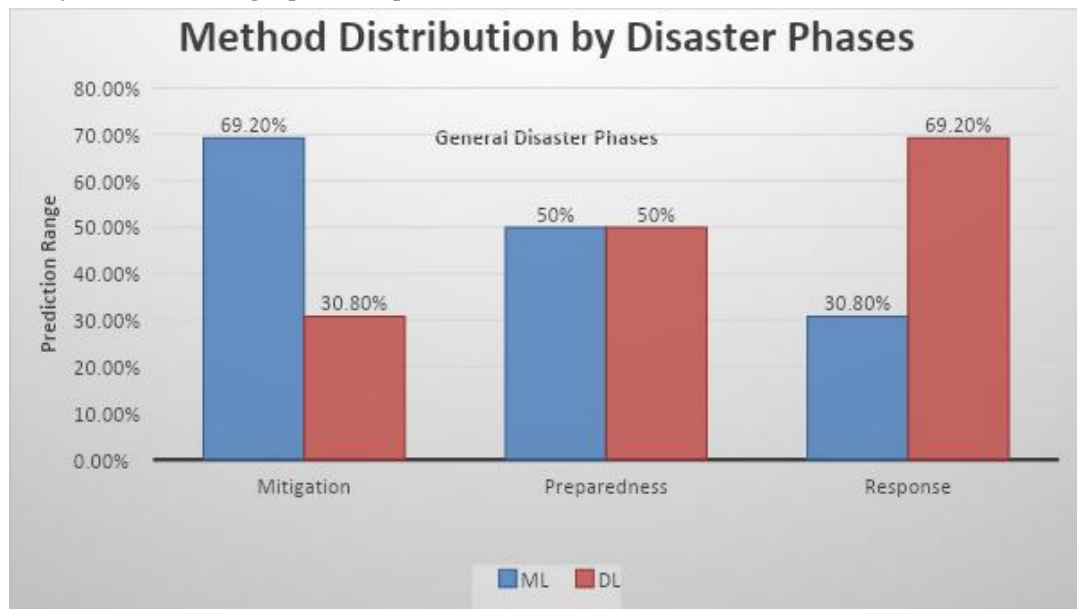


Figure 3: ML/DL based research studies in percentage for Disaster Phases

The percentage distribution of studies developed using ML and DL by distributed phases. From figure 3, it states that 69.2% of the research work was based on ML and 30.8% of the study developed based on DL methods. In preparedness of the phase the ML and DL shares equally by 50% each. And similarly for response phase

ML has the research percentage of 30.8% and in DL to be 69.2%. From this information it is clear that ML/DL has the equal weightage for overall percentage [9].

4.1 ML and DL Comparison in predicting disaster occurrence

For ML and DL model based predicting disaster occurrence is considered for following cases Disaster and hazards prediction, Disaster monitoring, Disaster detection, Early warning systems, Risk and vulnerability assessment, Damage assessment and Post-disaster response based on this following sub phases for ML/DL model based efficient predicting results [9] as shown in figure 4.

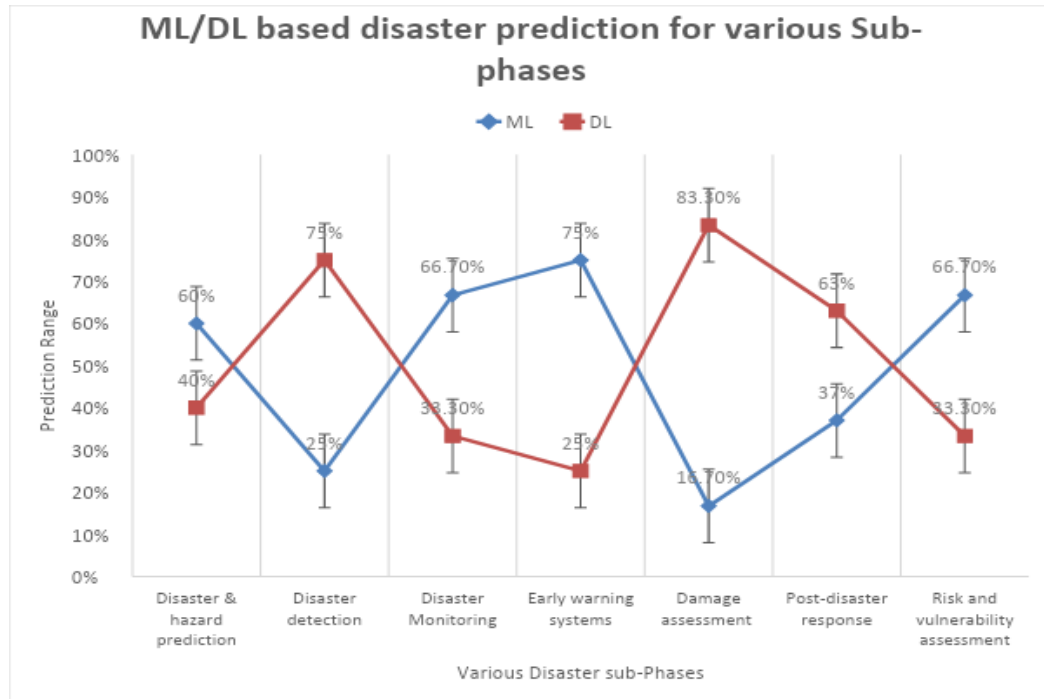


Figure 4:ML/DL based disaster prediction for various sub-phases.

Figure 4, shows the research studies percentage in the ML and DL for different disasters sub-phases. The DL based methods have outnumbered the ML based methods in damage assessment and also in post-disaster response with 83.3% and 63% respectively. The disaster detection with 75% for DL and 25% for ML, whereas in early warning systems its vice-versa ML is 75% and DL is 25% of prediction range is determined. Further in risk and vulnerability assessment the ML has the higher advantage over DL. From the data gathered it is clear that the ML and DL can give an equal range of accurate results for natural disaster prediction.

5. Conclusions

Natural disasters cause major damage to infrastructure and human lives. For detecting natural disaster advances in ML and DL have been used and accuracy of the

model has been compared. In this comparative analysis of Machine Learning and Deep learning modal has been determined from the above results stated. It is found that the DL model could give a higher range of accurate level for detecting disaster occurrences. Future work can be carried towards making ML and DL algorithms and also the unsupervised data training can be used to detect natural disasters. This kind of implementation improvises the effectiveness of the research work.

References

1. Center for Research on the Epidemiology of Disasters (CRED); United Nations Office for Disaster Risk Reduction (UNDRR). Global trends and Perspectives Executive Summary. 2021. Available online: <https://www.undrr.org/publication/2020-non-COVID-year-disasters> (accessed on 4 October 2021).
2. Altay, N., & Green III, W. G. (2006). OR/MS research in disaster operations management. *European journal of operational research*, 175(1), 475-493.
3. Sun, W., Bocchini, P., & Davison, B. D. (2020). Application Of artificial intelligence for disaster management. *Natural Hazards*, 103(3), 2631-2689.
4. Wannous, C., & Velasquez, G. (2017, May). United nations office for disaster risk reduction (unisdr)—unisdr's contribution to science and technology for disaster risk reduction and the role of the international consortium on landslides (icl). In *Workshop on World Landslide Forum* (pp. 109-115). Springer, Cham.
5. Arinta, R. R., & WR, E. A. (2019, November). Natural disaster application on big data and machine learning: A review. In *2019 4th International Conference on Information Technology, Information Systems and Electrical Engineering (ICITISEE)* (pp. 249-254). IEEE.
6. Yu, M., Yang, C., & Li, Y. (2018). Big data in natural disaster management: a review. *Geosciences*, 8(5), 165.
7. Schmidhuber, J. (2015). Deep learning in neural networks: An overview. *Neural networks*, 61, 85-117.
8. Se Pa, S., Yakoob, M. B., Maruthai, P., Singaravelu, K., Duraisamy, N., Palaniappan, R. D., & Pithai, J. B. (2022). Machine Learning Gaussian Process Regression based Robust H-Infinity Controller Design for Solar PV System to Achieve High Performance and Guarantee Stability. *Engineering Proceedings*, 19(1), 26.
9. Linardos, V., Drakaki, M., Tzionas, P., Karnavas, Y. L. (2022). Machine Learning in Disaster Management: Recent Developments in Methods and Applications. *Machine Learning and Knowledge Extraction*, 4(2), 446-473.

Chapter
21

**MIGRANTS TRAUMA AND TEXTURE OF SURVIVAL
IN ABDUL RAZZAK GURNAH'S FICTION**

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Abstract: *Africa is made up of people with different languages and with a variety of approaches to cultural expression in the verbal arts. Every part of the continent has long-standing oral traditions, while some countries, like Egypt, have long established written traditions as well. The main stream of African literature – West African literature is a combination of literary, educational and political developments. West African literature is widely produced in the novel form. The technique of writing a novel is achieved by a wide reading of novels and understanding of the intricacies of characterization, plot, language, social and psychological insight. The serious reading of novels in West Africa began with the emergence of grammar schools, which provided the best opportunities to the students to achieve the talent to start their careers as writers. The novel in West Africa was pioneered by its middle class. It is the education in background and social circumstances which gave rise to the novel in West Africa. Another major influence responsible for popularity of the novel is the upsurge of popular pamphlet literature in the market town of Onitsha in Eastern Nigeria, at the end of Second World War. The factors that gave rise to the popular pamphlet literature in Onitsha were the location of the town and its market (the largest in West Africa), the Post-war growth of the number of literate people there the growth of the urban population, the spread of locally owned and operated printing presses. In this Paper, the researcher highlights the art of writings of Abdulrazak Gurnah, a reputed novelist and academician. This study seeks to understand Gurnah's work beyond the labels of postcolonial writing or world literature. Though he is generally described using such terms, Gurnah is aware of the reductionism of such terminology. He considers these terms useful, only in so much as they are helpful for organizational purposes.*

Keywords: *oppression, philosophical, community, solidarity, archiving, memory, resistance*

Introduction:

Biographical note on Abdulrazak Gurnah

Abdulrazak Gurnah was born in Zanzibar, Tanzania, in 1948. He is a reputed novelist and academic. Like most of the protagonists in his novels, he made England his home when he migrated in 1968. He came to England to pursue a university education. Gurnah was also, in part, driven out of Zanzibar to escape the civil unrest, whereby the sustained violence against the Arab population in the country made it an unwelcoming and uncomfortable home space for them. He received his PhD from the University of Kent, where he was later a professor in postcolonial literature. Gurnah documents the

British migrant experience, the troubled experiences of individuals living in postcolonial Zanzibar, and how individuals residing in the two cultural spaces find routes into their subjectivities by undertaking philosophical and subjective journeys. Gurnah has written nine novels, and his career as an author span over three decades, with his earliest book being *Memory of Departure* (1987) and the latest one being *Afterlives*: By the winner of the Nobel prize in literature 2021 (2020). His most acclaimed novels are *the last gift* (2011), *Desertion* (2005), *By the Sea* (2001), *admirer* (1996), (Whitbread award) which were shortlisted and shortlisted for the Booker Prize, respectively. *Desertion* (2005) was shortlisted for a 2006 Commonwealth Writers Prize.

Objectives of the Study:

1. To gain knowledge in African literature & fiction
2. To understand slavery, inequality, injustice issues
3. To popularize the thoughts of recent Nobel peace winner Gurnah 2021
4. To reflect the African diaspora
5. To reduce or to show the consequences of hegemony

Abdulrazak Gurnah's art of Writing

Before embarking on a full-length study of Gurnah's novels, it is viable to state his position as an artist *vis a vis* society, world literature, and art itself. Gurnah's function as an artist, and as an originator playing with meaning in his literary universe must be understood. He is aware that his role as a writer is not that of an originator of sense but as a seeker of meaning. He understands that his art of writing helps him decipher a complex world where a few people wield power and oppress others.

My proposed study seeks to understand Gurnah's work beyond the labels of postcolonial writing or world literature. Though he is generally described using such terms, Gurnah is aware of the reductionism of such terminology. He considers these terms useful, only in so much as they are helpful for organizational purposes.

He says in this regard, in an interview with Fabienne Roth

'I would not use any of those words. I wouldn't call myself a writer of any kind. In fact, I am not sure that I would call myself anything apart from my name. I guess, if somebody challenges me, that would be another way of saying ``Are you a [...] one of these...?' I would probably say "no". Precisely, I don't want that part of me having a reductive name. On the other hand, it depends on how this question would be asked; for example, if a journalist asks in an interview, "Are you a world literature writer", what is he going to put down when he goes away from here? But I am not that. I'm a little bit of that .

My study helps one understand how the subject traverses the rugged terrain of oppression that is operative in the hotspots of postcolonial societies, in the lives of women, lower classes, and children, in Gurnah's novels. Subalternity and non-

representation are operative far and wide in several forms, and encumber the individual psyche. Such a study of Gurnah's novels is called for, since it examines the operations of power and how individuals and communities find ways to counter it, through resistance, revolt, assimilation, articulation, and recording and passing on stories and histories, through various dimensions like morality, archiving, space, etc.

At the core of the theory of subalternity lies the desire for subjecthood and its expression. Subjectivity is a much-talked-about notion in literary and cultural theory. The subject is at the core of most human endeavors. Subjectivity as an issue and a concept cannot be pinned down to a singular meaning; we must grapple with it and understand ourselves to find meaning in our lives. There are four ways in which the word subject, which is not interchangeable with the self, can be employed: as the subject of grammar, the politico-legal subject, the philosophical subject, and the human subject. This novel presents how the characters in Gurnah's novels come to terms with their subject positions and subjectivity. Subjectivity must subsume some agency. Conditions of oppression are such that they either ultimately subdue the subject, or reinforce in them a will to become an agent.

Subalternity includes agency as its practical, proactive component. Agency exists, not in individuals alone, but in communities too, because no individual has a solitary existence or identity, typically. Agency comes from the realization that we can change something about our world and can be conscious contributors to our life. Our experiences have an essential role to play in the extent to which we can be agents. Agency, like subjectivity, is not already existent, but is nurtured. Moreover, agency does not merely mean overcoming situations, because that would again suggest that those very situations are driving us. Agency, in its real sense, comes about when a subject acts beyond a prevailing situation or the environmental constraints. The concepts of subalternity, subjectivity, and agency are dialectically related. The boundaries of these categories overlap. Through my research study I may delve into subjectivity, how it becomes problematic for the subaltern, and how the subaltern relocates himself/herself in the dominant discourse, thereby becoming an agent.

Gurnah seeks to unearth several dimensions of existence, ranging from the historical to the innermost psychological lives of his characters. He traverses the emotional lives of his characters while history presides from a far-off horizon in the background. He does what history does not, which is to reach into the recesses of lived experience. He brings forth into consciousness what is either never published in historical accounts, or enters oblivion as a small-column news story in a newspaper. Gurnah has a passion for recording these stories. He fights against the forgetfulness that is a characteristic of human life, whereby stories pass into the night. The human mind has an intuitive way in which tales of survival are inscribed on the mind - that is,

the collective unconscious, as well as remembering their mythical pasts - that is, the cultural memory.

Nevertheless, historical events find little space in his novels. The fact that history is very sparingly included in his novels tends to draw attention to the difference between historiography and novel writing. The novel tries to do what the social sciences cannot. Gurnah uses historical references only to shed light on the characters' situation in society and to define their social struggles. While history is limited to a specific space and time, the novel works to unearth being, and therefore transcends space/time. Gurnah thinks about literature as a field of artistic expression that seeks to develop the community as a totality in some way. At the same time, he is aware that different kinds of literary works impact individuals with varying life experiences in different ways. Literature challenges specific ideas and practices by recording their impact on the lives of subjects. In an interview with Rothetal., he asserts:

The role of literature in the world is to progress the community, but it might vary, depending on the specific community. One might say writers need to challenge ideas within the community. This challenge can be to the ideas of respectability, to the ideas of family or appropriateness, sexual morality, and so on. On the other hand, people might also see that as indiscipline, unnecessary, and destructive. The role of writers can be judged only by their readers. It is difficult. You need to leave it to the writer before you can make your assessments.

Born in 1948 in Zanzibar, Abdulrazak Gurnah came to Britain in 1968 with his brother, in a "semi-legal way, as asylum seekers" escaping in part from the political turmoils of the 1960s in Zanzibar. In most of his novels, those turmoils make up a background for the characters' past together with the familial crises in their lives. Through his main characters, Gurnah also focuses on inter-ethnic relationships between different social groups who occupy the Indian Ocean littoral. Above all, he reflects the destructing effects of European colonial rule (especially in Zanzibar) on the characters' lives, which later continues in the form of racial and cultural discrimination in contemporary Europe where East African characters emigrate. Migrancy and its side-effects such as displacement, alienation and in-betweenness are important themes that Gurnah employs in most of his novels. He presents immigrant characters coping with their feelings of isolation and lack of sense of belonging in their re-construction of an identity and a home for themselves. While doing this, he suggests storytelling as a tool by which his characters negotiate their past and present to build up a future for themselves.

Gurnah's oeuvre covers eight novels, a two-volume-work of literary criticism titled *Essays on African Writing* (1993), and the edition of *The Cambridge Companion to Salman Rushdie* (2007). Also, he is the associate editor of *Wasafiri* a journal for

writers of colour in England. Seven out of Gurnah's eight novels are about departure, the main theme and a part of the title of his first novel being *Memory of Departure* (1987). Leaving his homeland behind the protagonist of *Memory of Departure* goes to Nairobi which becomes a country of disillusionment for him. He compensates his loss of home with memory and storytelling. Gurnah's following novels *Pilgrim's Way* (1988) and *Dottie* (1990) scrutinize racism and inter-racial marriage with a focus on migrancy in present day England, themes which resonate in Gurnah's 1996 novel *Admiring Silence*. As it is later demonstrated in the third chapter of this thesis, it is the story of an unnamed Zanzibari immigrant leading an unhappy life in England with his English partner Emma. In the novel migrancy is not something celebrated for the protagonist who escapes the politically suffocating atmosphere of Zanzibar; but it creates further conflicts in his life compelling him to get through discrimination by some white English people and the feeling of isolation. Gurnah's most recent novel *The Last Gift* (2011) is a sequel to *Admiring Silence* in that it tells the story of Abbas, the unnamed protagonist's father in *Admiring Silence*, who leaves his children in England a record of his memories about his life in Zanzibar that uncovers his secret story of his first marriage. Gurnah's sixth novel *By the Sea* (2001), the other novel to be discussed in this thesis, concerns the issue of starting a new life in England with the idea of home in mind as experienced by Saleh Omar, a sixty-five-year-old man again from Zanzibar. Only two of Gurnah's eight novels, *Paradise* (1994) and *Desertion* (2005), are mainly set in East Africa. Both novels deal with the communal relationships in colonial East Africa.

Gurnah lays much emphasis on narration in his novels. Storytelling is an important part of characters' lives in helping them cope with their troubles and in expressing themselves to the reader while making it easier to find themselves in life. On the other hand, Gurnah's novels are also much related to what the characters cannot, do not or refuse to say. The characters' silence expresses more about them than their utterances, thus becoming more important than articulation in the novels. However, Silence is not a much-debated issue by the critics of Gurnah's work. Issues discussed in relation to Gurnah's novels are mainly legal or illegal migrancy, diasporic life in a European country, dislocation, memory and ideas of home, and the limits of hospitality which arouses the questions of racism and otherness in Europe and especially in Britain. Among the related studies on Gurnah fiction, Sissy Helff's "Illegal Diasporas and African Refugees in Abdulrazak Gurnah's *By the Sea*" (2009) and John Masterson's "Travel and/as Travail: Diasporic Dislocation in Abdulrazak Gurnah's *By the Sea* and Kiran Desai's *The Inheritance of Loss*" (2010) take the condition of being a refugee as their central theme questioning the exclusivist point of view of the Westerner and the place of the African within the borders of the host country. Helff's article touches upon the "terms of hospitality" (Helff 68) and announces that it is the discourse of national

identity that prevents that of hospitality, and therefore creates and consolidates the concept of the Other.

Masterson's, on the other hand, is a chrono topical study that mainly focuses on transgression of the national borders which he illustrates through "regulatory spaces") like the boarding house in *By the Sea* which hosts people from different cultures such as Saleh Omar or the elegant restaurant in *The Inheritance of Loss* (2006) in which Indian workers serve American clients. Through his microcosmic spatial exploration, Masterson highlights the political and economic factors that layer people and "forestall any hope of transnational solidarity"). Another issue that some of the recent works on Gurnah's fiction address is the role of the multiculturalism of Zanzibar in Gurnah's works. Tina Steiner's article "Writing Wider Worlds": The Role of Relation in Abdulrazak Gurnah's Fiction" (2010) underlines the picture of heterogeneity of East African coastal regions that make up a background for many of Gurnah's characters. Accordingly, she purports, Gurnah place's relational identity produced through the "network of relations without a sense of entitlement to filiation or projected territory" against the root identity thus resisting both the hackneyed image of the African and the precolonial pictures of the homogeneity by post-independence nationalist politics of identity. Referring to such a "shortcoming of both a Euro-centric and an Afro-centric historiography") and its representation in Gurnah's texts, Maria Olausson's article "The Submerged History of the Indian Ocean in *Admiring Silence*" (2013) draws attention to Gurnah's narrative of heterogeneity and difference through its emphasis on the stock narratives of the colonial discourse repeated by the main character. In so far as Olausson's study emphasizes, the stories that the protagonist makes up mocks the ironical optimism of the times before colonialism and the artificiality of the colonial past. It is the power of stories here and in many of Gurnah's novels that enables his characters to convey their ideas even if their efficiency is disputable. In her comprehensive discussion on the role of storytelling in Gurnah's *Admiring Silence* and *By the Sea*, Tina Steiner regards storytelling an act of translation between characters' past and present lives that helps them establish a future ("Mimicry or Translation?")

In addition to these studies and with a different focus and technique than theirs, this thesis aims to explore Abdulrazak Gurnah's treatment of silence in his novels *Admiring Silence* (1996) and *By the Sea* (2011) with a narratological approach mainly in the light of Gerard Genette's *Narrative Discourse: An Essay in Method* (1983). It will be argued that in *Admiring Silence* (1996) and *By the Sea* (2001) silence is emphasized both as an effect of the oppressive power and used as a strategy that gives power to the oppressed. Furthermore, this thesis explores the treatment of migrancy in these novels in connection with silence. Thinking on the basis of social, material and textual constraints imposed by Britain in the post- colonial period on migrants from its former

colonies, Gurnah opposes the tendency of fixing migrants as stereotypes through undifferentiated generalizations unrecognizing the “other’s” consciousness and right to speak for him/herself. That is why the stories of his characters are characterized by their individuality and multi-directionality in contrast to stereotyping. Employing migrants as his characters, each having an ambiguous personality and a specific traumatic case, Gurnah points out the heterogeneity of migrant experience, which is another means of challenging the process of silencing in “history”. In his article “The Idea of the Past”, in which Gurnah focuses on the issue of writing of the African past, he states that I understood that the idea of the past which had become the legitimate African narrative of our times, would require the silencing of other narratives that were necessary to my understanding of history and reality. Other narratives Gurnah mentions are the Western ways of defining Africa, its culture and history, which, he suggests, should be silenced in order to understand the African past. In the same way, understanding the characters in the novels requires silencing of the Western stereotypes paradoxically through focusing on their silence which undermines the authority of the discourse of the West. In line with this purpose, the first chapter centers on the theoretical background and methodology to be followed by the analysis of the novels. The theoretical basis will help me define where the novels stand, that is, explore what concerns they are fraught with as postcolonial pieces. Considering the importance of the narratives in the novels, some narratological terms to be used in this study will be explained in detail to diagnose lacunas, gaps and emphatical parts in the *Admiring Silence* compares the power of silence with the power of speech examining the unnamed narrator’s stories on the basis of Genette’s narratological approach. I would probe to seek answers to questions about the efficacy of speech through the stories which the narrator makes up in order to mock the stereotypical European discourse and underline the points where the speech fails. Thereby it might expose discourse by the English characters around him, while the narrator just keeps his silence, but imparts his derisive monologues at the same time. Except for these monologues, on the other hand, he is not an articulate person due to the fact that he has had some traumatic experiences in Zanzibar before and that he cannot find solace now in England. While the existence of two focalizers in *By the Sea* increases the reliability of the narrative, the unnamed narrator’s continual circumlocution of some parts of his story decrease’s reliability and necessitates again a narratological exploration, which the second chapter undertakes.

Through this thesis I might focus on silence in Abdulrazak Gurnah’s another novel *By the Sea* examining Saleh Omar’s and Latif Mahmud’s stories in the light of narratological techniques as defined by Genette’s, Rimmon-Kenan’s, Mieke Bal’s and Gerald Prince’s works. Considering silence as a result of oppressive power, it will demonstrate how the narratological observations reveal the ideological dimensions in

the novel. It is through external analepses, for instance, that the reader catches a glimpse of the colonial, independence and post- independence periods that prepare the ground for the narrators' traumas and ensuing silences. Exploring these two characters' relationship with people in England, the question whether they are really silent or not is also answered in this chapter. Saleh Omar's reticence in the face of British officials' efforts to communicate, but his confessions to Latif Mahmud indicates that he is not silent at all, which demonstrates the other dimension of silence, in that, it functions as a tool of resistance against British officials' discriminatory approach and the stereotypical notions. The fact that there are two narrators in the novel raises the question of the narrators', especially Saleh's reliability. Through focalization it is displayed how Latif Mahmud's account fills in the gaps where Saleh Omar keeps his silence or vice versa.

Abdulrazak Gurnah's novel *By the Sea* (2001) is a compelling narrative of the trauma of displacement in postcolonial Africa. Set mainly between Zanzibar and Britain, it brings into focus the trauma of imprisonment as a defining feature of dislocation and unbelonging in postcolonial African cultures. The work critiques the forces of separation bred by racism in nationalist discourse, forces that act as the legacies of colonialism that limits the freedom of the oppressed colonial Other. On reading an article like Michael Rothberg's notion of "traumatic realism" with Paul Gilroy's concept of "camp mentality". I argue that the novel's underlying purpose is to bear responsible witness to nationalist racism in Zanzibar and Britain as a holdover of the same ideological structures that made colonialism and slavery possible. As a bystander of the trauma of postcolonial displacement, the diasporic Zanzibari writer's narrative seeks to break free from the discursive and literal restrictions of a world marked by the racial division of subjectivities into "units of camps".

Quite a raft of critical work in postcolonial studies has focused on the posttraumatic aftereffects of colonialism and slavery. The contributions bring into light the need to unmoor trauma studies from their Eurocentric harbors. However, not enough consideration has been given to displacement as a bequest of a painful past in postcolonial African cultures. Under the assumption that the same ideological structures that made colonialism possible still exist, this article argues that writing displacement breaks the boundaries between past and present, making the anxieties of unbelonging expressed in postcolonial literature intimately link the postcolonial to the posttraumatic. In Gurnah's exilic experience, a rereading of the past first and foremost attests to the lack of freedom imposed by racial politics as a legacy of colonial hegemony. As he is determined by the critical imperative to free writing from the shackles of racial politics, his novel *By the Sea* (2001) (hereafter referred to as BTS) can be read as one

example of the redemptive narrative for which “historical responsibility”) is of paramount significance.

It is thus crucial to refer to writing as one way of “bearing witness” even if the writer is spatiotemporally at a distance from the events of the past. Living in England, Gurnah may have spoken from a relative safety vis-à-vis the terrorizing events that have marred the history of Zanzibar since the colonial encounter. However, his belonging to the posttraumatic, or postcolonial, culture implicates him post-generationally to bear responsible witness.

Using Zanzibar’s postcolonial culture as an example, I seek to argue that when writing African diasporic subjectivity is confronted with the repercussions of displacement as a posttraumatic effect of colonialism, it links traumatic realism with morally engaging demands. Such claims entail “the survivor, who attempts to document a documentable experience; the bystander, who feels impelled to bear an impossible witness to the extreme from a place of relative safety; and the latecomer or representative of the ‘post memory’ generation, who [...] inherits the detritus” of a violence culturally writ large.

I thus deploy a trauma-based reading to argue that the novel solicits responsible witnessing through the overarching notion of the “implicated subject”. This subject needs to bear witness to events s/he is spatiotemporally distant from. On referring an article about Gurnah’s biography to illustrate the way in which he identifies in fictional terms with those left behind during the eruption of racial violence in post-independence Zanzibar. A theoretical investigation is employed to discuss the literal and discursive “encampment” that locates Gurnah in the restraining space between Zanzibar and Britain. Second, I will discuss how, by relating the micro-politics of dwelling to the macro-politics of home and belonging, the text breaks the boundaries between the extreme and the everyday in order to illustrate the insidiousness of trauma on a daily basis. The stories of the two refugee narrators take further dimensions as their everydayness runs parallel to the broader documentation of the extreme, violent history of post-independence Zanzibar. I read Saleh’s story of imprisonment as a redemptive narrative that seeks to break the victim/perpetrator and inside/outside binaries. This transgressive act of telling aims to bear witness beyond the boundaries inflicted by nationalism’s gate-keeping industry.

Locating Gurnah and his World

Our lives are ceaselessly intertwined with narrative, with the stories that we tell and hear told, those we dream or imagine or would like to tell, all of which are reworked in that story of our own lives that we narrate to ourselves in an episodic, sometimes semiconscious, but virtually uninterrupted monologue. We live immersed in narrative, recounting and re-assessing the meaning of our past actions, anticipating the outcome

of our future projects, situating ourselves at the intersection of several stories not yet completed. The narrative impulse is as old as our oldest literature; myth and folktale appear to be stories we recount in order to explain and understand where no other form of explanation will work.

In this author's study of the novelistic oeuvre of the Zanzibari-born, UK-based writer, Abdulrazak Gurnah, this quote from Peter Brooks underscores the power of narratives to mediate the way we make meaning of reality. The chapter explores how the author, in his eight novels, deploys literary aesthetics. My study is to speak and illuminate representations of migrant life as generated by the long history of human contact, cultural exchange and commercial connection on the East African Indian Ocean littoral both before and after the independence of Zanzibar in 1961. By exploring how these connections involve various forms of migration and journeys to strange lands (away from the characters' original places of domicile), my effort is designed to investigate Gurnah's craft that engages with the broader issue of migrants' and their search for sociable spaces in different socio-political contexts.

All of Gurnah's narratives are migration stories. In a globalizing world that enables the movement of people, goods and ideas, but in which hostile and inhospitable tendencies are on the rise, his fiction offers a window for understanding how migration affects peoples' interactions in lived, embodied experiences. The narratives therefore contribute experiential and affective perspectives to debates on migration and social relations in East Africa and the world at large that, for instance, non-literary forms of representation may not provide. This thesis investigates how Gurnah's fiction sheds light on the limitations that migration and consequent encounters with stranger's place on human relations. The study may illustrate how in Gurnah's novels, different outlooks and forms of negotiation represent alternative social imaginaries that allow glimpses of hospitable encounters in the course of navigating complex local and global conditions. By engaging with his complete oeuvre, the study investigates how the narratives use linguistic and stylistic choices to represent the movement of people, ideas, and goods across the Indian Ocean and the Eastern African region and beyond (specifically, to the UK where most characters settle).

The aim of my proposed study is to gain an understanding of Gurnah's cosmopolitan vision and how this vision has laid its impact upon and often curtailed by inhospitality, by notions of nationalism, and by cultural fundamentalism.

Gurnah is the author of eight novels to date: *Memory of Departure* (1987), *Pilgrims Way* (1988), *Dottie* (1990), *Paradise* (1994, short-listed for the Man Booker Prize), *Admiring Silence* (1996), *By the Sea* (2001), *Desertion* (2005) and *The Last Gift* (2011), all of which engage with migration and its attendant themes. Apart from 10 novels, Gurnah is also known for his critical works. He has edited several volumes of

literary criticism, *Essays on African Writing: A Re-evaluation* (1993) and *Essays on African Writing: Contemporary Literature* (1995) and *The Cambridge Companion to Salman Rushdie* (2007).

Conclusion:

Though Gurnah is “one of the most prolific and refreshing figures in the field of East African writing” (Gikandi, *Encyclopedia of African Literature* 295), various critics have bemoaned the relative critical neglect of his work. For instance, Khaingha O’Okwemba observes that East Africa critics mainly focus on “canonical Swahili authors such as Said Ahmed Said, Mohamed Said Abdullah, Shaban Roberts [sic] and Kezilahabi [while] the outstanding Tanzanian English [writer] Abdulrazak Gurnah . . . passes more or less unnoticed”. Sally-Ann Murray also notes that despite the complexity and literary depth of Gurnah’s fiction, the focus by critics on Tanzanian authors who write in Kiswahili renders Gurnah “a virtual non-entity”. By engaging with Gurnah’s complete oeuvre, this thesis hopes to help redress the relative critical neglect that some of his novels, in particular his earlier texts, have suffered. In “Critical Perspectives on Abdulrazak Gurnah”, Tina Steiner and Maria Olaussen observe that “Gurnah’s work deserves more attention than it has received to date”. My intervention therefore aims not only to add to the available scholarship on Gurnah, but also to add to the body of existing knowledge on Tanzanian Anglophone fiction, “which remains quite a neglected area of literary study”.

There is a specific focus on Zanzibar as the setting for most of his fiction. Of his eight novels, only two are solely set in Britain. Gurnah was born in Zanzibar in 1948. In 1968, the aftermath of the Zanzibar revolution, which was followed by what he describes in *Memory of Departure* as a “heady atmosphere of intrigue and politics and revenge that the independent government had brought”, he was forced to “run away to Britain”. Due to his Yemeni/Kenyan heritage he was among those who left Zanzibar because of the terror which the revolutionary government visited on people not considered “African” enough.

His arrival in the UK in the late 60s coincided with Enoch Powell’s racist and xenophobic “Rivers of Blood” speech which was part of a “demonic campaign against immigration. The social atmosphere at the time of Gurnah’s arrival in the UK, and which significantly informs his work, is captured succinctly in his own words in “Fear and Loathing”:

What a shock it was to discover the loathing in which I was held: by looks, sneers, words and gestures, news reports, comics on TV, teachers, fellow students. Everybody did their bit and thought themselves tolerant, or perhaps mildly grumbling, or even amusing. At the receiving end, it seemed constant and mean. If there had been anywhere to go to, I would have gone.

This atmosphere of hatred in the UK, together with the circumstances of Gurnah's departure from Zanzibar, forms the main context of his fiction. It is his concern with "people dislocated from their place of origin" that crystallizes Gurnah's major themes: migration, trade, and hospitality. These themes are explored across his works of fiction, which are set in various distinct yet interconnected temporal and spatial localities: the pre-colonial Indian Ocean world and the Swahili coast (Paradise, Desertion); the time of German colonization (Paradise) and British colonization (By the Sea, Admiring Silence, Desertion); post-independence nationalist Zanzibar (Memory of Departure, Admiring Silence, Desertion, By the Sea), Britain (Dottie, Pilgrims Way, The Last Gift); and there are settings that traverse both Africa and Europe (By the Sea, Admiring Silence, Desertion). Thus, Gurnah's fictional universe, as Nasta observes, involves "moving words/worlds across cultures and transporting the imagination beyond the maps of narrowly defined borders" ("Introduction" 5). For Gurnah, time shifts, from "before the beginning of time", as in his short story "Bossy" (56), to the internet age in *The Last Gift*, provide the temporal frame and span of his work. As Gurnah's narratives constantly show, individuals and their stories can be a fertile zone for reading the past, since individual lives are shaped by the larger social configuration, which is complicated by a multiplicity of factors, such as class, gender, religion and race. Zanzibar, with its strategic location near the Indian Ocean East African coast, offers the perfect geopolitical location to engage with the issue of hospitality and its limitations because of its long maritime history of cross-cultural trade. Research has shown that as early as 3000 BC one could find "communities that were permanently settled, domesticating animals and probably crops, and trading with other ancient cultures". This trade was local, but also extended "to the interior of the main continent all the way to the Nile Valley", and even across the Indian Ocean: there is credible evidence that there was "early contact between Asia and Africa". The cultural, historical and economic significance of Zanzibar may be better understood if one investigates the main actors in the Indian Ocean trade over time, and there have been many: "the Assyrians, Sumerians, Egyptians, Phoenicians, Indians, Chinese, Persians, Omani Arabs, Dutch, and English all have been there at one time or another" Yet, none of these people, as Gurnah's *by the Sea* demonstrates, came away empty handed:

They brought with them their goods and their God and their way of looking at the world, their stories and their songs and prayers, and ... and a glimpse of their learning ... they brought their hungers and greed's, their fantasies and lies and hatreds, leaving some among their numbers behind

Focusing on this history of trade, Johan U. Jacobs' "Trading Places" explores how Gurnah's *Paradise* "thematizes trade in Africa from the Indian Ocean coast and fictionally recreates the last of the Great Arab and Swahili caravans into the region

around the Great Lakes”. Through the life of Yusuf and other characters in Paradise, the work re-imagines the history of slavery in the “East African World” and its connections to the global economy. Building on Jacobs’ work and Jacqueline Bardolph’s study of Paradise, I explore familial and trade relationships that are imagined through East African lived experiences, and at the same time problematized by the presence of ethnic and political hostilities.

Works Cited:**Novels**

1. By the sea (2001)
2. Desertion (2005)
3. The last gift (2011)
4. Gravel heart (2017)
5. After lives (2020)

References:

1. Afterlives: By the winner of the nobel prize in literature 2021
 2. By the Sea. London: Bloomsbury, 2001.
 3. Encountering Strange Lands:
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**Chapter
22****OBJECT DETECTION USING YOLOv3*****Mr. Mohammed Rafiuddin Nadeem & **Mr. K N S S V Prasad**

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Abstract : *As we proceed towards more absolute image intellect, having more accurate and careful object detection becomes pivotal. In such circumstances, one cares not only about assorting images and videos, but also about accurately judging the class and location of objects contained within the images and videos, a problem known as Object detection. One of the major problems was that of image classification, which is defined as anticipating the class of the Image.*

A marginally complex problem is that of Image localization, where the image comprises a single object and the system should predict the class of the location of the Object in the image (a bounding box around the object). The more complex problem of Object detection involves both classification and localization.

After the arrival of Machine Learning and Deep Learning technologies, the veracity and efficiency of Object detection has accrued markedly. In this project, we detect the objects present in our images or videos more accurately by using the YOLOV3 algorithm of Machine Learning. The source of data is obtained from MS COCO. Open CV, NumPy and Matplotlib python libraries are used to implement the model.

Object detection can be applied in different areas such as creature recognition, face detection, Video Surveillance, Anomaly Detection, shopping etc., to name a few.

Keywords: *Object detection, Machine Learning, YOLOV3, Python, OpenCV, MS COCO.*

Introduction

Object Detection is a computer vision technique that allows us to identify and locate objects in an image or video. With this kind of identification and localization, object detection can be used to detect and find the location of the object in the image, all while accurately labeling them. Specifically, object detection draws bounding boxes around these detected objects, which allow us to locate where said objects are in (or how they move through) a given scene.

Object detection is unremarkably befuddled with image recognition. Image recognition assigns a label to an image. A picture of a car receives the label "Car". A picture of two Cars, still receives the label "Car". Object detection, on the other hand, draws a box and applies the label up on detection. In that way, object detection provides more information about an image than recognition.

Figure 1 shows how this distinction looks in practice:

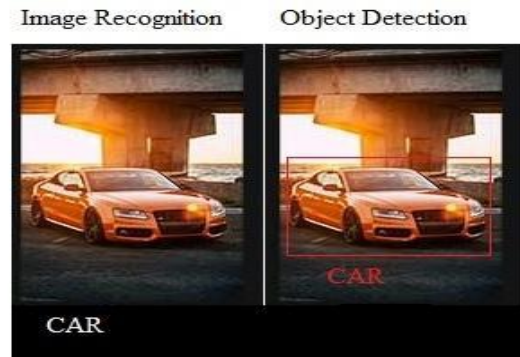


Figure 1

Importance of Object Detection

Object Detection is inextricably coupled to other similar computer vision techniques like image recognition and image segmentation, in that it helps us understand and analyze scenes in image or video.

But there are important differences. Image recognition only outputs a class label for an identified object, and image segmentation creates a pixel – level understanding of a scene's element. On the other hand, object detection uniquely locates objects within an image or a video.

Applications of Object Detection

- Self – driving cars
- Video surveillance
- Face detection
- Anomaly detection
- Robotics learning

Modes and Types of object detection:

Object detection can be broken down into Machine Learning (ML) and Deep Learning (DL) based approaches.

In more Traditional ML based approaches, computer vision techniques are used to look at various features of an image, such as the color histogram or edges, to identify groups of pixels that may belong to an object. These features are then fed into a regression model that foretells the location of the object along with its label.

On the other hand, Deep Learning based approaches utilize Convolutional Neural Networks(CNNs) to execute end-to-end, unsupervised object detection, in which features don't need to be outlined and elicit separately. Deep Learning methods have become the state-of-the-art approaches to object detection.

The following are the techniques that are focused for the purposes of this guide: Objects detection, segmentation, location, and recognition and classification in the given input of images or videos or web capture video (Figure 2)

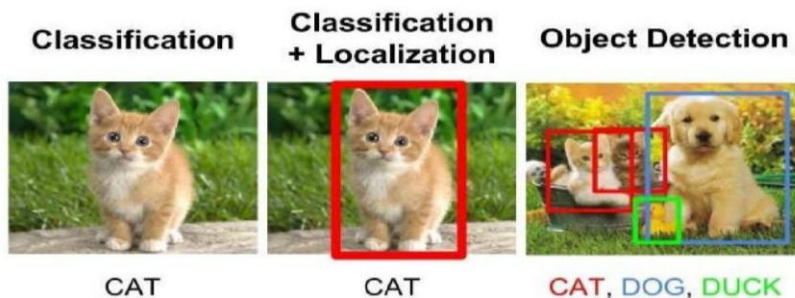


Figure 2

Existing System

Existing Object Detection was built using some Machine Learning and Deep Learning techniques such as R-CNN, Fast R-CNN and YOLO version 1 and 2. The techniques are time consuming compared to the technique used here.

Proposed System

We detect the objects which exist in our input images or videos most accurately by using the YOLOv3 algorithm in Machine Learning.

Advantages

It is faster than the previous existing systems
Execution time is also faster as compared to previous
Better accurate results

System Architecture

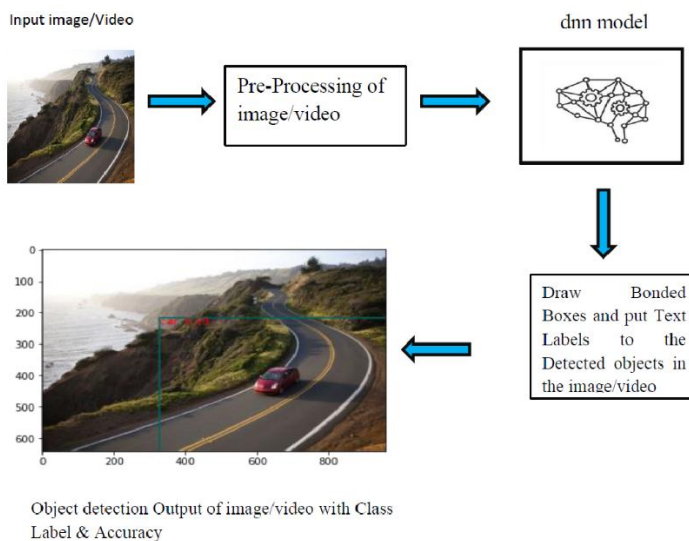


Figure 3

Data Source -The COCO Dataset:

The COCO dataset, implemented by Microsoft, is a large-scale object detection, segmentation, and captioning dataset.” It is the most popular image datasets, with applications like object detection, segmentation, and captioning.

Common Objects in Context (COCO) literally implies that the images in the dataset are everyday objects captured from everyday scenes. This adds some “context” to the objects captured in the scenes. COCO provides multi-object labeling, segmentation mask annotations, image captioning, key-point detection and panoptic segmentation annotations with a total of 81 categories, making it a very versatile and multi-purpose dataset.

COCO Dataset Tasks

The COCO dataset contains multiple computer vision tasks, listed here in descending order of commonality:

- **Object Detection** - Objects are annotated with a bounding box and class label
- **Semantic Segmentation** - The boundary of objects is labeled with a mask and object classes are labeled with a class label

Facts of COCO Dataset

- The COCO Dataset has 121,408 images
- The COCO Dataset has 883,331 object annotations
- The COCO Dataset has 80 classes

List of class labels in the COCO dataset

Person, bicycle, car, motorbike, aeroplane, bus, train, truck, boat, traffic light, fire hydrant, stop sign, parking meter, bench, bird, cat, dog, horse, sheep, cow, elephant, bear, zebra, giraffe, backpack, umbrella, handbag, tie, suitcase, Frisbee, skis, snowboard, sports ball, kite, baseball bat ,baseball glove, skateboard, surfboard ,tennis racket, bottle, wine glass, cup ,fork, knife, spoon, bowl, banana, apple, sandwich, orange, broccoli, carrot, hot dog, pizza, donut ,cake ,chair ,sofa ,potted plant ,bed, dining table, toilet, monitor, laptop, mouse, remote, keyboard, cell phone

Kaggle and some other well-known websites provide us, two different file for easy working of object detection, recognition and classification of images and videos

- Configuration file
- Weights file

These two files require around 600MB of memory and we can set these files into our working environment.

Deep Learning

Deep Learning is a subset of Machine Learning which consists of algorithms that are inspired by the functioning of the human brain or the neural networks. It teaches the computer to do what naturally comes to humans. In Deep Learning, there

are several types of models such as the Artificial Neural Networks (ANN), Auto-encoders, Recurrent Neural Networks (RNN) and Reinforcement Learning. But the one particular model that has contributed a lot in the field of computer vision and image analysis is the Convolutional Neural Networks (CNN) or the Conv Nets.

CNNs are a class of Deep Neural Networks that can recognize and classify particular features from images and are widely used for analyzing visual images. Their applications range from image and video recognition, image classification, medical image analysis, computer vision and natural language processing.

The term ‘Convolution’ in CNN denotes the mathematical function of convolution which is a special kind of linear operation wherein two functions are multiplied to produce a third function which expresses how the shape of one function is modified by the other. In simple terms, two images which can be represented as matrices are multiplied to give an output that is used to extract features from the image.

Basic Architecture

There are two main parts in CNN architecture:

- **Feature Extraction:** A convolution tool that separates and identifies the various features of the image for analysis.
- **Classification:** A fully connected layer that utilizes the output from the convolution process and predicts the class of the image based on the features extracted in previous stages.

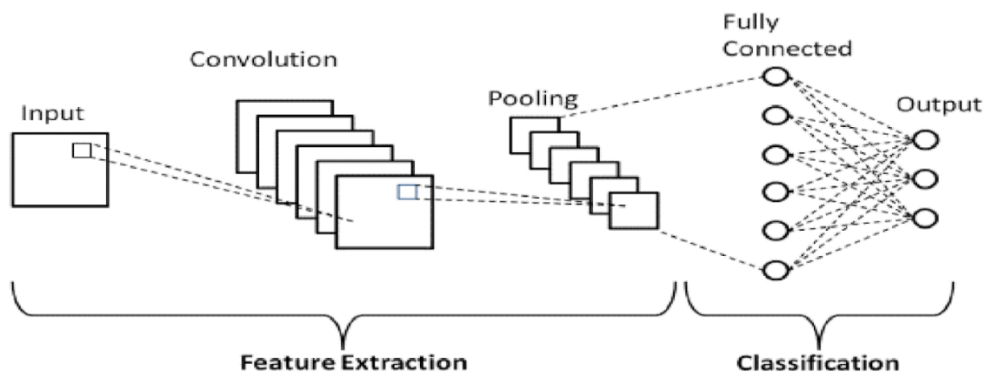


Figure 4

In CNN Architecture, there are three layers that make up the CNN

1. Convolutional layers
2. Pooling layers
3. Fully-connected (FC) layers

When these layers are stacked, CNN architecture will be formed. In addition to these three layers, there are two more important parameters:

1. Dropout layer

2. Activation function

Convolutional Layers

This layer is the first layer that is used to extract the various features from the input images. In this layer, the mathematical operation of convolution is performed between the input image and a filter of a particular size $M \times M$. By sliding the filter over the input image, the dot product is taken between the filter and the parts of the input image with respect to the size of the filter ($M \times M$).

The output is termed as the feature map which gives us information about the image such as the corners and edges. Later, this feature map is fed to other layers to learn several other features of the input image.

Pooling Layer

In most cases, a Convolutional Layer is followed by a Pooling Layer. The primary aim of this layer is to decrease the size of the convolved feature map to reduce the computational costs. This is performed by decreasing the connections between layers and independently operates on each feature map. Depending upon the method used, there are several types of pooling operations.

In Max Pooling, the largest element is taken from the feature map. Average Pooling calculates the average of the elements in a predefined size Image section. The total sum of the elements in the predefined section is computed in Sum Pooling. The Pooling Layer usually serves as a bridge between the Convolutional Layer and the FC Layer

Fully Connected Layer

The Fully Connected (FC) layer consists of the weights and biases along with the neurons and is used to connect the neurons between two different layers. These layers are usually placed before the output layer and form the last few layers of a CNN Architecture.

In this, the input image from the previous layers are flattened and fed to the FC layer. The flattened vector then undergoes few more FC layers where the mathematical functions operations usually take place. In this stage, the classification process begins to take place.

Dropout layer

Usually, when all the features are connected to the FC layer, it can cause overfitting in the training dataset. Overfitting occurs when a particular model works so well on the training data causing a negative impact in the model's performance when used on new data.

To overcome this problem, a dropout layer is utilized wherein a few neurons are dropped from the neural network during the training process resulting in reduced size

of the model. On passing a dropout of 0.3, 30% of the nodes are dropped out randomly from the neural network.

Activation Functions:

Finally, one of the most important parameters of the CNN model is the activation function. They are used to learn and approximate any kind of continuous and complex relationship between variables of the network. In simple words, it decides which information of the model should fire in the forward direction and which ones should not at the end of the network.

It adds non-linearity to the network. There are several commonly used activation functions such as the ReLU, Softmax, tanH and the Sigmoid functions. Each of these functions has a specific usage. For a binary classification CNN model, sigmoid and softmax functions are preferred and for a multi-class classification, generally softmax is used.

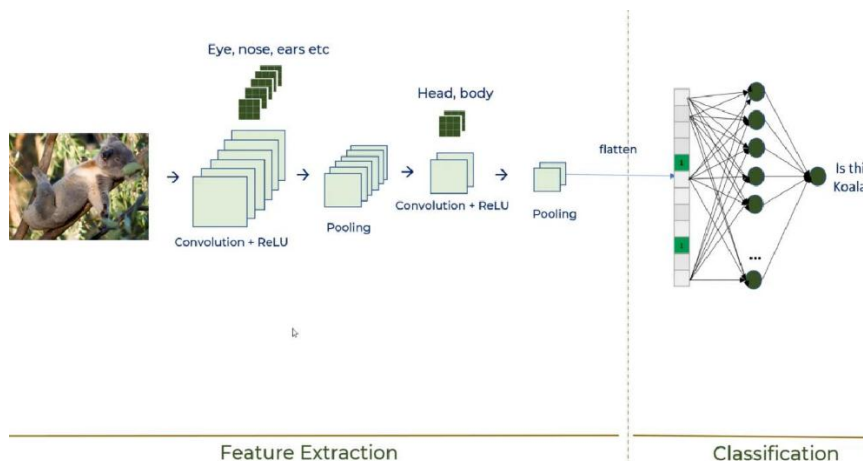


Figure 5

YOLOv3 Algorithm

YOLOv3 (You Only Look Once, Version 3) is a real-time object detection algorithm that identifies specific objects in videos, live feeds, or images. YOLO uses features learned by a deep convolutional neural network to detect an object. Versions 1-3 of YOLO were created by Joseph Redmon and Ali Farhadi.

The first version of YOLO was created in 2016, and version 3, which is discussed extensively in this article, was made two years later in 2018. YOLOv3 is an improved version of YOLO and YOLOv2. YOLO is implemented using the Keras or OpenCV deep learning libraries.

As typical for object detectors, the features learned by the convolutional layers are passed onto a classifier which makes the detection prediction. In YOLO, the prediction is based on a convolutional layer that uses 1×1 convolutions.

YOLO is named “you only look once” because its prediction uses 1×1 convolutions; the size of the prediction map is exactly the size of the feature map before it.

Working of YOLOV3

We can think of an object detector as a combination of an **object locator** and an **object recognizer**.

In traditional computer vision approaches, a sliding window was used to look for objects at different locations and scales. Because this was such an expensive operation, the aspect ratio of the object was usually assumed to be fixed.

Early Deep Learning based object detection algorithms like the R-CNN and Fast R-CNN used a method called Selective Search to narrow down the number of bounding boxes that the algorithm had to test.

Another approach called Overfeat involved scanning the image at multiple scales using sliding windows-like mechanisms done convolutionally.

This was followed by Faster R-CNN that used a Region Proposal Network (RPN) for identifying bounding boxes that needed to be tested. By clever design the features extracted for recognizing objects were also used by the RPN for proposing potential bounding boxes thus saving a lot of computation.

YOLO on the other hand approaches the object detection problem in a completely different way. It forwards the whole image only once through the network. SSD is another object detection algorithm that forwards the image once though a deep learning network, but YOLOv3 is much faster than SSD while achieving very comparable accuracy. YOLOv3 gives faster than real time results on a M40, TitanX or 1080 Ti GPUs.

Flow-Chart Representation of YOLO:

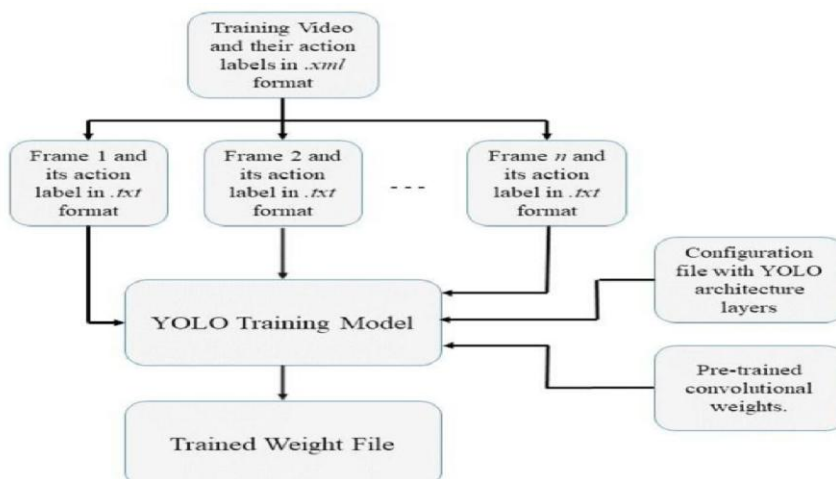


Figure 6

Objects Detection with in Image

Upload & Read an Image:

For detecting objects in the given input of image, first we have loaded the image into our working environment.

To read the images cv2.imread() method is used. This method loads an image from the specified file.

If the image cannot be read (because of missing file, improper permissions, unsupported or invalid format) then this method returns an empty matrix.

The image should be in the working directory or a full path of image should be given.

INPUT IMAGES

Following images are input, we are passing for detecting objects using openCV and YOLOv3 Algorithm.



Figure 7



Figure 8



Figure 9

Pre-Processing of an Image

For Pre-processing of an image, we give the image information to the model in the form of blob format.

Blob – Binary Large Objects.

Blob represents the group of pixels having similar values and different from surrounding pixels.

We can scale, resize, subtract the mean from each pixel, change the order of the channels from BGR to RGB using swapRB argument and also crop the image.

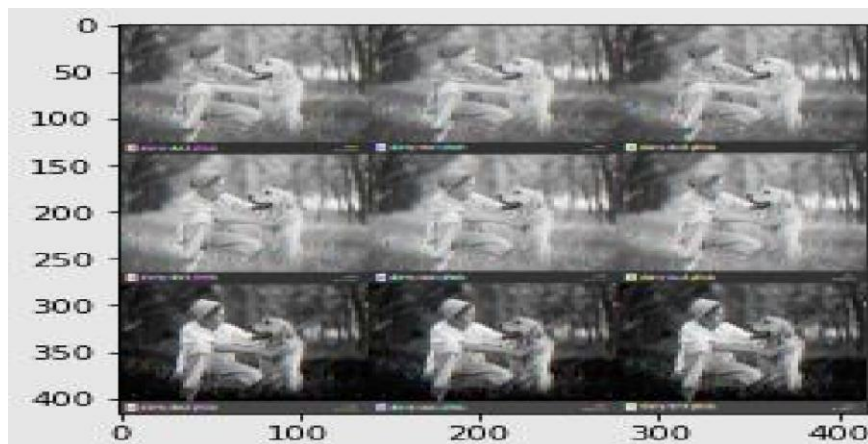


Figure 10

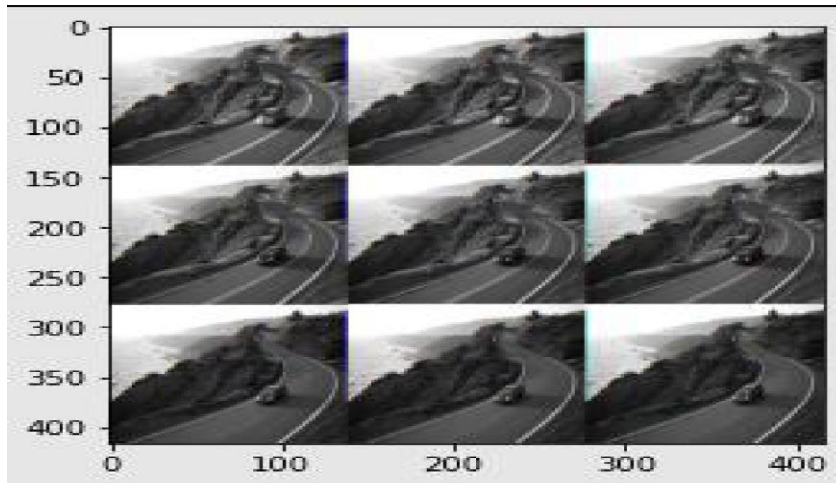


Figure 11



Figure 12

Predictions of Objects in the input Image

After completion of pre-processing we give the pre-processed image as input to the YOLOv3 network.

By using the method `setinput()`, the blob of an image is set as input for the network.

The `forward()` method propagates the blob of an image through the network and returns the predictions. Compute the network outputs obtained during training. The `forward()` method returns the activations from the output layers of the YOLOv3 deep learning network.

Here in this, we get the detected convolution layers index as result. The first column contains the confidence scores. Columns 2 to 5 contain the bounding box locations computed relative to the grid cell coordinates. The sixth column contains the class probabilities for each class used during training. The seventh and the eighth


```

jupyter YOLO Algorithm for Image Detection Last Checkpoint: 07/21/2021 (unsaved changes)
File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

In [28]: boxes = []
         confidences = []
         class_ids = []

         for output in layerOutput:
             for detection in output:
                 score = detection[5:]
                 class_id = np.argmax(score)
                 confidence = score[class_id]
                 if confidence > 0.7:
                     center_x = int(detection[0]*width)
                     center_y = int(detection[1]*height)
                     w = int(detection[2]*width)
                     h = int(detection[3]*height)

                     x = int(center_x - w/2)
                     y = int(center_y - h/2)

                     boxes.append([x,y,w,h])
                     confidences.append(float(confidence))
                     class_ids.append(class_id)

         indexes = cv2.dnn.NMSBoxes(boxes, confidences, 0.5, 0.4)

         cv2.rectangle(image, (x,y), (x+w,y+h), color, 3)
         cv2.putText(image, label + " " + confi, (x,y+20), font, 2, (0,0,255), 2)

In [29]: len(boxes)
Out[29]: 9

```

Figure 13

Output Images:

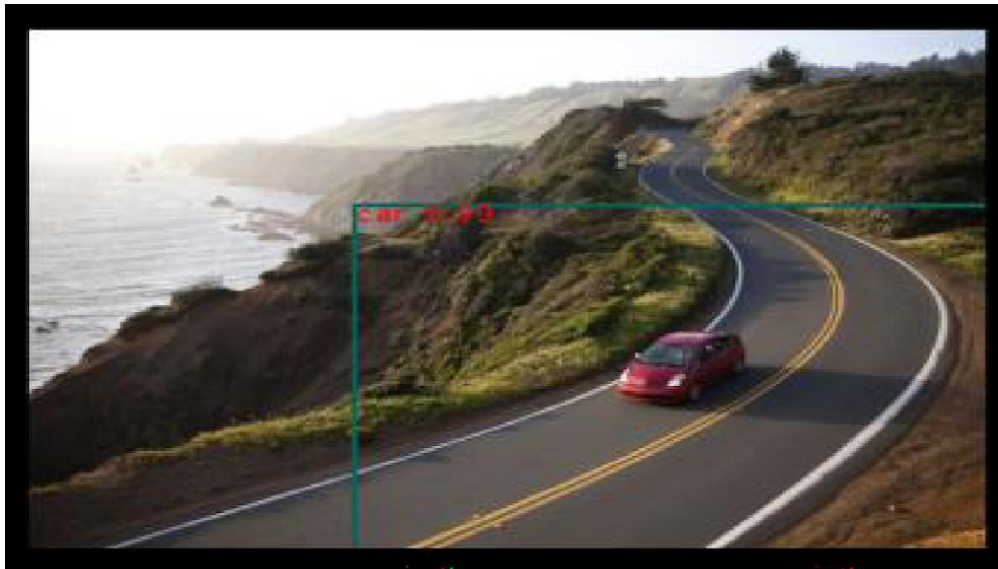


Figure 14

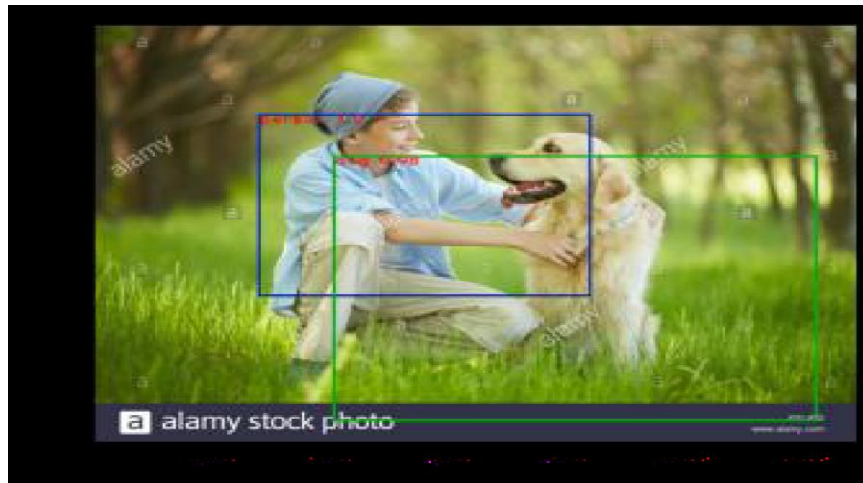


Figure 15



Figure 16

Object Detection for the Recorded Video

Video is nothing but Collection of images with motion. First we need to upload our recorded video into our working environment or we can use the full path of the video instead of uploading video if the video is already in the same directory.

To read the recorded video we use the method Video Capture() in openCV.

After reading the video, the remaining process is the same as image object detection because video is a collection of images.

Here also we perform the same steps such as:

- Reading the captured video
- Pre-processing the video
- Predict the objects with in the video

- Finding confidence/accuracy/probability of predicted objects with in video
- Drawing bounded boxes around predicted objects
- Putting Class labels to the detected objects

Here we repeat these steps from starting frame to the ending frame in the recorded video by using while true looping concept.

```
print(len(boxes))
indexes=cv2.dnn.NMSBoxes(boxes,confidences,0.5,0.4)

font=cv2.FONT_HERSHEY_PLAIN
colors=np.random.uniform(0,255,size=(len(boxes),3))

for i in indexes.flatten():
    x,y,w,h=boxes[i]

    label=str(classes[class_ids[i]])
    confi=str(round(confidences[i],2))
    color=colors[i]

    cv2.rectangle(image,(x,y),(x+w,y+h),color,1)
    cv2.putText(image,label+" "+confi,(x,y+20),font,2,(0,255,0),2)

cv2.imshow("Image",image)
key=cv2.waitKey(1)
if key==27:
    break

cap.release()
cv2.destroyAllWindows()
```

Figure 17

Numeric output:

```
14
16
17
16
12
17
17
16
18
19
16
18
16
17
21
18
17
17
17
```

Figure 18

Conclusion:

Object detection is a key ability for most computer and robot vision systems. Although great progress has been observed in the last years, and some existing techniques are now part of many consumer electronics (e.g., face detection for auto-focus

in Smartphone) or have been integrated in assistant driving technologies, we are still far from achieving human-level performance, in particular in terms of open-world learning.

We have applied and proposed to use the YOLOv3 algorithm for object detection because of its advantages. This algorithm can be implemented in various fields to solve some real-life problems like security, monitoring traffic lanes. In this we are applying this algorithm for three different features such as images, recorded videos and web captured video (live videos).

References

1. Object Detection Using Machine Learning, IRJCS, Issue No 4, Volume No. 7 (April 2020), ISSN: 2393-9842
 2. Practical Computer Vision Applications Using Deep Learning with CNNs With Detailed Examples in Python Using Tensor Flow and Kivy by Ahmed Fawzy
 3. <https://www.dropbox.com/s/1aynt328aad1pw6/yolov3.weights?dl=0>
 4. <https://github.com/Garima13a/YOLO-Object-Detection>
 5. <https://www.kaggle.com/mirzamujtaba/yolo-object-detection-using-keras>
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