



KAKATIYA GOVERNMENT COLLEGE

HANUMAKONDA, TELANGANA STATE – 506001

(Affiliated to Kakatiya University, Warangal)

(e-mail:warangal.jkc@gmail.com, website: <https://gdcts.cgg.gov.in/hanamkonda.edu>)



Criterion -I

Metric: 1.3.2

Number of students undertaking Project Work /

Field Work / Internships

PROJECT WORK / FIELD WORK

**2020 – 2021
DEPARTMENT OF ENGLISH**

STUDENT STUDY PROJECT

TOPIC:

DEVELOPMENT OF LANGUAGE SKILLS THROUGH SHORT STORIES

2020-2021

STUDENT RESEARCHERS

1. S. Shailaja MA. English
2. M. Swaroopa MA. English
3. B. Mounika B.Com I
4. A. Dhanush B.Com I
5. B. Swapna B.Com I
6. A. Rajkumar B.Com I
7. B. Naveen B.Com I
8. M. Dileep Reddy B.Com I
9. P. Priyanka B.Com I
10. D. Raju B.Com I

**RESEARCH SUPERVISOR
Dr. E. Satyanarayana
SUBMITTED TO**

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDY PROJECT ON A NOTE ON SYMBOLISM IN WB. YEATS

STUDENT STUDY PROJECT

TOPIC:

A Note on Symbolism in WB. Yeats

2020-2021

STUDENT RESEARCHERS

- 1. B. Renuka**
- 2. b. Srivani**
- 3. K. Rajeshy**
- 4. J. Prashanth**
- 5. B. Vibas**
- 6. G. Mounika**
- 7. G. Sudheer**
- 8. K. Mahender**

RESEARCH SUPERVISOR

Dr. E. Satyanarayana

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

***Toru Dutt's Contribution to the Poetry* A Study**

2020-2021

STUDENT RESEARCHERS

- 1. T.soumya**
- 2. B.Raju**
- 3. B.Pranay**
- 4. E.Anveshbumar**
- 5. G.Roja**
- 6. D.Nagamalleswar**
- 7. N.Mahesh**
- 8. R.Rohini**

RESEARCH SUPERVISOR

Dr.P. Indira Devi

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

A Study on Techniques used in the Novel - R.K.Narayan's the Guide

2020-2021

STUDENT RESEARCHERS

- 1. M.Sindhu**
- 2. P.Pavani**
- 3. S.Arunkumar**
- 4. P.Rakesh**
- 5. R.Rohini**
- 6. L.Vishwasri**
- 7. K.Prashanth**
- 8. B.Kishtaiah**
- 9. M.Srivani**
- 10.K.Mounika**

RESEARCH SUPERVISOR

Dr.P. Indira Devi

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

Major Themes-Hamlet Thematic Study

2020-2021

STUDENT RESEARCHERS

- 1. L.Rajender**
- 2. G.Sribanth**
- 3. B.Rupa**
- 4. A.Rajbumar**
- 5. B.Mouniba**
- 6. B.Haribrishna**
- 7. V.Suresh**
- 8. T,Nagaraju**
- 9. U.Ravali**
- 10. E.Raghu**

RESEARCH SUPERVISOR

Dr.E. Ram Bhaskar Raju

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

A Study on Characters in the Novel's of Raja Rao

2020-2021

STUDENT RESEARCHERS

- 1. Kalpana Reddy**
- 2. N.Srinivas**
- 3. N.Sai kumar**
- 4. P.Divya**
- 5. K.Srikanth**
- 6. S.Karunabar**
- 7. V.Mahender**
- 8. M.Prashanth**

RESEARCH SUPERVISOR

Dr.E. Ram Bhaskar Raju

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

Analytical Study of a Novel – R.K.Narayan's "The Guide"

2020-2021

STUDENT RESEARCHERS

- 1. Naga Lakshmi**
- 2. B.Anil Kumar**
- 3. U.Ravali**
- 4. K.Pavithra**
- 5. C.Parameshwer**
- 6. B.Yakub**

RESEARCH SUPERVISOR

M. Manojker Samley

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

Strategies for Improving English Pronunciation Among Undergraduate Students

2020-2021

STUDENT RESEARCHERS

- 1. Asha Jyothi**
- 2. Pruthvi Raj**
- 3. K.Vamshi**
- 4. M.Shirisha**
- 5. MD.Nibhath Begum**
- 6. M.Vinesh**
- 7. K.Vamshi**
- 8. G.Sribanth**
- 9. B.Narayana**
- 10. Ch.Babu Rao**

RESEARCH SUPERVISOR

M. Manojker Samley

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

A Study on Morality Plays of Shakesperean Age

2020-2021

STUDENT RESEARCHERS

- 1. G.Saritha**
- 2. G.Thriveni**
- 3. E.Vijay**
- 4. G.Kalyani**
- 5. K.Sharath**
- 6. K.Bhagyaganesh**
- 7. B.Anitha**
- 8. B.Suman**
- 9. A.Sumalatha**
- 10. A.Prashanth**

RESEARCH SUPERVISOR

K. Uma Kiran

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

STUDENT STUDY PROJECT

TOPIC:

A Study on Elements of Shakesperean Tragedies

2020-2021

STUDENT RESEARCHERS

- 1. N.Swetha**
- 2. Ch.Navya**
- 3. C.Pramod**
- 4. P.Suman**
- 5. K.Shirisha**
- 6. S.Chandru**
- 7. S.Ramya**
- 8. T.Venbatesh**
- 9. E.Asmitha**
- 10. B.Mahesh**

RESEARCH SUPERVISOR

K. Uma Kiran

SUBMITTED TO

**THE DEPARTMENT OF ENGLISH,
KAKATIYA GOVERNMENT COLLEGE
HANUMAKONDA**

DEPARTMENT OF TELUGU



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

STUDENT STUDY PROJECT

కాలం:- 2020 - 21 year.
"శ్రీ చాన్సరాయ ప్రాస సుబ్బారావు"
By

1. A. shiva sai Bsc II yr Maths, 006214201
2. A. Anuradh Bsc II yr. 006214202
3. A. DEVENDER Bsc II yr 006214204.
4. M. shiva Bsc II yr (M) 006214309 HTNU.
5. M. omkar Bsc II yr. 006214304. HTNU.

పర్యవేక్షకులు

డా. పాండుల సాయిలు, అసెస్సింట్ ప్రొఫెసర్



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

STUDENT STUDY PROJECT

క్రమం:- 2020-21 4^{లు}
"వెంటూడేన ఇవమానం - కథ"
By

1. A. Adarsh, Bse II yr (B2c, 0064213302
2. B. Bhaskar Bse B2c II yr. 006913313
3. ch. Manasa Bsc B2c II yr. 006213324
4. ch. prakash Bse B2c II yr. 006213330
5. E. Mahesh Bsc B2c II yr. 006213336

పర్యవేక్షకులు

డా. పాండుల సాయిలు, అసిస్టెంట్ ప్రొఫెసర్

KAKATIYA GOVERNMENT COLLEGE
HANAMKONDA

DEPARTMENT OF TELUGU

ACADEMIC YEAR

2020-2021

STUDENT STUDY PROJECT
ON

యుగంతం

SUBMITTED BY

H.T. No.	Name	Group
006 21 3307	A. ANUSHA	I. BZC
006 21 3309	A. NAVEEN	I. BZC
006 21 3314	B. MADHUMITHA	I. BZC
006 21 3316	B. PAVAN KALYAN	I. BZC
006 21 3339	E. SHARDWITHI	I. BZC

Supervised By

B. BALAIAH

Asst. Professor of Telugu



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

2020 - 2021

STUDENT STUDY PROJECT

నాటక ప్రక్రియ

By

B.Com III year (CA)

1. A. Sambasaju - 006202026
2. B. Mahender - 006202030
3. V. Chiranjeevi - 006202380
4. T. Rakesh - 006202370
5. ch. Ranjith - 006202092

పర్యవేక్షకులు

Dr. B. Suneetha

Associate prof. of Telugu

Kakatiya Govt. College, Hanamkonda.



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

2020 - 2021

STUDENT STUDY PROJECT

గౌరంగంశ్రీనివాసరావు

By

B.Com-CA III Year

1. A. Srinivas - 006202012
2. B. Vamsi - 006202034
3. Ch. Srivani - 006202090
4. B. Maneesha - 006202036
5. D. Divya - 006202096

పర్యవేక్షకులు

Dr. B. Suneetha

Associate prof of Telugu

Kakatiya Govt. College, Hanamkonda.



తెలుగు విభాగం
కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ
2020-2021

STUDENT STUDY PROJECT

జానపద కళలు

By

1. K.Sandeep 006214278 [MPCs I YEAR]
2. M.Vamshi 006214293 [MPCs I YEAR]
3. P.Rajender 006214321 [MPCs I YEAR]
4. S.Supraja 006214338 [MPCs I YEAR]
5. T.Shivasai 006214351 [MPCs I YEAR]

పర్యవేక్షకులు
G.Chandrakala (Asst Professor)



తెలుగు విభాగం
కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ
2020-2021

STUDENT STUDY PROJECT

బతుకమ్మ పాట వీరవనితలు

By

1. A.Swetha 006204305 M.St.CS II Year
2. B.Poojitha 006204308 M.St.CS II Year
3. CH.Akhila 006204316 M.St.CS II Year
4. G.Pramod 006204325 M.St.CS II Year
5. J.Rajashekhar006204334 M.St.CS II Year

పర్యవేక్షకులు
G.Chandrakala (Asst Professor)



తెలుగు విభాగం
కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ
2020-2021

STUDENT STUDY PROJECT

జలగీతం - ఎన్. గోపి

By

1. M.Saichandana 006204334 M.St.CS II Year
2. N.Shivakumar 006204354 M.St.CS II Year
3. P.Niharika 006204363 M.St.CS II Year
4. T.Raju 006204370 M.St.CS II Year
5. V.Pravallika006204372M.St.CS II Year

పర్యవేక్షకులు

V. Sampath Reddy (Asst Professor)



తెలుగు విభాగం
కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ
2020-2021

STUDENT STUDY PROJECT

పెన్నెటి పాట - విద్యాన్ విశ్వం

By

1. M.Ramya 006213397 BZc I Year
2. M Vamshi 006213402 BZc I Year
3. S Jashuva 006213418 BZc I Year
4. S Rathnakar 006213422 BZc I Year
5. S Anjali 006213434 BZc I Year

పర్యవేక్షకులు
V. Sampath Reddy (Asst Professor)



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హాన్మకొండ

2020 - 2021

STUDENT STUDY PROJECT

గ్రామీణ కులవృత్తులు

B.A. 3rd Year - H.P.P. (G/M)
By

1. A. Shiva Shankar - 006 - 191601
2. B. Vijay - 006 - 191604
3. G. Akhila - 006 - 191606
4. G. Madhavi - 006 - 191607
5. J. Vikram - 006 - 191608

పర్యవేక్షకులు

Y. Vijayalalitha
Associate Professor in Telugu
Kakatiya Govt. Degree College.
Hanam Konda - Warangal (U)



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

2020 - 2021

STUDENT STUDY PROJECT

మహా భాగవతము - సుప్రసిద్ధ పాత్ర - శ్రీశైల సోదరము
ఆయ విషయము

By
B.A - 1st year (H.E.P. - Telugu Medium)

1. B. Sandhya - 006 - 20 1502
2. G. Rajesh - 006 - 20 1515
3. K. Suneetha - 006 - 20 1522
4. Md. Agita - 006 - 20 1536
5. N. Ganesh - 006 - 20 1540

పర్యవేక్షకులు

Y. vijayalalitha
Associate prof. in Telugu
Kakatiya Govt. Degree College
Hanamkonda - Warangal (U)





తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

2020 - 2021

STUDENT STUDY PROJECT

ఆంధ్రము - తెలుగు - ఆనుగు

B.A. - H.P.P. II year

1. B. Vinod - 00620-1701
2. B. Venkanna - 00620-1702
3. B. Sathish - 00620-1704
4. C. Shiva kumar - 00620-1705
5. D. Vinay - 00620-1708

పర్యవేక్షకులు

B. Sudha Madhuri

Lectures in Telugu

Kakatiya Government Degree college

Hanamkonda.



తెలుగు విభాగం

కాకతీయ ప్రభుత్వ కళాశాల, హన్మకొండ

2020 - 2021

STUDENT STUDY PROJECT

మహిళా శివల ఆధ్వర్యం - కుటుంబం

By

B.Com - Computers - II year

1. M. Shashi vardhan - 00621-2204
2. M. Nagaraju - 00621-2205
3. M. Rakesh - 00621-2206
4. M. Tirupathi - 00621-2207
5. M. Sravan Kumar - 00621-2208

పర్యవేక్షకులు

B. Sudha Malhuri

Lectures in Telugu

Kakatiya Government Degree
college

Hanamkonda.

కాకతీయ యూనివర్సిటీ కళాశాల - యాన్లైన్ కార్యక్రమం
పాఠ్యాంశం
2020-2021

బంకము: " గ్రంథాల సమయం "

by B. Com Computer - I A year

1. A. Naveen - 00621 2002
2. A. Mounica - 00621 2007
3. A. Pavan - 00621 2015
4. B. Ashwini - 00621 2026
5. B. Sandeep - 00621 2030
6. B. Anil - 00621 2032

పేర్ల వ్యాఖ్యలు

డా. విజయలక్ష్మి
కాకతీయ యూనివర్సిటీ ప్రొఫెసర్
అనుభవ శాస్త్ర
కాకతీయ యూనివర్సిటీ కళాశాల
హైదరాబాద్.



వికాస కార్యక్రమ కమిటీ - హనుకొండ

బి.ఎ. పాఠశాల

2020-2021

Student study project - Telugu

"మనువనంజలం"
"Maghva Maanchala"

by. B.A. 2nd Year (M.E.P) E/14.

1. B. Rahul - 006201510
2. B. Ganesh - 006201516
3. C. Gadaiah - 006201523
4. D. Sunil - 006201530
5. G. Sushritha - 006201536
6. G. Mangilal - 006201541

పరిశీలకులు

Y. vijayalalitha
Associate Professor
Telugu Department
Kakatiya Groot college
Hanukonda

DEPARTMENT OF HINDI



**COMMISSIONERATE OF COLLEGIATE EDUCATION
GOVERNMENT OF TELANGANA, HYDERABAD
JIGNASA 2021**

STUDENT STUDY PROJECT

Online Vidya, Hindi Patra-Patrikayein Evam Sahithya Ke Shroth

छात्र अध्ययन परियोजना

ऑनलाइन विद्या, हिन्दी पत्र - पत्रिकाएँ एवं साहित्य के श्रोत

परियोजना निर्देशिका (Project Guide)

Dr. GOPIREDDY LEELAVATHI
Asst. Professor of Hindi

छात्र शोधार्थी (Student Researchers)

1. K. SUNIL, BBA III YR.
2. ROHAN KUMAR, B.COM III YR.
3. ABHISHEK MISHRA, B.COM III YR.
4. HARSHITHA, B.COM II YR.
5. KHANSA ZAREEN, B.COM II YR.



KAKATIYA GOVERNMENT COLLEGE

Accredited with NAAC 'B+' Grade
Hanumakonda - Telangana



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KAKATIYA GOVERNMENT COLLEGE

HANAMKONDA, DIST. WARANGAL (U)

TELANGANA



DEPARTMENT OF HINDI

ज्ञानास्रयी के प्रमुख कवि.

STUDENT PROJECT

2020-21

SUPERVISED BY:

G. LEELAVATHI,

ASST. PROFESSOR OF HINDI
KAKATIYA GOVERNMENT COLLEGE

SUBMITTED BY:

1. Md. Abbul Samad	BBA-II.	00620 1833
2. B. Rahul	"	1804
3. Md. Zohaib	"	1834
4. A. Sai Kumar	"	1802
5. B. Pavan kalyan	"	1805
6. Ch. Nithin	"	1807
7. K. Sunil	"	1818
8. G. Naveen kumar	"	1813



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KAKATIYA GOVERNMENT COLLEGE

HANAMKONDA, DIST. WARANGAL (U)

TELANGANA



DEPARTMENT OF HINDI

2020-2021

STUDENT PROJECT

आधुनिक काल

SUPERVISED BY:

G. LEELAVATHI,

ASST. PROFESSOR OF HINDI
KAKATIYA GOVERNMENT COLLEGE

SUBMITTED BY:

1. Ch. Manaswitha	MPC-II	006204019
2. E. Keerthi	MPCS-II	4321
3. E. Ashok.	"	4022
4. A. Arun Ramchander	"	4003
5. K. Ravikumar	"	4036
6. G. Suresh	M.St.-cs II.	4328
7. G. Bhavani Prasad.	"	4353
8. M. Vinay.	"	4362
9. P. Srikanth.	"	4373
10. Y. Anvesh.	"	

KAKATIYA GOVERNMENT COLLEGE

HANAMKONDA, DIST. WARANGAL (U)

TELANGANA



DEPARTMENT OF HINDI

2020-21

STUDENT PROJECT

आधुनिक काल

SUPERVISED BY:

G. LEELAVATHI,

ASST. PROFESSOR OF HINDI
KAKATIYA GOVERNMENT COLLEGE

SUBMITTED BY:

1. P. Spandana	B.A. HPTMC II	006201102
2. V. Manjunath	EPP-II.	1210
3. O. Ranjith.	HPP -II	1617
4. Ch. Mallesh	"	1706
5. D. Roshan	"	1707
6. K. Venkata Naga Sai Vaishnavi. HEG-II.		1171
7. Y. Anilkumar	HEPA-II	1061

DEPARTMENT OF SANSKRIT



KAKATIYA GOVERNMENT COLLEGE, HANUMAKONDA.

DEPARTMENT OF SANSKRIT

Students Project Work

Topic: Abhignana Shakunthalam of Mahakavi Kalidasa

Submitted By:

- 1.M. AKhila (B.A. HEPA)**
- 2.B. Srija (B.A. HPP)**
- 3.G. Sandhya (B.A. HEP)**
- 4.K. Chanakya Vardhan (B.A. HPJMC)**
- 5.G. Sai Vardhan (B.A.HEPA)**

Under the Guidance of

**Sri. E. Krishnaiah, Assc. Prof of Sanskrit
Kakatiya Government College, Hanumakonda.**


Head Department of Sanskrit
Kakatiya Govt. College
HANAMKONDA.



KAKATIYA GOVERNMENT COLLEGE, HANUMAKONDA.

DEPARTMENT OF SANSKRIT

Students Project Work

Topic: Ramadasa by Sri Sannidhana Suryanarayana Sasthri

Submitted By:

- 1. B. Srija (B.A. HPP)**
- 2. M. AKhila (B.A. HEPA)**
- 3.K.Revanth (B.A. HEPA)**
- 4.K. Chanakya Vardhan (B.A. HPJMC)**
- 5. Thrisha (B.A.HPP)**

Under the Guidance of

**Sri. E. Krishnaiah, Assc. Prof of Sanskrit
Kakatiya Government College, Hanumakonda.**


Head Department of Sanskrit
Kakatiya Govt. College
HANAMKONDA.

DEPARTMENT OF MATHEMATICS

STUDENTS' STUDY PROJECT.

ON

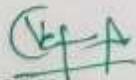
"Coding and Decoding by Integer Prime Factorization".

(A study on RSA Cryptography.)

Participants

1. P.Pavan kalyan- Mstes-III
2. P.Vineetha Mstes-III
3. B.Deepika Mstes-III
4. G.Mounika Mstes-III
5. K.srinivas Mstes-III
6. M.Mohan Mstes-III
7. Ch.Pavan- MPC-III
8. J.Anitha- MPC-III
9. K.Narendra- MPC-III
10. N.Mahesh- MPC-III

Supervisor



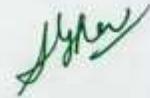
M. Venugopal
Assistant Professor
Department of Mathematics
Kakatiya Government College
Hanumakonda - T.S.

Head



Incharge

Department of Mathematics
Kakatiya Government College
Hanumakonda - T.S.



Principal
PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanamkonda.

STUDENTS' STUDY PROJECT.

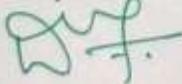
ON

"CODING AND DECODING BY LINEAR ALGEBRA"

Participants:

1. T.Rakesh MPCs-III
2. A.Divya MPCs-III
3. B.Kalyani MPCs-III
4. K.Pradeep MPCs-III
5. D.Mounika MPCs-III
6. K.Mahesh MPCs-III
7. M.Tejasri MPCs-III
8. P.Ramya MPCs-III
9. R.Avinash MPCs-III
10. M.Anil MPCs-III

Supervisor



D.Venkanna

Assistant Professor
Department of Mathematics
Kakatiya Government College,
Hanamakonda - T.S.

Head



Incharge

Department of Mathematics
Kakatiya Government College
Hanamakonda - T.S.

Principal

PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanamakonda.

STUDENTS' STUDY PROJECT.

ON

History of Aryabhata

Participants

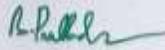
1. M.Ramya MPCs-II
2. K.Vamshi MPCs-II
3. L.Anil MPCs-II
4. D.Divya MPCs-II
5. B.rajitha MPCs-II
6. G.Suresh MPCs-II
7. B.Jhansi MPCs-II
8. D.Satish MPCs-II
9. K.Rakesh MPCs-II
10. M.Bindu MPCs-II

Supervisor



Dr.B.Prabhakar
Assistant Professor
Department of Mathematics
Kakatiya Government College
Hanamakonda - T.S.

Head



Incharge
Department of Mathematics
Kakatiya Government College
Hanamakonda - T.S.

Principal



PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanamakonda.

STUDENTS' STUDY PROJECT.

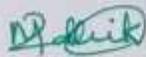
ON

MATHEMATICIANS WHO CHANGED THE WORLD

Participants:

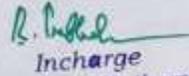
1. G.Naveen	MPC-II
2. A.Arun	MPC-II
3. A.Akhila	MPC-II
4. P.Mahender	MPC-II
5. K.Shirisha	MPC-II
6. K.Bharat Chandra	MPC-II
7. B.Rajesh	MPC-II
8. P.Anjanna	MPC-II
9. Ch.Manasa	MPC-II
10. G.Chandu	MPC-II

Supervisor



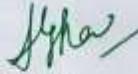
M.Radhika
Assistant Professor
Department of Mathematics
Kakatiya Government College
Hanumakonda - T.S.

Head



Incharge
Department of Mathematics
Kakatiya Government College
Hanumakonda - T.S.

Principal



PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanumakonda.

STUDENTS' STUDY PROJECT
on
Indian Mathematicians and Their Contributions

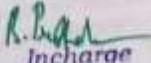
By:

1. P.Sucharitha, MStDs-I
2. B.Rakesh MStDs-I
3. G.Bhasker MStDs-I
4. Md.Yakub MStDs-I
5. T.dileep MStDs-I
6. G.Stephen MStDs-I
7. Ch.Madhurima MStDs-I
8. G.Manasa MStDs-I
9. G.Shanti sharmila MStDs-I
10. K.Pavithra MCCs-I

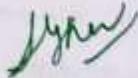
Supervisor


D. Venkatesh
Assistant Professor
Department of Mathematics
Kakatiya Government College
Hanumakonda - T.S.

Head


R. Bharathi
Incharge
Department of Mathematics
Kakatiya Government College
Hanumakonda - T.S.

Principal


PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanamkonda.

STUDENTS STUDY PROJECT

On

“Cryptography: Our Concern in a Modern Society”.

Participants

- | | |
|------------------|---------------|
| 1. B.Anjuli | B.Se MPC I yr |
| 2. Ch.Tarun | B.Se MPC I yr |
| 3. B.Moreshwar | B.Se MPC I yr |
| 4. E.Anvesh | B.Se MPC I yr |
| 5. G.Sanjay | B.Se MPC I yr |
| 6. K.Rahul | B.Se MPC I yr |
| 7. T.Kumar | B.Se MPC I yr |
| 8. V.Abhinaya | B.Se MPC I yr |
| 9. V.Lenina | B.Se MPC I yr |
| 10. K.Uday Kiran | B.Se MPC I yr |


Supervisor

Dr.B.Prabhakar


Incharge

Department of Mathematics
Kakatiya Government College
Hanamakonda - T.S.


Principal

PRINCIPAL
KAKATIYA GOVT COLLEGE
Hanamakonda

DEPARTMENT OF PHYSICS

STUDENT FIELD WORK STUDY PROJECT ENERGY AUDIT – KGC - A CASE STUDY



**R.VANDANA
N.ADHARSH
CH.MANASWITHA
K.AKHILA
S.SAMEEKSHA
P.PRANEETHA AND OTHERS**



DEPARTMENT OF PHYSICS., K G C, HANAMKONDA.



The Energy Audit was defined to meet the following objectives:

- Conduct a simple Walk-Through audit or observation of the energy consumption of electrical appliances within the KAKATIAYA GOVERNMENT COLLEGE, HANAMKONDA building.
- Review and analyze energy usage history to create a baseline for which savings can be measured in the audited building.

Energy Audit Report

Below Table shows the energy consumption pattern of the college for a month. The college has consumed an average of **3685 kW/hr** electricity in the month of **September 2021**

Sl. No	Electrical appliances/ instruments	Number	Power (W)/ unit	Total power (W)	kW	Average Operation /day	kW/hr	No. of days in month	Total consumption per month
1	FL TUBE	487	36	17532	17.532	1	17.532	25	438.3
2	LED BULB	12	12	144	0.144	4	0.576	25	14.4
	LED BULBS	3	30	90	0.090	3	0.27	25	6.75
3	PROJECTOR	14	250	3500	3.5	1	3.5	10	3.5
4	FAN	276	60	16560	16.56	1	16.56	24	397.44
5	COMPUTER	250	250	62500	62.5	0.5	31.25	24	750
6	LAPTOPS	02	50	100	0.1	4	0.4	20	08
7	PRINTERS	30	60	1800	1.8	1	1.8	15	27
8	PHOTO COPIER	03	650	1950	1.95	2	3.9	15	58.5
9	SCANNER	5	10	50	0.05	1	0.05	10	0.5
10	UPS	3	900	2700	2.7	10	27	20	540
11	A/C	20	4100	82000	82	1	82	5	410
12	REFRIGERATOR	06	150	900	0.9	24	21.6	30	648
13	HOT OVEN	07	3000	21000	21	0.25	5.25	5	26.25
14	CENTRIFUGE	06	110	660	0.66	0.25	0.165	10	1.65
15	AUTOCLAVE	03	1700	5100	5.1	0.25	1.275	5	6.375
16	LAMINAR FLOW	1	600	600	0.6	0.25	0.15	3	0.45
17	INCUBATOR	2	300	600	0.6	4	2-4	25	60
18	INVERTER	3	11000	33000	33	1	33	15	495
19	SANITARY NAPKIN INCINERATOR	1	400	400	0.4	1	0.4	25	10
20	CCTV NVR	02	10	20	0.02	30	0.6	30	18
21	Electric Submersible Motor	02	2238	4476	4.476	1	4.476	24	107.424
	Total Consumption per month								4027.54

T S N P D C L

ELECTRICITY BILL CUM NOTICE

MANUAL Ver-P.83 BNo:3132
Machine ID:SBP19158683
ERO :2122 SEC:08
GRP :M Cycle:M1
DATE:09/09/2021 16:11
Area:NR

USCNO:15794134

SCNO:22 41 88952
NAME:Principal Govt Deor
ADDR:NR
MACHILI BAZAR
Cat:7-7A Phase:3
Load:68.500KW
STR Code: 212200708006
Pole No.: NBR-28/EX

READING MONTH STS

Ps 636638 09/09/2021 01
Pv 633954 14/08/2021 01
Pres KVAH: 747358
Prev KVAH: 744556
KWH UNITS: 2676
KVAH UNITS: 2802
RMD:33.908
UNITS:2802
MIN UNITS: 1218
TOD UNITS: 1401
MNo:4221693 AUG:2802.00
Mtr: MF:1.00
TC Seal:N CRP:1

ENERGYCHARGES: 23256.60
7.80 for 1401
8.80 for 1401
FIXED CHARGES: 18876.00
390.00 for 48.400
CUST CHARGES : 1685.00
ED : 168.12
ED INT : 0.37
ADDL CHARGES : 550.00
ADJUSTMENT : -0.00
ROUNDING : -0.09

TOTAL AMOUNT : 44536.00
AS ON 01-04-21: 0.00
AFTER 01-04-21: 47588.53

NET AMOUNT : 92124.53

ACD DUE : 0.00
LAST PAID : 29/07/2021
LAST PAID AMT: 38816.00
DUE DATE : 23/09/2021
DISC DATE : 09/10/2021

For AAO ERO/TOWN/HANAMK
TOLL FREE:1912 / 18004250028
www.tsnpdcl.in

T S N P D C L

ELECTRICITY BILL CUM NOTICE

IrDA Ver-P.83 BNo:4416
Machine ID:SBP16370004
ERO :2122 SEC:08
GRP :M Cycle:M1
DATE:17/09/2021 18:36
Area:CHOWRASTHA

USCNO:15796131

SCNO:12290-130374
NAME:Principal Govt Deor
ADDR:Govt degree
CHOWRASTHA
Cat:2-2B Phase:3
Load:5.000KW
STR Code: 212200708004
Pole No.: NBR-28/EX

READING MONTH STS

Ps 18498 17/09/2021 01
Pv 9988 04/08/2021 01
KWH UNITS: 518
RMD:4.128
UNITS:518 DAYS: 44
MNo:07047341 AUG:364.90
Mtr: MF:1.00
TC Seal:N CRP:1
0

ENERGYCHARGES: 4457.40
FIXED CHARGES: 308.00
CUST CHARGES : 65.00
ED : 31.00
ED INT : 0.07
ADDL CHARGES : 0.00
ADJUSTMENT : -0.00
ROUNDING : 0.45

TOTAL AMOUNT : 4854.00
AS ON 01-04-21: 0.00
AFTER 01-04-21: 0.00

NET AMOUNT : 4854.00

ACD DUE : 0.00
LAST PAID : 13/09/2021
LAST PAID AMT: 3836.00
DUE DATE : 01/10/2021
DISC DATE : 16/10/2021

For AAO ERO/TOWN/HANAMK
TOLL FREE:1912 / 18004250028
www.tsnpdcl.in

T S N P D C L

ELECTRICITY BILL CUM NOTICE

Ir Mnl Ver-P.83 BNo:4416
Machine ID:SBP16370004
ERO :2122 SEC:08
GRP :M Cycle:M1
DATE:17/09/2021 18:37
Area:CHOWRASTHA

USCNO:15801250

SCNO:12290-130373
NAME:Principal Govt Deor
ADDR:Govt degree
CHOWRASTHA
Cat:2-2B Phase:3
Load:5.000KW
STR Code: 212200708004
Pole No.: NBR-28/EX

READING MONTH STS

Ps 5367 17/09/2021 05
Pv 5367 07/07/2021 05
UNITS:365
MNo:7012750 AUG:365.00
Mtr: MF:1.00
TC Seal:N CRP:1
0

ENERGYCHARGES: 3141.00
FIXED CHARGES: 308.00
CUST CHARGES : 65.00
ED : 21.90
ED INT : 0.39
ADDL CHARGES : 0.00
ADJUSTMENT : -0.00
ROUNDING : -0.29

TOTAL AMOUNT : 3528.00
AS ON 01-04-21: 0.00
AFTER 01-04-21: 0.00

NET AMOUNT : 3528.00

ACD DUE : 0.00
LAST PAID : 13/09/2021
LAST PAID AMT: 3528.00
DUE DATE : 01/10/2021
DISC DATE : 16/10/2021

For AAO ERO/TOWN/HANAMK
TOLL FREE:1912 / 18004250028
www.tsnpdcl.in









Student Study Project

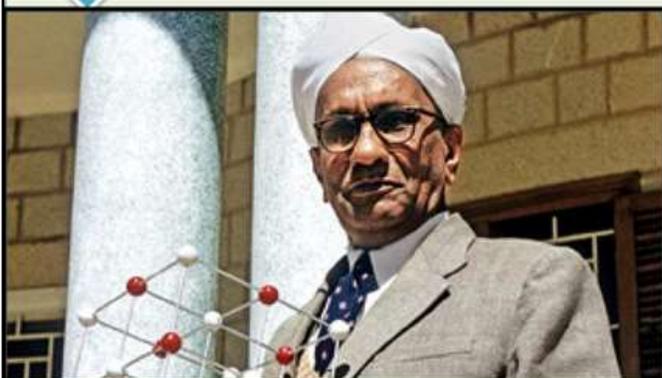
KAKATIYA GOVT. COLLEGE, HANAMKONDA

DIST: WARANGAL., TELANGANA – 506001

(Affiliated to Kakatiya University, Warangal)

(e-mail: warangal.jkc@gmail.com, website: <https://gdcts.cgg.gov.in/hanamkonda.edu>)

DEPARTMENT OF PHYSICS



TITLE OF THE PROJECT :

C.V. RAMAN

A BRILLIANT SON OF INDIA

A . Arun Kumar - MPC – II – Yr., B . Manasa, - MPCs – II - Yr.,
D . Chandradeep - MPC -I -Yr., G . Sandeep Kumar – MPCs – III - Yr.,
G . Sangeetha-MPC – I - Yr., K . Praharsha-MPC – I –Yr., A . Liinga – MPCs-
I- Yr., A . Swapna – MPCs – I Yr., A. Ashok – MPC – III - Yr.,

Objectives:

1. To know the history and the chronology of C.V.Raman works in Physics.
2. To understand the wide range of applications of Raman effect in various fields
3. To motivate the students towards scientific research

ABSTRACT of the Study Project:

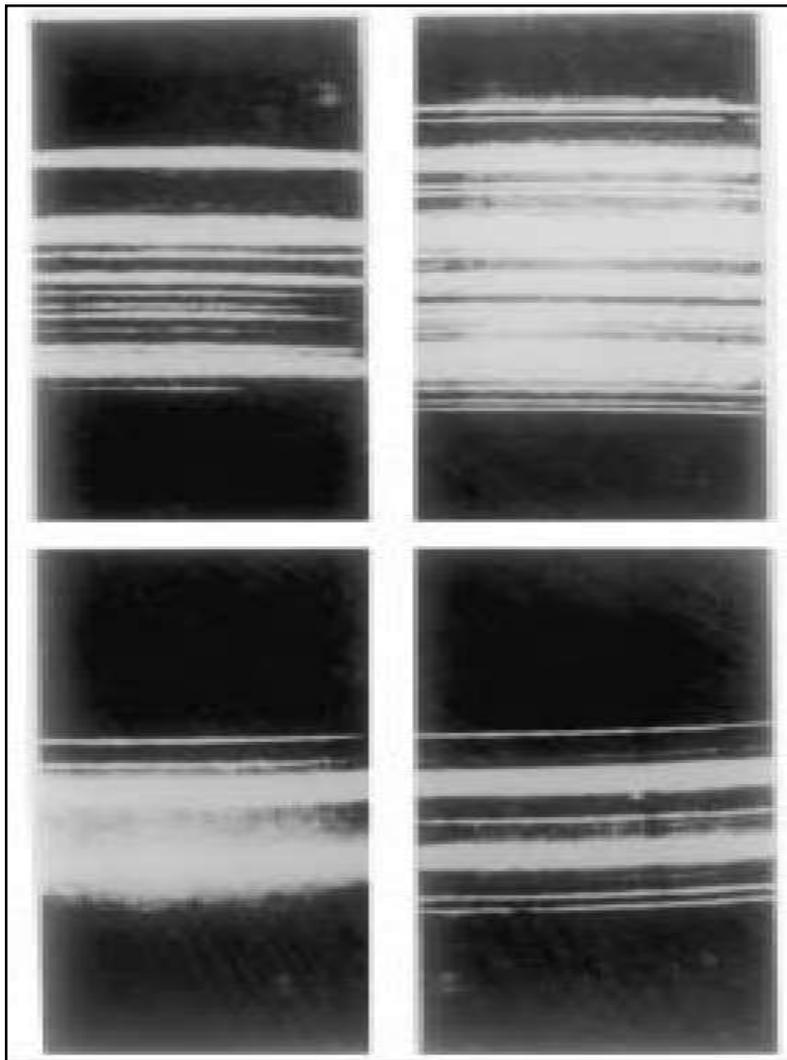
In 1928 the Indian physicist C. V. Raman (1888-1970) discovered the effect named after him virtually simultaneously with the Russian physicists G. S. Landsberg (1890-1957) and L. I. Mandelstam (1879-1944).

Here, we provide a biographical sketch of Raman through his years at Calcutta (1907-1932) and Bangalore (after 1932).

His scientific work in acoustics, astronomy, and optics up to 1928, including his views on Albert Einstein's light-quantum hypothesis and on Arthur Holly Compton's discovery of the Compton effect, with particular reference to Compton's debate on it with William Duane in Toronto in 1924, which Raman witnessed. then we examine Raman's discovery of the Raman effect and its reception among physicists.

Finally, we examine the reasons for why Landsberg and Mandelstam did not share the Nobel Prize in Physics for 1930 with Raman.



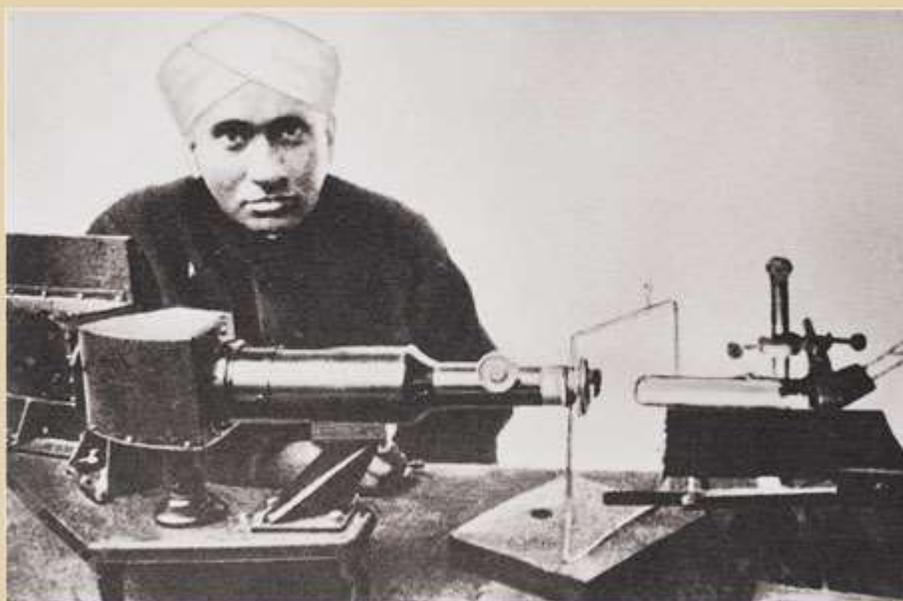


The first spectra taken by C. V. Raman and K. S. Krishnan. The upper-left photograph shows the incident light consisting of the spectrum of a quartz mercury arc lamp after passing through a blue filter that cuts out all wavelengths greater than the indigo line at 4358 Angstroms. The upper-right photograph shows the same spectrum when scattered by liquid benzene and taken with a small Adam Hilger spectroscope. Note the appearance of modified lines owing to the Raman Effect. The lower-left and the lower-right photographs show the same effect using a different filter. Courtesy of the Raman Research Institute, Bangalore.

AN INTERNATIONAL HISTORIC
CHEMICAL LANDMARK

THE RAMAN EFFECT

JADAVPUR, CALCUTTA
DECEMBER 15, 1998



AMERICAN CHEMICAL SOCIETY



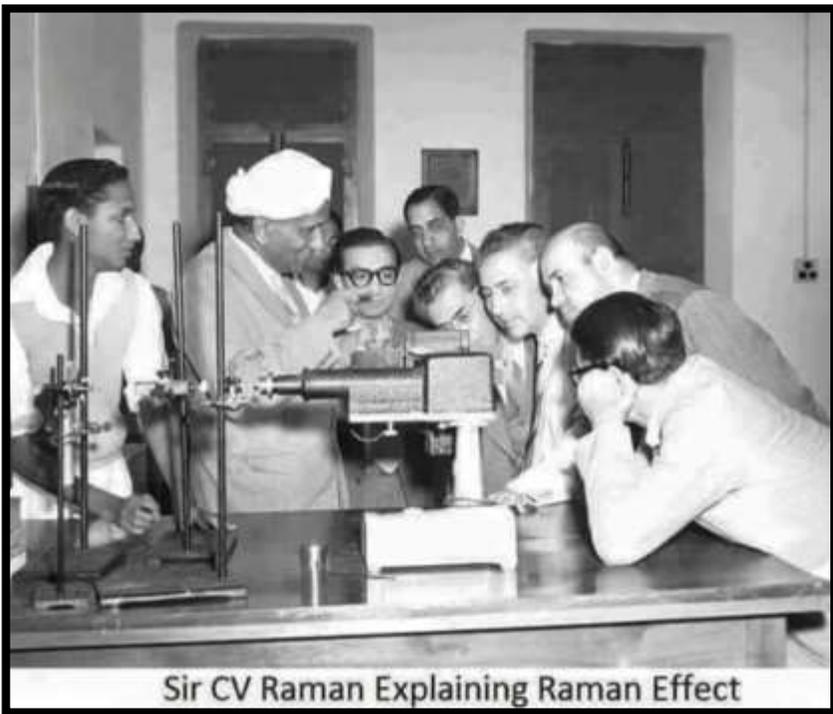
INDIAN ASSOCIATION
FOR THE
CULTIVATION OF
SCIENCE



NATIONAL SCIENCE DAY

Discovery of Raman Effect

Dr. C. V. Raman, known as the "Father of Indian Physics", was born on 11.10.1896 in the village of Chittoor, Andhra Pradesh. He was the first Indian to receive the Nobel Prize in Physics in 1930 for his work on the scattering of light, known as the Raman Effect. He was also the first Indian to become a member of the Indian Academy of Sciences in 1934. He was awarded the Bharat Ratna, the highest civilian award in India, in 1954. He was also a member of the Indian National Congress and the Indian National Science Academy. He was a member of the Indian Council of Scientific and Industrial Research (CSIR) and the Indian Institute of Technology (IIT) Bombay. He was also a member of the Indian Academy of Sciences and the Indian National Science Academy. He was a member of the Indian Council of Scientific and Industrial Research (CSIR) and the Indian Institute of Technology (IIT) Bombay. He was also a member of the Indian Academy of Sciences and the Indian National Science Academy.



Sir CV Raman Explaining Raman Effect

DEPARTMENT OF CHEMISTRY

STUDENT STUDY PROJECT 2020-21

Synthesis, spectral characterization of mononuclear Zinc (II) complex and antimicrobial studies with 2-((E)-(2bromobenzylideneamino)phenol

By

S.NO.	Hall Ticker No.	Group	Name of the student
1	006-19-3201	IBZC T/M	A.Sandhya
2	006-19-3205	IBZC T/M	Chromes,
3	006-19-3208	IBZC T/M	B.Srikanth
4	006-19-3209	IBZC T/M	B.Srilekha
5	006-19-3211	IBZC T/M	D.Akhila
6	006-19-3218	IBZC T/M	G.Pranay
7	006-19-3220	IBZC T/M	.Supriya
8	006-19-3223	IBZC T/M	B.Mounika
9	006-19-3232	IBZC T/M	B.Ganesh
10	006-19-3235	IBZC T/M	G.Indu

Supervised by

Dr. B. Ramesh

DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

(Re-Accredited by NAAC with 'B+' grade)

HANAMKONDA, WARANGAL(U)

STUDENT STUDY PROJECT 2020-21

Synthesis, spectral characterization of mononuclear Copper (II) complex and antimicrobial studies with 2-((E)-
(2-bromophenylidene amino)phenol

By

S.NO.	Hall Ticket No.	Group	Name of the student
1	006-19-3201	I BZC T/M	Aarna Srinivas
2	006-19-3205	I BZC T/M	Chirakuntla Bhaskar
3	006-19-3208	I BZC T/M	Danara Rameya
4	006-19-3209	I BZC T/M	Erajanti Bhavani
5	006-19-3211	I BZC T/M	Gaddam Saibi Prathiba
6	006-19-3218	I BZC T/M	Jakka Prasad Kalyan
7	006-19-3220	I BZC T/M	Jyotsna Rameya
8	006-19-3223	I BZC T/M	Karra Madhupriya
9	006-19-3232	I BZC T/M	Tejavathi Hanuprasad
10	006-19-3235	I BZC T/M	Vadla konda Shiva krishna

Supervised by
Dr. B. Ramesh



DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA
(Re-Accredited by NAAC with 'B+' grade)
HANAMKONDA, WARANGAL (U)

STUDENT STUDY PROJECT 2020-21

Synthesis, spectral characterization of mononuclear copper (II) complex and antimicrobial studies with 2-((E)-(2-Fluoro phenylimino)phenol

By

S.NO.	Hall Ticket No.	Group	Name of the student
1	006-19-3203	I BZC T/M	Bhukya Suman
2	006-19-3207	I BZC T/M	Dandanala Akhil
3	006-19-3212	IBZC T/M	Ganapsaka Spandana
4	006-19-3214	IBZC T/M	Guguloth Saritha
5	006-19-3216	IBZC T/M	Gurram Supriya
6	006-19-3226	IBZC T/M	More Shravan
7	006-19-3229	IBZC T/M	Ratnam Sagar
8	006-19-3231	IBZC T/M	. Ramanujan
9	006-19-3233	IBZC T/M	Talugu Naveen Kumar
10	006-19-3234	IBZC T/M	Vadlakuna Archana

Supervised by

Kandala Satyanarayana



DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

(Re-Accredited by NAAC with 'B+' grade)

HANAMKONDA, WARANGAL(U)

STUDENT STUDY PROJECT 2020-21

Synthesis and antibacterial activity 2-(3-chlorophenyl)benzimidazole derivatives

By

1. A.Snehitha, B.Sc BZC V semester (006-19-3401)
2. A.Bhavani B.Sc BZC V semester (006-19-3402)
3. A.Arjun, B.Sc BZC V semester(006-19-3403)
4. B.Hareesh, B.Sc BZC V semester(006-19-3410)
5. Ch.Mahendher, B.Sc BZC V semester(006-19-3422)
6. D.Venkatesh, B.Sc BZC V semester(006-19-3424)
7. B.Spandana, B.Sc BZC V semester(006-19-3418)
8. D. Pradeep Sagar, B.Sc BZC V semester(006-19-3426)
9. D. Roja, B.Sc BZC V semester(006-19-3428)
10. G.Madhuker B.Sc BZC V semester(006-19-3429)

Supervised by

Ashok Alishala

Asst. Prof. of Chemistry



DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA,
HANAMKONDA, WARANGAL(U)

STUDENT STUDY PROJECT 2020-21

Synthesis and antibacterial activity 2-(3-chlorophenyl)benzimidazole derivatives

By

1. A.Snehitha, B.Sc BZC V semester (006-19-3401)
2. A.Bhavani B.Sc BZC V semester (006-19-3402)
3. A.Arjun, B.Sc BZC V semester (006-19-3403)
4. B.Hareesh, B.Sc BZC V semester (006-19-3410)
5. Ch.Mahendher, B.Sc BZC V semester (006-19-3422)
6. D.Venkatesh, B.Sc BZC V semester (006-19-3424)
7. B.Spandana, B.Sc BZC V semester (006-19-3418)
8. D. Pradeep Sagar, B.Sc BZC V semester (006-19-3426)
9. D. Roja, B.Sc BZC V semester (006-19-3428)
10. G.Madhuker B.Sc BZC V semester (006-19-3429)

Supervised by

Ashok Alishala

Asst. Prof. of Chemistry



DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA,
HANAMKONDA, WARANGAL(U)

STUDENT STUDY PROJECT 2020-21

Synthesis and antibacterial activity 2-(3-fluorophenyl)benzimidazole derivatives

S.No.	HT No.	Name of the student	Class
1	006-20-4016	Ch. Saikumar	B.Sc. MPC III Sem
2	006-20-4018	Ch. Manasa	B.Sc. MPC III Sem
3	006-20-4020	D. Rakesh	B.Sc. MPC III Sem
4	006-20-4024	G. Deepika	B.Sc. MPC III Sem
5	006-20-4025	G. Saikumar	B.Sc. MPC III Sem
6	006-20-4028	G. Hanuman	B.Sc. MPC III Sem
7	006-20-4029	K. Kishore Kumar	B.Sc. MPC III Sem
8	006-20-4030	K. Rajkumar	B.Sc. MPC III Sem
9	006-20-4038	M. Ashok	B.Sc. MPC III Sem
10	006-20-4041	M. Chandu	B.Sc. MPC III Sem

Supervised by

Ashok Alishala

Asst. Prof. of Chemistry



DEPARTMENT OF CHEMISTRY

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA,
HANAMKONDA, WARANGAL(U)

DEPARTMENT OF CHEMISTRY

Kakatiya Government College, Hanamkonda



2020-21

Student Study project on
Preparation of Aspirin

BY

S.NO.	Hall Ticket No.	Group	Name of the student
1	006203204	II BZC TM	A. Anusha
2	006203209	II BZC TM	B. Ravali
3	006203210	II BZC TM	B. Akhila
4	006203218	II BZC TM	E. Ramadevi
5	006203229	II BZC TM	M. Swapna
6	006203236	II BZC TM	N. Swaroopa
7	006203213	II BZC TM	B. Rajesh
8	006203220	II BZC TM	J. Sandeep kumar
9	006193204	III BZC TM	Ch. Bharath
10	006193211	III BZC TM	G. Shashipreetam

Supervised by

K. Vani

Assistant Professor of Chemistry

DEPARTMENT OF CHEMISTRY

Kakatiya Government College, Hanamkonda



2020-21

Student Study project on
Saponification – Preparation of soap

BY

S.NO.	Hall Ticket No.	Group	Name of the student
1	006193702	III MZC EM	B. Kalyani
2	006193704	III MZC EM	G. Ajay kumar
3	006193708	III MZC EM	K. Sumanth
4	006193709	III MZC EM	M. Roshini
5	006193603	III MBC EM	G. Rakshitha
6	006193604	III MBC EM	G. Sumathi
7	006193608	III MBC EM	L. Suresh
8	006193610	III MBC EM	P. Manisha
9	006193611	III MBC EM	T. Ramu
10	006193024	II BtZC EM	M. Rachana

Supervised by

K. Vani

Assistant Professor of Chemistry

KAKATIYA GOVERNMENT COLLEGE HANAMKONDA

DEPARTMENT OF CHEMISTRY

2020-21



A STUDY PROJECT ON ANALYSIS OF COOL DRINKS

Submitted by

S.NO.	Hall Ticket No.	Group	Name of the student
1	006-19-3701	III MZC	A.Siddartha
2	006-19-3703	III MZC	E. Navyasri
3	006-19-3705	III MZC	G. Pramod
4	006-19-3708	III MZC	K. Sumanth
5	006-19-3710	III MZC	Vishwas
6	006-19-3712	III MZC	S. Ranjith
7	006-19-3101	III BtBC	A.Manohit
8	006-19-3104	III BtBC	R.Suman
9	006-19-3117	III BtBC	J. Pranathi
10	006-19-3120	III BtBc	K. Chandana

Under the guidance of

Dr. VASAM SREENIVAS

Asst. Prof. of Chemistry

KAKATIYA GOVERNMENT COLLEGE HANAMKONDA

DEPARTMENT OF CHEMISTRY

2020-21



STUDENT STUDY PROJECT ON THIN LAYER CHROMATOGRAPHY(TLC)

Submitted by

S.NO.	Hall Ticket No.	Group	Name of the student
1	006-19-4005	III MPC	N. Anusha
2	006-19-4010	III MPC	V. Naresh
3	006-19-4101	III MPC	A.Laxman
4	006-19-4111	III MPC	Ch. Rakesh
5	006-19-4120	III MPC	J. Vidya
6	006-19-4121	III MPC	J. Sairam
7	006-19-4024	III MPC	J. Pavan
8	006-19-4026	III MPC	K. Rajender
9	006-19-4028	III MPC	K. Narender
10	006-19-4031	III MPC	M.Sirisha

Under the guidance of

Dr. VASAM SREENIVAS

Asst. Prof. of Chemistry

STUDENT STUDY PROJECT 2020-21

Synthesis and antibacterial activity 2-(4-aminophenyl)benzimidazole derivatives

By

S. NO.	HT. No.	NAME OF THE STUDENT	CLASS
1	006-19-3101	A. Manohith, Bt.ZC	B.Sc. V SEM
2	006-19-3102	A. Bhanuprasadh Bt.ZC	B.Sc. V SEM
3	006-19-3103	A. Devendher, Bt.ZC	B.Sc. V SEM
4	006-19-3104	B. Anil,, Bt.ZC	B.Sc. V SEM
5	006-19-3105	B. Suman, Bt.ZC	B.Sc. V SEM
6	006-19-3106	B. Abhisha, Bt.ZC,	B.Sc. V SEM
7	006-19-3108	Ch. Raguvaran, Bt.ZC	B.Sc. V SEM
8	006-19-3109	D. Madhuker, Bt.ZC	B.Sc. V SEM
9	006-19-3111	D. Kamal, Bt.ZC	B.Sc. V SEM
10	006-19-3113	E. Premkumar, Bt.ZC	B.Sc. V SEM

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Dr.R.Mogili



DEPARTMENT OF CHEMISTRY

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(Re-Accredited by NAAC with 'B +' grade)

STUDENT STUDY PROJECT 2020-21

Synthesis and antibacterial activity 2-(4-aminophenyl)benzimidazole derivatives

By

S.NO.	HT.No.	NAME OF THE STUDENT	CLASS
1	006-19-3101	A.Manohith,Bt.ZC	B.Sc. V SEM
2	006-19-3102	A.Bhanuprasadh Bt.ZC	B.Sc. V SEM
3	006-19-3103	A.Devendher,Bt.ZC	B.Sc. V SEM
4	006-19-3104	B.Anil,,Bt.ZC	B.Sc. V SEM
5	006-19-3105	B.Suman,Bt.ZC	B.Sc. V SEM
6	006-19-3106	B.Abhisha,Bt.ZC,	B.Sc. V SEM
7	006-19-3108	Ch.Raguvaran,Bt.ZC	B.Sc. V SEM
8	006-19-3109	D.Madhuker,Bt.ZC	B.Sc. V SEM
9	006-19-3111	D.Kamal, Bt.ZC	B.Sc. V SEM
10	006-19-3113	E.Premkumar, Bt.ZC	B.Sc. V SEM

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STUDENT STUDY PROJECT 2020-21

Synthesis and antibacterial activity 2-(4-bromophenyl)benzimidazole derivatives

By

1.M.Bharathkumar, BtBC (006-19-3125)

2.Md.Salman, BtBC (006-19-3126)

3.M.Sanjana, BtBC (006-19-3127)

4.N.Sumabindu, BtBC (006-19-3128)

5.P.Naveenkumar, BtBC (006-19-3130)

6.P.Saibhargava, BtBC (006-19-3131)

7.P.Mayuri, BtBC (006-19-3132)

8.P.Chandrashaker, BtBC (006-19-3133)

9.R.Saraswathi BtBC (006-19-3134)

10.T.Abhilash,BtBC (006-19-3137)

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DEPARTMENT OF CHEMISTRY

Kakatiya Government College, Hanamkonda

(Accredited with NAAC 'B+' Grade)



2020-21

Student Study project on

Qualitative analysis of Paracetamol molecule in generic tablet

S.NO.	Hall Ticket No.	Group	Name of the student
1	006203213	II BZC TM	E. Rajesh
2	006203218	II BZC TM	E. Ramadevi
3	006203220	II BZC TM	J. Sandeep Kumar
4	006203236	II BZC TM	N. Swarupa
5	006193019	III BtZC EM	K. Ranjith
6	006193024	III BtZC EM	M. Rachana
7	006193031	III BtZC EM	M. Nikhita
8	006193106	III BtBC EM	M. Abhisha
9	006193128	III BtBC EM	N. Sumabindu
10	006193139	III BtBC EM	V. Rakesh

Supervised by

Poodari Sumalatha

Assistant Professor of Chemistry

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DEPARTMENT OF CHEMISTRY

Kakatiya Government College, Hanamkonda

(Accredited with NAAC 'B+' Grade)



2020-21

Student Study project on

An assessment of RO plants in Hanamkonda

S.NO.	Hall Ticket No.	Group	Name of the student
1	006193603	III MBC EM	G. Rakshitha
2	006193604	III MBC EM	G. Sumathi
3	006193702	III MZC EM	B. Kalyani
4	006193709	III MZC EM	M. Roshini
5	006193210	III BZC TM	G. Rakesh
6	006193218	III BZC TM	J. Pramod kalyan
7	006193223	III BZC TM	K. Madhu Priya
8	006193232	III BZC TM	T. Bhanu Prakash
9	006193235	III BZC TM	V. Shiva krishna
10	006203213	II BZC TM	B. Rajesh

Supervised by

Poodari Sumalatha

Assistant Professor of Chemistry

STUDENT STUDY PROJECT

Studies on Pesticides and Insecticides in fruits and vegetables of Hanamkonda area

By

1. A. Sneetha B.Sc. BZC (006-19-3401)
2. B. Naveenkumar B.Sc. BZC (006-19-3409)
3. B. Vijaykumar B.Sc. BZC (006-19-3416)
4. D. Akhila B.Sc. BZC (006-19-3423)
5. G. Sandeep B.Sc. BZC (006-19-3430)
6. J. Mahesh B.Sc. BZC (006-19-3441)
7. K. Ravishankar B.Sc. BZC (006-19-3446)
8. M. Vijaykumar B.Sc. BZC (006-19-3455)
9. M. Vani B.Sc. BZC (006-19-3462)
10. P. Preethi B.Sc. BZC (006-19-3467)

Supervised by

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Asst. Prof. of Chemistry

DEPARTMENT OF CHEMISTRY

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

HANAMKONDA, WARANGAL (U)

STUDENT STUDY PROJECT

Amount of Casein in milk

By

1. B. Rajshekar B.Sc MPC (006-19-4003)
2. Ch. Ruchitha Reddy B.Sc MPC (006-19-4011)
3. D. Poornima B.Sc MPC (006-19-4015)
4. D. Prasad B.Sc MPC (006-19-4016)
5. G. Pavanalyan B.Sc MPC (006-19-4020)
6. G. Sandeep B.Sc MPC (006-19-4023)
7. J. Anitha B.Sc MPC (006-19-4025)
8. M. Shirisha B.Sc MPC (006-19-4031)
9. N. Mahesh B.Sc MPC (006-19-4036)
10. P. Shivakrishna B.Sc MPC (006-19-4040)

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DEPARTMENT OF CHEMISTRY

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

HANAMKONDA, WARANGAL (U)

STUDENT STUDY PROJECT 2020-21

Synthesis, spectral characterization and antimicrobial studies with 2-((E)-(2-trimethylphenylimino)phenol

By

1. N.Nagarani BZC(006-19-3032)
2. A.Sidharth MZC(006-19-3701)
3. B.Kalyani MZC(006-19-3702)
3. E.Navyasri MZC(006-19-3703)
4. G.Ajay kumar MZC(006-19-3704)
5. G.Pramodh MZC(006-19-3705)
6. D.Sikrishna MBC(006-19-3601)
7. G.Sumathi MBC(006-19-3604)
8. T.Ramu MBC(006-19-3607)
9. P.Manisha MBC(006-19-3610)
10. P.Arvinth MBC(006-19-3613)

Supervised by

K. JAGADESH BABU



DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

(Re-Accredited by NAAC with 'B+' grade)

JIGNASA STUDENT STUDY PROJECT 2020-21

Synthesis, spectral characterization of mononuclear copper(II) complex and antimicrobial studies with 2-((E)-(trifluoromethylphenylimino)phenol

By

1. T. Vishnuvardhan BZC(006-19-3473)

2. T. Priyanka BZC(006-19-3474)

3. U. Swathi BZC(006-19-3476)

4. V. Vandana BZC(006-19-3477)

5. V. Srayan BZC(006-19-3480)

6. V. supriya BZC(006-19-3483)

7. E. Sathish BZC(006-19-3486)

8. D. Devendra BZC(553-19-3009)

9. V. Dhanalaxmi BZC(006-19-3487)

10. V. Jyothi BZC(006-19-3482)

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DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

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HANAMKONDA, WARANGAL(U)



DEPARTMENT OF CHEMISTRY
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA
(Re-Accredited by NAAC with 'A' grade)
HANAMKONDA, WARANGAL(U)

STUDENT STUDY PROJECT (2020-21)

Synthesis and spectral characterization of 2-((E)-(4-Methoxyphenylimino)methyl)phenol

By

S.No	Name of the student	Class	H.No
1	<u>B.Suman</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3207</u>
2	<u>B.Praveen</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3212</u>
3	<u>B.Rajesh</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3213</u>
4	<u>J.Sandeep</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3220</u>
5	<u>K.Adharsh</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3223</u>
6	<u>M.Manjunath</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3228</u>
7	<u>M.Swapna</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3229</u>
8	<u>M.Rachana</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3230</u>
9	<u>M.Nagash</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3233</u>
10	<u>M.Chandrakala</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3235</u>
11	<u>N.Swanupa</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3236</u>
12	<u>S.Vanitha</u>	<u>B.Sc(BZC)II(T/M)</u>	<u>006-20-3239</u>

Supervised by

Dr.B.Ramesh

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

STUDENT'S STUDY PROJECT REPORT
ON
BUS TICKET RESERVATION SYSTEM



SUBMITTED BY

1. GAJJELLI SAIKIRAN (HTNO. 006-19-2468)
BCom(CA) FINAL YEAR
2. GOGU DURGESH (HTNO. 006-19-2471)
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5. JADI SWAPNA (HTNO. 006-19-2484)
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7. PONAGANTI VIJAY (HTNO. 006-19-4264)
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8. RADHANI SRAVANI (HTNO. 006-19-4271)
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9. RAPELLY ANJALI (HTNO. 006-19-4274)
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10. SAMALA NIKHITHA (HTNO. 006-19-4281)
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Under The Guidance of
Dr. D.SURESH BABU
Asst. Professor of Computer Science

DEPARTMENT OF COMPUTER SCIENCE / APPLICATIONS,
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**KAKATIYA GOVERNMENT COLLEGE,
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CERTIFICATE

This is to certify that the Project Report entitled "BUS TICKET RESERVATION SYSTEM" was carried out by the following students under my guidance.

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3. GONE SHRAVAN KUMAR (HTNO. 006-19-2472)
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BSc. (CS) FINAL YEAR

Name & Address of the Guide

Dr. D.SURESH BABU

Asst. Professor

Department of Computer Science

PRINCIPAL

KAKATIYA GOVT COLLEGE
Hanamkonda

Signature of the Guide

STUDENT'S STUDY PROJECT REPORT
ON
HOSPITAL MANAGEMENT SYSTEM



SUBMITTED BY

1. ADLA SAMATHA (HTNO. 006-19-2401)
B.Com (CA) FINAL YEAR
2. AKKAVATHULA MANIKIRAN (HTNO. 006-19-2404)
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3. AKULA VAMSHI KRISHNA (HTNO. 006-19-2406)
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B.Sc(CS) FINAL YEAR

Under The Guidance of

T.Ragotham Reddy
Lecturer

**DEPARTMENT OF COMPUTER SCIENCE / APPLICATIONS,
KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA,**

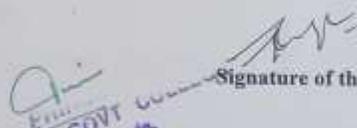
**KAKATIYA GOVERNMENT COLLEGE,
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CERTIFICATE

This is to certify that the Project Report entitled "HOSPITAL MANAGEMENT SYSTEM" was carried out by the following students under my guidance.

1. ADLA SAMATHA (HTNO. 006-19-2401)
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9. CHOPPADANDI SURENDAR (HTNO. 006-19-4152)
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10. ENUGALA NAGARAJU (HTNO. 006-19-4171)
B.Sc(CS) FINAL YEAR

Name & Address of the Guide
T.Ragotham Reddy
Lecturer
Department of Applications


Signature of the Guide


STUDENT'S STUDY PROJECT REPORT
ON
HOTEL MANAGEMENT SYSTEM



SUBMITTED BY

1. JEEDI AJAY (HTNO. 006-19-2488)
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2. KAMPETA SUMANTH (HTNO. 006-19-2489)
BCom(CA) FINAL YEAR
3. KANCHARLA RAJU (HTNO. 006-19-2490)
BCom(CA) FINAL YEAR
4. KESHIREDDY YAMUNA (HTNO. 006-19-2494)
BCom(CA) FINAL YEAR
5. KURRE SANDHYA (HTNO. 006-19-2506)
B.Com. (CA) FINAL YEAR
6. SURA SRINIVAS (HTNO. 006-19-4593)
BSc. (CS) FINAL YEAR
7. VANGURI VINEETH (HTNO. 006-19-4307)
BSc. (CS) FINAL YEAR
8. ERUGURALA RAVALLI (HTNO. 006-19-4518)
BSc. (CS) FINAL YEAR
9. GURRAM SATHISH (HTNO. 006-19-4527)
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10. PATTEM SNEHARANI (HTNO. 006-19-4542)
BSc. (CS) FINAL YEAR

Under The Guidance of
D.Rajkumar
Lecturer

DEPARTMENT OF COMPUTER SCIENCE / APPLICATIONS,
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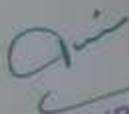
**KAKATIYA GOVERNMENT COLLEGE,
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CERTIFICATE

This is to certify that the Project Report entitled "HOTEL, MANAGEMENT SYSTEM" was carried out by the following students under my guidance.

1. JEEDI AJAY (HTNO. 006-19-2488)
BCom(CA) FINAL YEAR
2. KAMPETA SUMANTH (HTNO. 006-19-2489)
BCom(CA) FINAL YEAR
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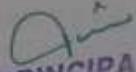
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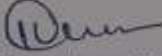
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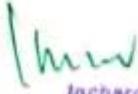
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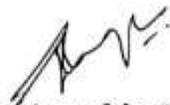
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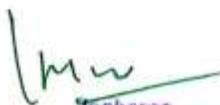
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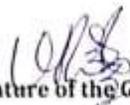

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STUDENT STUDY PROJECT

TITLE

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ACKNOWLEDGEMENTS

- 1. It is our immense pleasure to acknowledge the deep personal interest, invaluable guidance of our teacher Dr.M. Rambabu, Asst. Prof. of Botany, Dr.K. Omkar, Asst. Prof. of Botany, Kakatiya Government College, Hanamkonda in completion of the study project.**
- 2. We also acknowledge the constant support of our principal Dr. K. Mallesham, during the completion of the project.**
- 3. We are also thankful to our classmates for their encouragement.**

CONTENTS

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REFERENCES

I. INTRODUCTION:

Vegetables crops are attacked by number of pathogens like fungi, bacteria, nematodes, viruses, as well as abiotic stress and other improper agricultural practices. Lot of information has been generated on disease management of vegetable crops, even after lot more needs to be done for its effective management. **The present Project focusing on the major diseases occurring on the commercially important vegetable crops along with the symptoms and management.**

II. COMMON PLANT DISEASES

- 1. Black Spot.**
- 2. Other Leaf Spots.**
- 3. Powdery Mildew.**
- 4. Downy Mildew.**
- 5. Blight.**
- 6. Canker.**

III. HOW TO IDENTIFY AND TREAT PLANT DISEASE:

Protect your plants from debilitating diseases by learning to recognize the symptoms and practice prevention. A wholistic approach includes first identifying the pathogen. Then decide on a treatment method that is safe, effective and responsible. Read on and bookmark this page for plant disease identification.

1. Black Spot

Black spot is one of the most common diseases found on roses, but it can also occur on other ornamental and garden plants. This fungal disease causes black, round spots that form on the upper sides of leaves. Lower leaves are usually infected first. Severe infestations cause infected leaves to turn yellow and fall off the plant. Black spot is a problem during extended periods of wet weather or when leaves are wet for 6 hours or more. Black spot spores overwinter in the fallen leaves.



Control Measures of Black Spots on Leaves

- Plant in well-draining soil. Keep your plants healthy by providing regular feedings of organic fertilizer. This will help prevent fungal disease in plants.
- The fungus spores overwinter in plant debris. Remove dead leaves and infected canes from around the plants and discard in the trash. Do not add to the compost pile.
- Disinfect your pruners with a household disinfectant after every use. Ethanol or isopropyl alcohol can be used straight out of the bottle.
- Because water (not wind) spreads the fungal spores, avoid applying water on the leaves. When you water, apply water directly to the roots. Use a soaker hose to water plants prone to the disease.

2. Other Leaf Spots

Fungal leaf spot disease can be found both indoors on houseplants, and outdoors in the landscape. This occurs during warm, wet conditions. As the disease progresses, the fungal spots grow large enough to touch each other. At this point the leaf surface appears more like blotches than spots. Leaf spot may result in defoliation of a plant. Follow the same tips as the ones to control black spot.



3. Powdery Mildew

Powdery mildew is a fungal disease that affects many of our landscape plants, flowers, vegetables and fruits. Powdery mildew is an easy one to identify. Infected plants will display a white powdery substance that is most visible on upper leaf surfaces, but it can appear anywhere on the plant including stems, flower buds, and even the fruit of the plant. This fungus thrives during low soil moisture conditions combined with high humidity levels on the upper parts of the plant surface. It tends to affect plants kept in shady areas more than those in direct sun.



Control Measures of Powdery Mildew

- Inspect plants that you buy from a greenhouse before purchasing for mildew (and insects).
- Wiping off the leaves is not an effective powdery mildew treatment as it will return within days of cleaning.
- Because spores overwinter in debris all infected debris should be removed. Trim and remove infected plant parts.
- Do not till the debris into the soil or use in the compost pile.
- Space plants far enough apart to increase air circulation and reduce humidity.

4. Downy Mildew

Because downy mildews differ from powdery mildews, it is important to understand the differences between the two. Powdery mildews are true fungal pathogens that display a white powdery substance on the upper leaves. Downy mildews, on the other hand, are more related to algae and produce grayish fuzzy looking spores on the lower surfaces of leaves. To identify downy mildew, look for pale green or yellow spots on the upper surfaces of older leaves. On the lower surfaces, the fungus will display a white to grayish, cotton-like downy substance. Downy mildew occurs during cool, moist weather such as in early spring or late fall. Spore production is favored by temperatures below 65°F and with a high relative humidity.



Control Measures of Downy Mildew Treatment

- Downy mildew needs water to survive and spread. If there is no water on your leaves, the disease cannot spread. Keep water off leaves as much as possible.
- Because the disease overwinters on dead plant debris, be sure to clean around your plants in the fall to help prevent the disease in the following spring.

5. Blight

Plant blight is a common disease. Remember the potato famine in the 1840's? As a result of the blight, one million people died. But other than potatoes, blight also affects other plants, particularly tomatoes. Blight is a fungal disease that spreads through spores that are windborne. For this reason, spores can cover large areas and rapidly spread the infection. Blight can only spread under warm humid conditions, especially with two consecutive days of temps above 50°F, and humidity above 90% for eleven hours or more. No cure exists. Prevention is the only option.



Control Measures of Preventing Blight:

- If growing potatoes, grow early varieties because blight occurs during mid-summer and you can harvest your crop before the blight.
- Plant resistant varieties: Sarpo Mira and Sarpo Axona are two varieties that show good resistance. Practice good garden hygiene.

- Destroy any blight-infected plant parts. Keep the area clean of fallen debris from your diseased plants and discard in the trash. Do not add to your compost pile.

6. Canker

Canker is often identified by an open wound that has been infected by fungal or bacterial pathogens. Some cankers are not serious while others can be lethal. Canker occurs primarily on woody landscape plants. Symptoms may include sunken, swollen, cracked or dead areas found on stems, limbs or trunk. Cankers can girdle branches, and kill foliage. Cankers are most common on stressed plants that have been weakened by cold, insects, drought conditions, nutritional imbalances or root rot. Rodents can also spread the pathogens.



Control Measures of Canker in Plants:

- Remove diseased parts in dry weather.
- Grow resistant varieties whenever possible.
- Avoid overwatering and overcrowding; avoid mechanical wounds such as damage from lawn mowers.
- Wrap young, newly planted trees to prevent sunscald. Sunscald creates dead patches that form on trunk and limbs of young trees if the trunks have been shaded, then transplanted to sunny areas.
- Keep plants healthy by planting in healthy soils and maintaining nutritional requirements.

IV. COMMON CONTROL PLANT DISEASES

First and foremost, build a well-drained soil with plenty of organic matter prior to planting. Raise the beds if necessary and fill the beds with a commercial potting mix that drains well. Soils that hold too much water can cause rotting. Avoid getting water on leaves. Hand water at the root zone or use a soaker hose. Fertilize as necessary to keep plants in peak condition.

- Choose resistant varieties whenever possible.
- Prune or stake plants, do not crowd them, and remove tall weeds to improve air circulation.
- Plants in containers can be placed away from areas that do not receive air circulation.
- Remove any infected debris to keep the disease from spreading. Remove and place in the trash (not in the compost bin) severely infected plants.
- Water during early morning hours so the plants can dry out and avoid getting water on the leaves. Water later in the day if downy mildew is present as it favors morning moisture. Either way, avoid getting water on the leaves. A soaker hose will keep water at the root zone and help keep the spores from spreading.
- Inspect all plants before purchasing from your local greenhouse for disease symptoms and pests.
- Disinfect pruners after cutting diseased plant parts.
- Purchase a hand lens. A 10x hand lens is a great way to detect fungus and insect problems. Besides that, a hand lens allows you to see things in nature difficult to see with the naked eye.

DEPARTMENT OF BOTANY



STUDENT FILED PROJECT

TITLE: Medicinal Value of selected plants of College Botanical Garden

NAMES OF THE STUDENTS	SUPERVISOR
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Tinospora cordifolia

Family: [Menispermaceae](#)

Common names: **Heart-leaved moonseed, guduchi, giloy, Tippa Teega**



1. It is used to cure all type of fevers, particularly the chronic fever.
2. When giloy decoction is taken with ghee on empty stomach, daily in the morning helps to cure all types of skin diseases.
3. Using giloy delays the time of ejaculation and thus it acts as aphrodisiacs. Giloy is one of the best remedies for the management of premature ejaculation.
4. It is given to lactating mothers, who is experiencing lack of milk.
5. It is used as rejuvenative, especially in the ayurvedic system of medicine.
6. It is quite effective for gastro-intestinal disorders like dyspepsia, acid dyspepsia, gastritis, etc.
7. It is known as Indian Quinine and widely used in Infective hepatitis, splenomegaly and in the last stage of syphilis.
8. The alcoholic people should take giloy on regular basis as it helps to vitalize the liver tissues thus safeguards the liver, kidney and heart.
9. Tinospora being a powerful medhya rasayana, helps to enhance grasping power as well as memory.
10. It stimulates the immunity and increases the antibody-producing cells and circulating antibody throughout the body.

1. **Full of immunogenic properties:** It is great for the immune system. It helps to cure infectious diseases of bones, lungs, intestines, blood disorders, intermittent fever and dysfunctions of the liver.
2. **Skin diseases:** When giloy is taken with ghee on empty stomach in the morning, helps to cure all types of skin diseases including, acute & chronic dermatitis, prickly heat, sunburn, pruritus associated with urticaria, all forms of cosmetic allergy, ringworm, psoriasis, leucoderma and leprosy.
3. **Cure gastro-intestinal disorders:** Giloy has a bacteriostatic effect on cornebacterium tuberculosis and E. coli thus helpful in gastro-intestinal disorders like dyspepsia, acid dyspepsia, gastritis, oesophagi flatulence, thirst, chronic diarrhoea, chronic dysentery, liver disorders, jaundice, biliary disorders, gastric and duodenal ulcer or in any gaster-intestinal colic.
4. **Panacea for liver diseases:** It helps to vitalize the liver and prevent any further damage to this vital organ. Its decoction is also good for kidney and heart.
5. **Prevent cancer:** It stimulates the proliferation of stem cells and increases in total white blood cells and bone-marrow cells thus enhance antibody-producing cells and phagocytic activities. Giloy extract proved useful in reducing the chemotoxicity induced by free radical forming chemicals. The oral administration of rasayanas along with other indigenous herbal drugs were found to protect from Cyclophosphamide.
6. **Stress management:** The aqueous, alcoholic, acetone and petroleum ether extracts of the stem of Tinospora Cordifolia have shown anti-stress activity and Pyrrolidine isolated from the ethylacetate extract of T. Cordifolia showed central nervous system .depressant and hypoglycemic activity.

7. **Diabetes control:** Giloy gives immediate and beneficial effect in glucose tolerance and adrenaline induced Hyperglycaemia. It helps in the production of insulin and enhances the capacity to burn glucose. It decreases the blood sugar level.
8. **Arthritis treatment:** The giloy extract and decoction is helpful in the treatment and management of gout, gouty arthritis, rheumatoid arthritis, clinical conditions or excess urate deposition.
9. **Heart disease:** Giloy along with piper nigrum has positive impact on cardiac conditions such as angina pectoris, myocardial infarction, ischemic heart diseases and certain arrhythmias. It will help clear the obstruction in the arteries as well as in the heart and act as cardioprotective agent.
10. **Giloy for urinary infections:** Giloy is used to cure all type urinary infections such as uricouria, ketonuria, glycouria, haematuria, albuminuria, dysuria, crystaluria, burning micturition in cystitis, urethritis and particularly in diabetes mellitus.

Ocimum sanctum

Family Lamiaceae.

Common Name: Holy basil, Tulasi



- Used for bronchial asthma; expectorant and bronchodilator effects.
- Used against respiratory ailments including bronchitis and tuberculosis.
- Used for rhinitis (inflammation of nasal mucus membrane).
- Can serve as a cure and prophylactic as well for the severe acute respiratory syndrome (SARS) – The root of the tulsi plant should be crushed and boiled with turmeric powder for a few minutes, after which it should be filtered. Consuming two spoonfuls of this potion twice daily will cure SARS and prevent contracting of the disease.
- Tulsi tea with honey is a good expectorant especially in cases where fever is involved.
- The juice of the leaves is given in catarrh and bronchitis in children.
- Chewing the leaves relieves cold and flu. A decoction of the leaves, cloves and common salt also gives immediate relief in case of influenza.
- **Anti Microbial Effects:** It inhibits the growth of E. coli. Tulsi is a remover of worms and parasites, when the fresh juice or strong tea is taken with honey; the sweetness excites the parasites drawing them out of their hiding places.
- **Digestive System** (Esophagus, stomach, intestines, liver, pancreas) Liver support generally contributes to healthy liver functions and counteracts liver diseases. Liver Protective Improves the metabolic breakdown and elimination of dangerous chemicals

in the blood included as part of detoxification program Anti-diabetic-insulin and glucose normalizing blood sugar and blood-lipid levels.

- **Hypoglycemic** (low blood glucose) Balance blood sugar and insulin metabolism can reduce fasting blood glucose Inhibits Lipid peroxidation (the oxidative deterioration of Lipids) normalizes lipids Anti ulcer activity well as ulcer healing properties and could act as a potent therapeutic agent against peptic ulcer disease decreases incidence of gastric ulcer. Reduces the effect of irritating drugs on the stomach lining and increases the production of protective stomach mucous

Piper longum

Family Piperaceae,

Indian long pepper, Pipli, Pippallu



ETHNOMEDICINAL USES

- The root and stem part of the *P. longum*, has been used for various Ayurvedic and Unani system of medicine.
- The fruits of the *P. longum* are used as a stomachic, liver tonic, abortifacient, pungent, aphrodisiac, laxative, anti-diarrhoeal, anti-dysenteric, anti-asthmatic, antibronchitis, abdominal complaints, in urinary discharges, tumours, diseases of the spleen, pains, inflammation, leprosy, insomnia, jaundice, and hiccoughs.
- The roots of *P. longum* are used for the management of heart diseases. An infusion of the root is used for parturition (the action of giving birth to young), to assist in the expulsion of the placenta. It appears to part take, in a minor degree of the stimulant properties of the fruit and also used as an alternative tonic in paraplegia (paralysis of the legs and lower body), chronic cough, enlargement of the spleen and other abdominal viscera.
- *P. longum* has been used in a variety of compositions of drugs; boiled with ginger, mustard oil, butter milk and curds. It forms a liniment, used in case of paralysis. The roasted fruits of *P. longum* are beaten up with honey and given to treat rheumatism.
- The decoction of dried young fruits and root are of *P. longum* used in the form of decoction in the treatment of acute and chronic bronchitis.

- Antifungal activity/ Antiamoebic activity/Adulticidal

Terminalia chebula

Family: Combretaceae

Common Name : Karaka, Myrobalan



- **Chest pain (angina).** Some research shows that taking Terminalia by mouth with conventional medications improves symptoms in people experiencing chest pain after a heart attack. Other research shows that taking Terminalia by mouth improves symptoms and reduces the need for chest pain medication in people with long-term chest pain.
- **Heart disease.** Early research shows that taking Terminalia by mouth might improve cholesterol levels in people with heart disease.
- **Diabetes.** Some research shows that taking Terminalia with other ingredients lowers pre-meal blood sugar levels in women with diabetes. But it does not seem to improve HbA1c, which is a measure of average blood sugar.
- **Heart failure.** The role of Terminalia in the treatment of heart failure is inconsistent and unclear. Early research in people with severe heart failure shows that taking Terminalia by mouth for 2 weeks along with heart failure drugs improves symptoms compared to taking heart failure drugs alone.

Dermatologic effects

- Myrobalan decreases greying of the hair, and is a hair tonic. It is also effective in the treatment of leprosy.
- Hepatic, splenic, and urinary effects
- **A liver tonic** (jam) of myrobalan moderates liver temperament and is used to treat generalized dropsy and spleen pain, as a diuretic, and for treatment of polypus.

- **Dental and oral cavity effect** Myrobalan strengthens the gums and teeth and is beneficial in treating mouth ulcers

Aloe vera

Family: Asphodelaceae

Common Name : Kalabanda



Aloe vera, sometimes described as a "wonder plant," is a short-stemmed shrub.

It is the oldest medicinal plant ever known to mankind, and most widely used medicinal plant worldwide today

The leaves of *Aloe vera* are succulent, erect, and form a dense rosette. Many uses are made of the gel obtained from the plant's leaves.

It is widely used in the cosmetic, pharmaceutical and food industries, and has an estimated annual market value of \$13 billion globally. The gel contains most of the bioactive compounds in the plant, including vitamins, minerals, amino acids and antioxidants.

- Aloe vera contains various powerful antioxidant compounds. Some of these compounds can help inhibit the growth of harmful bacteria.
- *Aloe latex* contains anthraquinones, compounds that actively heal and reduce pain through natural anti-inflammatory effects.
- Aloe Vera help to soothe skin injuries affected by burning, skin irritations, cuts and insect bites, and its bactericidal properties relieve itching and skin swellings. It has also been commonly used to treat first and second degree burns, as well as sunburns and eczema.
- It is known to help slow down the appearance of wrinkles and actively repair the damaged skin cells that cause the visible signs of aging.
- Aloe is a immunity booster and powerful detoxifier, antiseptic and tonic for the nervous system. It also has immune-boosting and anti-viral properties.

- When used as a mouth rinse, pure Aloe vera juice is just as effective at reducing dental plaque buildup as regular mouthwash.
- Application of Aloe vera, either as a patch or gel, has been shown to aid in the recovery of mouth ulcers (canker sores).
- Aloe vera latex has strong laxative effects, making it useful to treat constipation. Drinking Aloe vera juice naturally allows the body to cleanse the digestive system
- Aloe vera may help with blood sugar management

Curcuma longa

Family: Zingiberaceae

Common Name : Haldi, Turmeric, Pasupu

The plant is a perennial, rhizomatous, herbaceous plant native to the Indian subcontinent and Southeast Asia,

Turmeric has been used in Asia for thousands of years and is a major part of Ayurveda, Siddha medicine, traditional Chinese medicine, Unani,

- **Hay fever:** Taking curcumin, a chemical found in turmeric, seems to reduce hayfever symptoms such as sneezing, itching, runny nose, and congestion.
- **Depression:** Most available research shows that taking curcumin, a chemical found in turmeric, reduces depression symptoms in people already using an antidepressant.
- Turmeric seems to lower levels of blood fats called triglycerides and control bad cholesterol.
- Turmeric extract reduces Fatty liver
- **Osteoarthritis.** Some research shows that taking turmeric extracts, alone or in combination with other herbal ingredients, can reduce pain and improve function in people with knee osteoarthritis.
- **Itching:** Research suggests that taking turmeric by mouth three times daily for 8 weeks reduces itching in people with long-term kidney disease.
- **Cancer :** Recent scientific research confirm that turmeric can cure host of diseases, also they found that turmeric restrain the growth of various types of cancer. Turmeric is used for the treatment of skin cancer or pre cancerous skin conditions. Both topical and internal uses are beneficial.
- **Bacterial Infection / Wounds :** Turmeric is useful as an external antibiotic in preventing bacterial infection in wounds.

Phyllanthus amarus

Family: Euphorbiaceae

Common Name : Nela Usiri,

Phyllanthus amarus is an annual herb



- Phyllanthus amarus is widely used as a medicinal plant and is considered to be a good tonic, diuretic and febrifuge
- In Unani medicine, the plant is used in jaundice as deobstruent, diuretic, cooling and astringent.
- an extract made from phyllanthus niruri leaves showed strong antioxidant activity. Antioxidants fight free radicals in the body that may cause cell damage and disease.
- phyllanthus niruri extract has antimicrobial abilities against *H. pylori* bacteria. *H. pylori* bacteria are common in the digestive tract and are usually harmless. But in some cases, they can lead to peptic ulcers, abdominal pain, and nausea.
- Phyllanthus niruri may also have antidiabetic properties. The plant's aerial parts may help prevent glucose absorption and improve glucose storage. This may help maintain blood sugar levels.
- Phyllanthus niruri may be best known as a [kidney stone](#) remedy. Many studies have shown that it's a powerful kidney stone deterrent.

It can help relax the ureter after [lithotripsy](#) to help stones pass. Lithotripsy is a procedure used to break up stones in the urinary tract. It may also prevent stones from forming in the first place by stopping the crystals that form them from clumping together.

Phyllanthus niruri may help treat [nonalcoholic fatty liver disease](#) and [atherosclerosis](#). Both conditions may cause insulin resistance. The study found phyllanthus niruri decreased insulin resistance and reduced the amount of fatty acids in the liver.

Phyllanthus niruri may help treat acute [hepatitis B](#) infections due to its anti-viral and liver-protecting abilities.

STUDENT STUDY PROJECT

TITLE

“STUDY OF AQUATIC FLORA IN BHADRAKALI LAKE”

SUPERVISOR

Dr. B.VIJAYPAL REDDY
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- I. INTRODUCTION**
- II. COLLECTION OF SAMPLE**
- III. ANALYSIS OF PHYTO PLANKTONS**
- IV. IDENTIFICATION OF PHYTOPLANKTONS**
- V. CONCLUSION**
- VI. REFERENCES**

I. INTRODUCTION

Water is an elixir of the body, a primary need of all living organisms. It is a valuable commodity available in very limited quantities to man and other living beings. The fresh water must be recognized as the Blood of Society. Water is the most vital resource for all kinds of life as it forms a medium in which physical and chemical transformations especially those of biological significance takes place and is considered as precious component on the earth. This unique component of nature plays an important role in life from molecules to man. Freshwater ecosystems have been critical to sustaining life and establishing civilizations throughout history. Human beings rely on freshwater not only for drinking water but also for the purpose of Agriculture, Transportation, Energy production, Industrial purposes, Waste disposal, and the production of fish and other edible organisms. In aquatic ecosystem, Physico-chemical environment exerts profound influence on its biotic components. It controls biodiversity, biomass and spatial distribution of biotic communities in time and space. The physical and chemical parameters exert their influence both, individually and collectively and their interaction creates a biotic environment, which ultimately conditions the origin, development and finally succession of the biotic communities.

Fresh water is a basic human need as well as an important natural resource. Protection or the improvement of water quality is a great concern to Governments around the world. The quality of water has been getting vastly deteriorated due to unscientific waste disposal, improper water management and carelessness towards environment. This has led to scarcity of potable water affecting the human health). Many natural water bodies in India receive millions of liters of fresh water for agricultural runoff with different concentrations of pollutants in various farms. Water resources are declining day by day at the faster rate due to rapid urbanization and population load. Deterioration of the water quality is a global problem. Water quality continues to be degraded by nonpoint pollutant sources. As part of the industrial development in most places, fresh water bodies are dumped with highly toxic chemicals along with effluents to a dangerous level. Massive amount of domestic waste water from cities and industrial effluents from industries are discharged into rivers contaminating rivers, lakes and reservoirs. Such anthropogenic pollutants are the main sources of heavy metal contamination in rivers, lakes and reservoirs. These contaminants entering the aquatic ecosystem may not directly damage the organisms. They can be deposited into aquatic organisms through the effects of bio-concentration, bioaccumulation and the food chain process. The level of pollutants being detected in the tissues of organisms is the only direct measure of the proportion of the total toxicant

delivery to biota, and therefore indicates the fraction that is likely to enter and affect aquatic ecosystem. Without the knowledge of water quality, it is difficult to understand the biological phenomena at length. The water quality parameters influence each other and govern the distribution and abundance of flora and fauna.

The present Project focusing on the Study of Aquatic Flora in Bhadrakali Lake.

II. COLLECTION OF SAMPLE

General Procedures

For most water tests, follow these steps when collecting a sample:

- Take the sample close to the pump, before the water goes through a treatment system.
- Do not take the sample from a swing-type faucet.
- Inspect the faucet for leaks. Select another faucet if there is leaking.
- Remove the aerator.
- Disinfect the faucet with bleach or a flame.
- Run the water several minutes to clear the line.
- Take the sample midstream.
- Do not touch the sides of the collection bottle, the opening or inside of the cap.
- If needed, store the sample in the refrigerator before taking to the lab.
- Submit the sample within 48 hours of collection.
- Transport the sample in a cooler or ship in an insulated container.

To assess the water quality parameters and the suitability of water for fish culture, the water samples were collected at four identified sampling stations and a composite sample was prepared in order to minimize the error. The water samples have been analyzed for a period of one year. The water samples were collected during early hours of the day usually in the first week of every month. Prior to sample collection, all the sampling bottles were thoroughly washed, sun-dried and rinsed with the same water to be collected in the pond. The sampling bottles were labeled with dates and collection sites and they were kept in a cool

container maintaining temperature below 25°C till the analysis completed. For the analysis of chemical parameters the water samples were collected in plastic cans and brought to the laboratory,

III. ANALYSIS OF PHYTO PLANKTONS

Planktons are the microscopic plants (Phytoplankton) and animals (zooplankton) in and around the euphotic zone in an aquatic ecosystem. Biological methods used for the plankton analysis are sample collection, preservation, counting and identification of the aquatic organisms and processing and interpretation of biological data.

During the period of investigation, monthly samples were collected by a plankton net made of silk bolting cloth silk no. 25 (Mesh size 56 µm). Water sample (50 liter) was filtered through the net from littoral and open water zones and carefully transferred to 50 ml bottle and preserved in 4% formalin. Preserved samples were examined under a binocular microscope with different magnification. Quantitative analysis was done on a Sedgwick Rafter Counter cell by taking 1 ml sample.

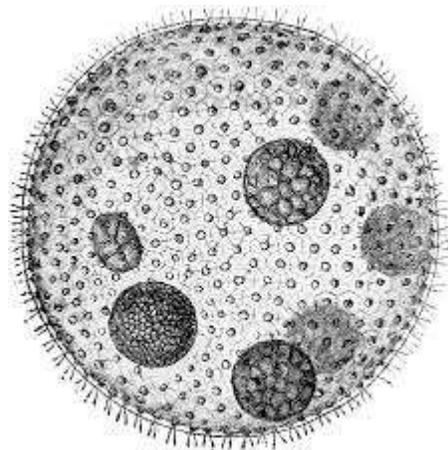
IV. IDENTIFICATION OF PHYTOPLONKTONS

Identified the collected water sample under the Microscope in the Botany Laboratory. The following Genus were identified by our group.

1. VOLVOX

Classification

Domain	Eukaryota
Kingdom	Plantae
Phylum	Chlorophyta
Class	Chlorophyceae
Order	Chlamydomonadales
Family	Volvocaceae
Genus	Volvox



Volvox Characteristics

- A single colony of volvox looks like a ball of ~0.5 mm in diameter
- The plant body of volvox is a hollow sphere called **coenobium**, thousands of cells are arranged in the periphery of the sphere
- The cells of coenobium are of two types, germ cells and flagellated somatic cells
- Individual cells are spherical in shape They have a **cup-shaped chloroplast**
- Chloroplast contains pyrenoids
- The cell has a nucleus, vacuoles and an eyespot
- Two equal-sized flagella are present in each cell anteriorly. The coordinated movement of flagella enables the colony to move in the water
- Each cell performs all the metabolic functions independently such as respiration, photosynthesis, excretion, etc.
- Cytoplasmic strands formed during cell division connects adjacent cells
- Polarity exists in the coenobium as cells of the anterior region have bigger eyespots than cells of the posterior region

2. SPIROGYRA

Classification

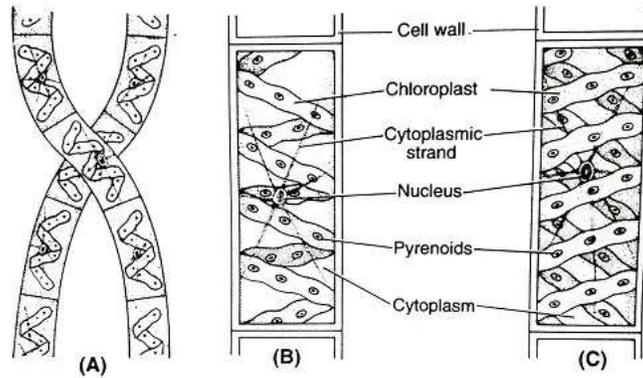
Division: [Chlorophyta](#)

Class: Chlorophyceae

Order: Zygnematales

Family: Zygnemataceae

Genus: *Spirogyra*



Identifying Characteristics of *Spirogyra*

- They have a multi-cellular filamentous body with a mucilaginous sheath.
- They bear 2-10 spiral and ribbon-shaped chloroplasts with many pyrenoids.
- The cell wall is composed of pectin and cellulose.
- It reproduces vegetatively and sexually.
- Under lower temperature, vegetative reproduction occurs.
- It inhabits slow running water bodies and shows the mass of long shining silky filaments in running water; hence, it is known as pond silk.

3. EODOGONIUM

Classification

Class – Chlorophyceae

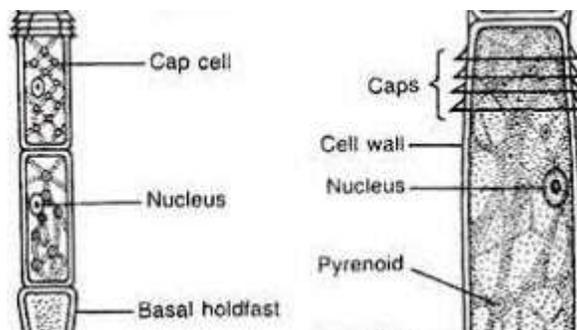
Order – Oedogoniales

Family –Oedogoniaceae

Genus – Oedogonium

Identifying Characteristics of *Oedogonium*:

1. This is a common fresh water alga growing on substratum like sand particles, rocks etc.
2. The plant body is unbranched, filamentous and differentiated into apex and base.
3. Cells have reticulate chloroplasts.
4. Presence of caps on the young dividing cells.
5. Vegetative cell division is very elaborate.
6. Asexual reproduction takes place by multi- flagellate zoospore, where flagella are arranged around the beak-like apical region.
7. Sexual reproduction is advanced oogamous type.
8. The female gamete i.e., ovum, is produced singly in each oogonium
9. The male gametes i.e., antherozoids, are very much similar to zoospores but smaller in size. Two antherozoids are produced in each antheridium.
10. Based on the size of male filament the plants are divided into two groups: Macrandrous and Nannandrous type.



4. CHARA

Classification

Class: [Charophyceae](#)

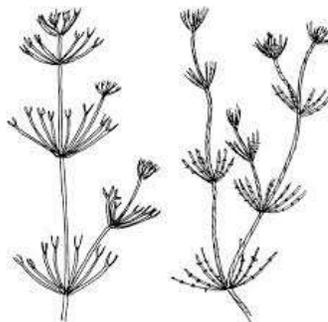
Order: [Charales](#)

Family: [Characeae](#)

Genus: [Chara](#)

Identifying Characteristics of *Chara*

- Foul, musty – garlic-like odor giving muskgrass its name
- Gray-green branched multi-cellular algae that is often confused with submerged flowering plants
- Height can range from just under an inch to about 6.5 feet
- Has no flower
- Do not extend above the water surface
- Often has a “grainy” or “crunchy” texture due to calcium deposits and projections resembling thorns or spines on branchlets
- Has cylindrical, [whorled](#) branches with 6 to 16 branchlets around each [node](#), but no true leaves
- Does not have roots, but can attach itself to the bottom of waterbodies via “holdfasts”
- Can form dense “meadows” on bottom



V. CONCLUSION

Algae are a group of oxygenic, phototrophic, eukaryotic microorganisms. Algae have a nucleus, exist as microscopic cells, and generate oxygen through photosynthesis. The majority of algae use chlorophyll a as the dominant photosynthetic pigment.

We have collected the water sample from College Botanical Garden for identification of Algae. In that, we observed that some type of algal members were identified from the collected sample. Mainly four types of algal members were identified by our group. They are *Vovox*, *Spirogyra*, *Odogonium* and *Chara* .

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STUDENT STUDY PROJECT

TITLE

“STUDY OF ALGAE IN THE COLLEGE”

SUPERVISOR

Dr. M. RAMBABU

STUDENT RESEARCHERS

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**DEPARTMENT OF BOTANY
KAKATIYA GOVERNMENT COLLEGE
Hanamkonda, Telangana State**

ACKNOWLEDGEMENTS

- 1. It is our immense pressure to acknowledge the deep personal interest, invaluable guidance of our teacher Dr.M. Rambabu, Asst. Prof. of Botany Kakatiya Government College, Hanamkonda in completion of the study project.**
- 2. We also acknowledge the constant support of our principal Dr. K. Mallesham, during the completion of the project.**
- 3. We are also thankful to our classmates for their encouragement.**

CONTENTS

- I. INTRODUCTION
- II. ABOUT THE COLLEGE
- III. COLLECTION OF SAMPLE
- IV. IDENTIFICATION OF ALGAE
- V. CONCLUSION
- VI. REFERENCES

I. INTRODUCTION

Algae are defined as **a group of predominantly aquatic, photosynthetic, and nucleus-bearing organisms that lack the true roots, stems, leaves, and specialized multicellular reproductive structures of plants.**

The algae **comprise several different groups of living organisms.** They are usually found in wet places or water bodies and that capture light energy through photosynthesis, converting inorganic substances into simple sugars with the captured energy. Nearly all algae have parts that do photosynthesis. Algae are **eukaryotic organisms that have no roots, stems, or leaves but do have chlorophyll and other pigments for carrying out photosynthesis.** Algae can be multicellular or unicellular. Unicellular algae occur most frequently in water, especially in plankton.

Algae members of a group of predominantly aquatic photosynthetic organisms of the kingdom Protista. Algae have many types of life cycles, and they range in size from microscopic Micromonas species to giant kelps that reach 60 metres (200 feet) in length. Their photosynthetic pigments are more varied than those of plants, and their cells have features not found among plants and animals. In addition to their ecological roles as oxygen producers and as the food base for almost all aquatic life, algae are economically important as a source of crude oil and as sources of food and a number of pharmaceutical and industrial products for humans. The taxonomy of algae is contentious and subject to rapid change as new molecular information is discovered. The study of algae is called phycology, and a person who studies algae is a phycologist.

In this article the algae are defined as eukaryotic (nucleus-bearing) organisms that photosynthesize but lack the specialized multicellular reproductive structures of plants, which always contain fertile gamete-producing cells surrounded by sterile cells. Algae also lack true roots, stems, and leaves—features they share with the avascular lower plants (e.g., mosses, liverworts, and hornworts). Additionally, the algae as treated in this article exclude the prokaryotic (nucleus-lacking) blue-green algae (cyanobacteria).

Beginning in the 1830s, algae were classified into major groups based on colour—e.g., red, brown, and green. The colours are a reflection of different chloroplast pigments, such as chlorophylls, carotenoids, and phycobiliproteins. Many more than three groups of pigments are recognized, and each class of algae shares a common set of pigment types distinct from those of all other groups.

The algae are not closely related in an evolutionary sense, and the phylogeny of the group remains to be delineated. Specific groups of algae share features with protozoa and fungi that, without the presence of chloroplasts and photosynthesis as delimiting features, make them difficult to distinguish from those organisms. Indeed, some algae appear to have a closer evolutionary relationship with the protozoa or fungi than they do with other algae.

Distribution and abundance

Algae are almost ubiquitous throughout the world and can be categorized ecologically by their habitats. Planktonic algae are microscopic and grow suspended in the water, whereas neustonic algae grow on the water surface and can be micro- or macroscopic. Cryophilic algae occur in snow and ice (*see red snow*); thermophilic algae live in hot springs; edaphic algae live on or in soil; epizoic algae grow on animals, such as turtles and sloths; epiphytic algae grow on fungi, land plants, or other algae; corticolous algae grow on the bark of trees; epilithic algae live on rocks; endolithic algae live in porous rocks or coral; and chasmolithic algae grow in rock fissures. Some algae live inside other organisms, and in a general sense these are called endosymbionts. Specifically, endozoic endosymbionts live in protozoa or animals such as shelled gastropods, whereas endophytic endosymbionts live in fungi, plants, or other algae.

Algal abundance and diversity vary from one environment to the next, just as land plant abundance and diversity vary from tropical forests to deserts. Terrestrial vegetation (plants and algae) is influenced most by precipitation and temperature, whereas aquatic vegetation (primarily algae) is influenced most by light and nutrients. When nutrients are abundant, as in some polluted waters, algal cell numbers can become great enough to produce obvious patches of algae called "blooms" or "red tides," which can deplete the oxygen content in the water and poison aquatic animals and waterfowl.

Physical and ecological features of algae

The size range of the algae spans seven orders of magnitude. Many algae consist of only one cell, while the largest have millions of cells. In large, macroscopic algae, groups of cells are specialized for specific functions, such as anchorage, transport, photosynthesis, and reproduction; such specialization indicates a measure of complexity and evolutionary advancement.

The algae can be divided into several types based on the morphology of their vegetative, or growing, state. Filamentous forms have cells arranged in chains like strings of beads. Some filaments (e.g., *Spirogyra*) are unbranched, whereas others (e.g., *Stigeoclonium*) are branched and bushlike. In many red algae (e.g., *Palmaria*), numerous adjacent filaments joined laterally create the gross morphological form of the alga. Parenchymatous (tissuelike) forms, such as the giant kelp (*Macrocystis*), can measure many metres in length. Coenocytic forms of algae, such the green seaweed *Codium*, grow to fairly large sizes without forming distinct cells. Coenocytic algae are essentially unicellular, multinucleated algae in which the protoplasm (cytoplasmic and nuclear content of a cell) is not subdivided by cell walls. Some algae have flagella and swim through the water. These flagellates range from single cells, such as *Ochromonas*, to colonial organisms with thousands of cells, such as *Volvox*. Coccoid organisms, such as *Scenedesmus*, normally have an exact number of cells per colony, produced by a series of rapid cell divisions when the organism is first formed; once the exact cell number is obtained, the organism grows in size but not in cell number. Capsoid organisms, such as *Chrysocapsa*, have variable numbers of cells. These cells are found in clusters that increase gradually in cell number and are embedded in transparent gel.

Importance

The various sorts of algae play significant roles in aquatic ecology:

- Microscopic forms that live suspended in the water column, called phytoplankton, provide the food base for most marine food chains. In very high densities (so-called algal blooms) they may discolor the water and outcompete or poison other life forms.
- The seaweeds grow mostly in shallow marine waters; some are used as human food or are harvested for useful substances such as agar or fertilizer.
- Algae are the most important photosynthesizing organisms on Earth. They capture more of the sun's energy and produce more oxygen than all plants combined.
- They form the foundation of most aquatic food webs, which support an abundance of animals.
- These organisms also form mutually beneficial partnerships with other organisms. For example, algae live with fungi to form lichens- plant like or branching growths that form on boulders, cliffs and tree trunks. Algae called zooxanthellae live inside the cells of reef-building coral. In both the cases, the algae

provide oxygen and complex nutrients to their partner, and in return, they receive protection and simple nutrients. This arrangement enables both partners to survive in conditions that they could not endure alone.

- Algae have been used for centuries, especially in Asian countries, for their purported powers to cure or prevent illness as varied as a cough, gout, gallstones, goitre, hypertension, and diarrhoea. Recently, algae have been surveyed for anticancer compounds, with several cyan bacteria appearing to contain promising candidates. Diatoms also have been used in forensic medicine, as their presence in the lungs can indicate a person died due to drowning.

Toxicity

Some algae can be harmful to humans. A few species produce toxins that may be concentrated in shellfish and finfish, which are thereby rendered unsafe or poisonous for human consumption. The dinoflagellates (class Dinophyceae) are the most notorious producers of toxins. Paralytic shellfish poisoning is caused by the neurotoxin saxitoxin or any of at least 12 related compounds, often produced by the dinoflagellates *Alexandrium tamarense* and *Gymnodinium catenatum*. Diarrheic shellfish poisoning is caused by okadaic acids that are produced by several kinds of algae, especially species of *Dinophysis*. Neurotoxic shellfish poisoning, caused by toxins produced in *Gymnodinium breve*, is notorious for fish kills and shellfish poisoning along the coast of Florida in the United States. When the red tide blooms are blown to shore, wind-sprayed toxic cells can cause health problems for humans and other animals that breathe the air. Not all shellfish poisons are produced by dinoflagellates. Amnesic shellfish poisoning is caused by domoic acid produced by diatoms (class Bacillariophyceae), such as *Nitzschia pungens* and *N. pseudodelicatissima*. Symptoms of this poisoning in humans progress from abdominal cramps to vomiting to memory loss to disorientation and finally to death.

The present Project focusing on the Identification of Algae in the College Campus.

II. ABOUT COOLEGE

- Kakatiya Government College was established in the year 1972.
- With the extant of an area about 5 acres.
- Campus area covered with green lustre.
- The flora of the campus cover all types of plants.
- Botanical Garden was also established in area about 0.5 acre .

III. COLLECTION OF SAMPLE

We have collected the water sample from College Botanical Garden for identification of Algae

General Procedures

For most water tests, follow these steps when collecting a sample:

- Take the sample close to the pump, before the water goes through a treatment system.
- Do not take the sample from a swing-type faucet.
- Inspect the faucet for leaks. Select another faucet if there is leaking.
- Remove the aerator.
- Disinfect the faucet with bleach or a flame.
- Run the water several minutes to clear the line.
- Take the sample midstream.
- Do not touch the sides of the collection bottle, the opening or inside of the cap.
- If needed, store the sample in the refrigerator before taking to the lab.
- Submit the sample within 48 hours of collection.
- Transport the sample in a cooler or ship in an insulated container.

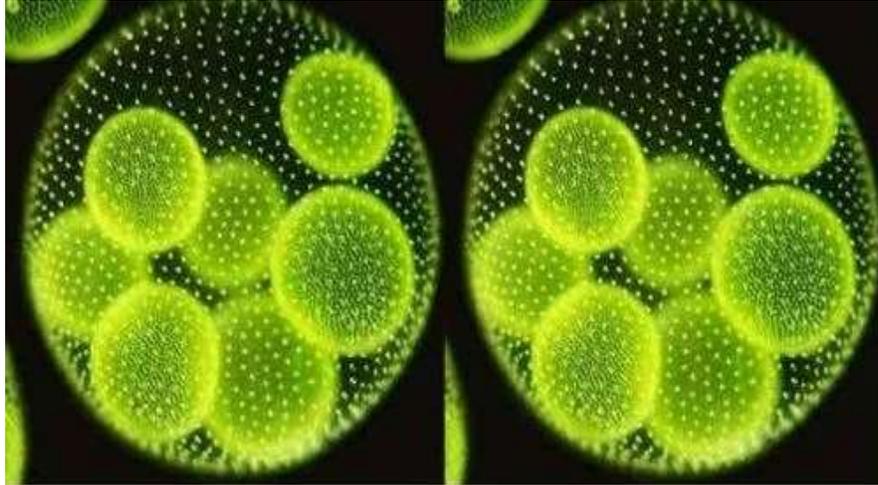
IV. IDENTIFICATION OF ALGAE

Identified the collected water sample under the Microscope in the Botany Laboratory. The following Genus were identified by our group.

1. VOLVOX

Classification

Domain	Eukaryota
Kingdom	Plantae
Phylum	Chlorophyta
Class	Chlorophyceae
Order	Chlamydomonadales
Family	Volvocaceae
Genus	Volvox



Volvox Characteristics

- A single colony of volvox looks like a ball of ~0.5 mm in diameter
- The plant body of volvox is a hollow sphere called **coenobium**, thousands of cells are arranged in the periphery of the sphere
- The cells of coenobium are of two types, germ cells and flagellated somatic cells
- Individual cells are spherical in shape
- They have a **cup-shaped chloroplast**
- Chloroplast contains pyrenoids
- The cell has a nucleus, vacuoles and an eyespot
- Two equal-sized flagella are present in each cell anteriorly. The coordinated movement of flagella enables the colony to move in the water
- Each cell performs all the metabolic functions independently such as respiration, photosynthesis, excretion, etc.
- Cytoplasmic strands formed during cell division connects adjacent cells
- Polarity exists in the coenobium as cells of the anterior region have bigger eyespots than cells of the posterior region

2. SPIROGYRA

Classification

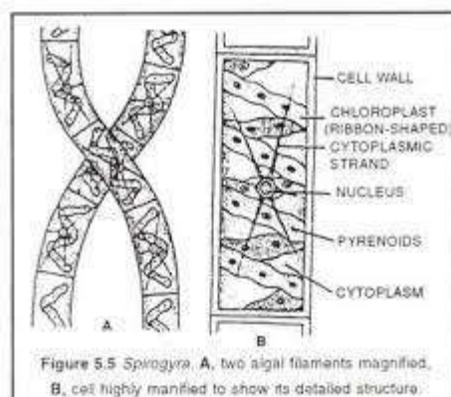
Division: Chlorophyta

Class: Chlorophyceae

Order: Zygnematales

Family: Zygnemataceae

Genus: *Spirogyra*



Identifying Characteristics of *Spirogyra*

- They have a multi-cellular filamentous body with a mucilaginous sheath.
- They bear 2-10 spiral and ribbon-shaped chloroplasts with many pyrenoids.
- The cell wall is composed of pectin and cellulose.
- It reproduces vegetatively and sexually.
- Under lower temperature, vegetative reproduction occurs.
- It inhabits slow running water bodies and shows the mass of long shining silky filaments in running water; hence, it is known as pond silk.

3. EODOGONIUM

Classification

Class – Chlorophyceae

Order – Oedogoniales

Family –Oedogoniaceae

Genus – Oedogonium

Identifying Characteristics of *Oedogonium*:

1. This is a common fresh water alga growing on substratum like sand particles, rocks etc.
2. The plant body is unbranched, filamentous and differentiated into apex and base.
3. Cells have reticulate chloroplasts.
4. Presence of caps on the young dividing cells.
5. Vegetative cell division is very elaborate.
6. Asexual reproduction takes place by multi- flagellate zoospore, where flagella are arranged around the beak-like apical region.
7. Sexual reproduction is advanced oogamous type.
8. The female gamete i.e., ovum, is produced singly in each oogonium
9. The male gametes i.e., antherozoids, are very much similar to zoospores but smaller in size. Two antherozoids are produced in each antheridium.
10. Based on the size of male filament the plants are divided into two groups: Macrandrous and Nannandrous type.

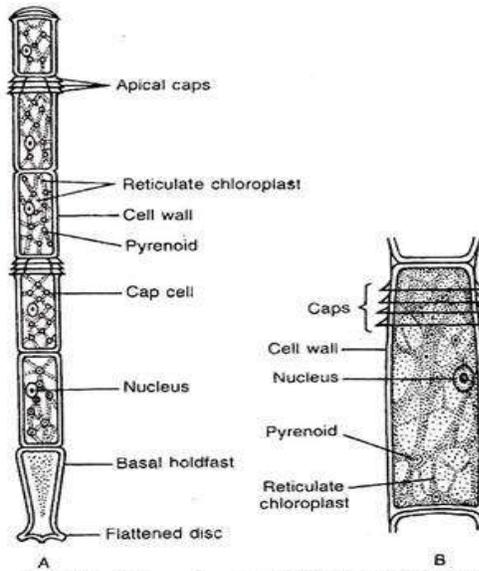


Fig. 3.72 : *Oedogonium* sp. : A. Single vegetative filament with holdfast and apical cell, B. Single vegetative cell

4. CHARA

Classification

Class: Charophyceae

Order: Charales

Family: Characeae

Genus: Chara

Identifying Characteristics of *Chara*

- Foul, musty – garlic-like odor giving muskgrass its name
- Gray-green branched multi-cellular algae that is often confused with submerged flowering plants
- Height can range from just under an inch to about 6.5 feet
- Has no flower
- Do not extend above the water surface
- Often has a “grainy” or “crunchy” texture due to calcium deposits and projections resembling thorns or spines on branchlets

- Has cylindrical, whorled branches with 6 to 16 branchlets around each node, but no true leaves
- Does not have roots, but can attach itself to the bottom of waterbodies via “holdfasts”
- Can form dense “meadows” on bottom

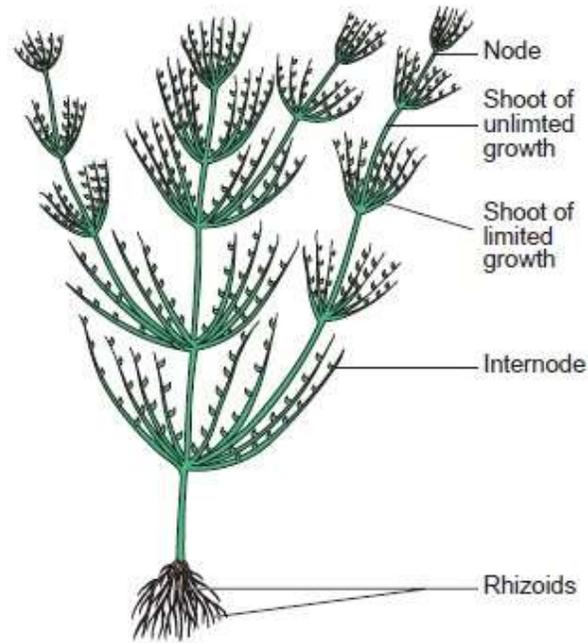


Figure 2.8: *Chara* Habit

V. CONCLUSION

Algae are a **group of oxygenic, phototrophic, eukaryotic microorganisms**. Algae have a nucleus, exist as microscopic cells, and generate oxygen through photosynthesis. The majority of algae use chlorophyll a as the dominant photosynthetic pigment.

We have collected the water sample from College Botanical Garden for identification of Algae. In that, we observed that some type of algal members were identified from the collected sample. Mainly four types of algal members were identified by our group. They are *Vovox*, *Spirogyra*, *Odogonium* and *Chara* .

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DEPARTMENT OF ZOOLOGY

STUDENT'S STUDY PROJECTS-2020-21

DEPARTMENT OF ZOOLOGY

**Title: STUDY OF ZOOPLANKTON IN WADDEPALLY LAKE IN
HANUMAKONDA**

Submitted by

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3.A.SRINIVAS

4.K.SURYA

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10.R.PRANAY KUMAR



**KAKATIYA GOVERNMENT COLLEGE
HANAMKONDA**

TITLE : STUDY OF ZOOPLANKTON IN WADDEPALLY LAKE IN HANUMAKONDA

Aims and Objectives:

- 1.To know the zooplankton community is an important element of the aquatic food chain.
- 2.To Get out and enjoy local lakes and freshwater ecosystems.
3. To Get involved in their protection by joining a community group or alerting others to the weird and wonderful native species that live in Lakes.

These organisms serve as an intermediary species in the food chain, transferring energy from planktonic algae (primary producers) to the larger invertebrate predators and fish who in turn feed on them zooplankton, small floating or weakly swimming organisms that drift with water currents and, with phytoplankton, make up the planktonic food supply upon which almost all oceanic organisms are ultimately dependent. These microscopic organisms also cycle most of the Earth's carbon dioxide between the ocean and atmosphere. Zooplankton are the animal-like primary consumers of plankton communities. In turn, zooplankton then become food for larger, secondary consumers such as fish include oysters, crabs, and some fish.

Zooplankton are organisms that have animal-like traits. The biggest are only five millimetres long and the smallest are just one thousandth of this size. They float, drift or weakly swim in the water. In fact, the name plankton comes from the Greek word 'planktos' which means 'wanderer' or 'drifter'. Zooplankton encompass a wide range of both unicellular and multicellular animals. While most zooplankton are 'heterotrophs' – that is they obtain their energy from consuming organic compounds, such as algae or other zooplankton - some zooplankton, such as the dinoflagellates, may also be fully or partially photosynthetic - gaining their energy, as plants do, from sunlight.

Zooplankton are a vital component of freshwater food webs. The smallest zooplankton are eaten by the larger zooplankton which, in turn, are eaten by small fish, aquatic insects and so on. Herbivorous zooplankton graze on phytoplankton or algae, and help maintain the natural balance of algae. Get out and enjoy local lakes and freshwater ecosystems. Get involved in their protection by joining a community group or alerting others to the weird and wonderful native species that live in Lakes.



Students observation on Zooplanktons



Students visited Waddepally Lake

STUDENT'S STUDY PROJECTS-2020-21

DEPARTMENT OF ZOOLOGY

AVAILABILITY OF EDIBLE FRESH WATER FISHES IN WARANGAL URBAN FISH
MARKET”

Submitted by

1.T. SATWIK REDDY

2.S. RATHNAKAR

3.T. NARESH

4.D. PAWAN SAI

5.B. SAIKRISHNA

6.B. SUPRIYA

7.A. SRINITHA

8.G. SANNULY

9.J. VISHWAPRIYA

10. SAITEJA



KAKATIYA GOVERNMENT COLLEGE

HANAMKONDA

TITLE ; “AVAILABILITY OF EDIBLE FRESH WATER FISHES IN WARANGAL URBAN FISH MARKET”

The most widely-eaten fish include salmon, tuna, snapper, mackerel, cod, trout, carp, catfish and sardines. Most of these are caught in the sea or in lakes and rivers, but edible fish are also raised in ponds. Fisheries is an economic activity that involves harvesting fish or any aquatic organism from the wild (Capture Fisheries) or raising them in confinement (Culture Fisheries/ Aquaculture). It may be Traditional/ Small Scale Fisheries (SSF) for sustenance, or Large-Scale/ Commercial Fisheries for profit. Major objectives of an integrated fish culture are:

- To reduce operating costs and maximize the farmer's income.
- To develop a more economic ration for fish from wastes to useful fish protein production.
- To solve the waste management problem.
- To control the pollution problem associated with livestock (in the form of fly and odour).

As manure is the major factor controlling fish production in an integrated fish farming system, research efforts should be concentrated on its utilization and management, using fish production and economic benefits as its function.

Based on this review the following priority areas of research are proposed.

1. Standardization of procedure for manure application including frequency, rate and method of application for increased fish production.
 2. Studies on stocking densities and stocking ratios and harvesting of fish in manured ponds.
 3. Application of organic wastes to fish ponds in terms of 'BOD' and 'COD' loading.
 4. Development of supplementary fish diets from wastes of animal and agricultural farms.
 5. Studies on the effect of manuring on fish health, taste and texture of fish meat and sanitation.
 6. Determination of chemical and organic constituents of manures (green and animal).
- To promote Culture Fisheries in the State by utilizing all the available resources to boost fish production in the State.
 - To adopt latest technology of Fish Farming viz; Composite Fish Culture of Indian Major Carps and Exotic Carps.
 - To produce quality Trout Seed for rearing in captivity to table size for sale to the common men.
 - To stock the Natural Cold Water Streams with trout seed to promote sport fisheries in the State.
 - To propagate Fish Culture in Private Sector to provide avenues of earnings to the educated un-employed youth.
 - To develop Endemic Fisheries in the State by adopting the relevant technology.
 - To develop Recreational Fisheries as a means of earnings for the interested persons who may take up Aquarium Fisheries as a trade.
 - To provide better marketing facilities to the fishermen to eliminate the role of middlemen. • To introduce Welfare Schemes for upliftment of Fishermen Community.

Students visited Kumarpally Fish Market



TITLE ; “AVAILABILITY OF EDIBLE FRESH WATER FISHES IN WARANGAL URBAN FISH MARKET”

The most widely-eaten fish include salmon, tuna, snapper, mackerel, cod, trout, carp, catfish and sardines. Most of these are caught in the sea or in lakes and rivers, but edible fish are also raised in ponds. Fisheries is an economic activity that involves harvesting fish or any aquatic organism from the wild (Capture Fisheries) or raising them in confinement (Culture Fisheries/ Aquaculture). It may be Traditional/ Small Scale Fisheries (SSF) for sustenance, or Large-Scale/ Commercial Fisheries for profit. Major objectives of an integrated fish culture are:

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STUDENT STUDY PROJECT 2020-21

A study of malaria vector surveillance as part of the Malaria Elimination Demonstration Project in Warangal Distract

By

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2. A.MANOHER-BZC
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A study of malaria vector surveillance as part of the Malaria Elimination Demonstration Project in Warangal District

I - SEMESTER STUDENT STUDY PROJECT 2020-21

INTRODUCTION

Mosquitoes are vectors of Plasmodium parasite that cause malaria, nematode worms that cause filariasis for example *Wuchereria bancrofti*, and a large number of arbo-viruses e.g yellow fever and dengue viruses including two of great impacts in the tropical and sub-tropical regions (Ifeyinwa *et al*, 2012). They belong to the Order: Diptera and possess short elongated and slender body, long many-segmented antennae, long slender legs and an elongated proboscis with piercing and sucking mouth parts (Jordan *et al*, 2007).

Mosquitoes exploit almost all types of lentic aquatic habitats for breeding and some have been found to thrive in aquatic bodies such as fresh or salt water marshes, mangroves swamps, rice fields, grassy ditches, edge of streams and rivers and small temporary pools, (Oyewole *et al*, 2009). Many species prefer habitats with vegetations while some breed in open, sunlit pools. A few species breed in tree holes or the leaf axils of some plants (CDC, 2004).

Vector-borne diseases particularly mosquito-borne diseases have been the most important worldwide health problems for many years still represents a constant and serious risk to a large part of the world's population. Mosquitoes rank as man's important pest and most of the challenges posed by mosquito-borne diseases consist not only in their cosmopolitan nature and ability to survive in air, aquatic and terrestrial habitats, but their ability to breed in any collection of standing water such as wheel barrow, cesspits, flower vest and drainage systems make such a prolific source of mosquito production (Ifeyinwa *et al*, 2012).

Mosquito – transmitted diseases are the major cause of morbidity and mortality in sub Saharan Africa for example, there are up to 500 million clinical cases about deaths due to malaria globally (Olaleye *et al*, 2001).

1.2 MOSQUITO BREEDING SITES FOR DIFFERENT MOSQUITO TYPES

Breeding site is a place where mosquito can find all the physical and chemical requirements necessary for their growth, development and survival. Breeding sites vary according to types of mosquito. For example many species of Anopheles prefer habitats with vegetation while some breed in open, sunlit pools. A few species breed in tree holes or the leaf axils of some plants (CDC, 2004).

Anopheline species are known to be ground pool breeders, although large numbers have been observed in

gutters, periodomestic run off and domestic containers (Mafiana *et al*, 1998; Aigbodion *et al*, 2003). Anopheles mosquito has been found to breed in clear water of suitable PH, temperature and nutrient composition (Okorie *et at*, 1978).

Aedes mosquito usually breeds in natural habitats especially in tree holes, leaf axils, rock pools and similar sites (Hawley, 1988). Wide spread deforestation, climate change and increase in global trade has forced this mosquito worldwide to adapt to breeding in domestic and semi-domestic artificial container habitats (Gubler *et al*, 2001; Delatte *et al*, 2008).

The unplanned and haphazard growth of urban settlement, stagnant water in ditches and drains, cesspits, septic tanks, water tanks, barrels and all sorts of containers have increased the culex breeding surface area (WHO/TDR, 1975).

Culex species are found breeding in fresh water habitats such as pools, ditches, ponds and even in effluents of sewage treatment plants. Ochlerotatus species are found in temporary flood water pools, fresh and brackish marshes, and natural artificial containers. Psorophora species breed primarily in temporary flood water such as woodland pools, road side ditches and pastures. Deranotaenia species are most commonly found in ground pools, swamps and grassy edges of lakes. They feed primarily on reptiles and amphibians and are not known to bite humans (PHPC, 2001).

1.3 AIMS AND OBJECTIVES

The aims and objectives of this study are:

1. To identify the breeding sites of mosquitoes.
2. To know the species of mosquitoes that are highly prevalent in Uyo urban.
3. To determine the physico-chemical parameters of the breeding sites.
4. To know their various control measures.

Methods

As part of the malaria elimination demonstration project, entomological surveillance was carried out from October 2017 to October 2019 by collecting indoor resting mosquitoes using hand catch method.

Susceptibility test was done for determining the insecticide resistance status of vector mosquito *Anopheles culicifacies* using standard protocols by the World Health Organization. The cone bioassay method was used for determining the efficacy and quality of insecticide sprayed. Mosquitoes collected from different ecotypes were identified and processed for parasite identification, vector incrimination and sibling species determination.

Results

The two known malaria vector species (*Anopheles culicifacies* and *Anopheles fluviatilis*) were found in the study area, which have been previously reported in this and adjoining areas of the State of Madhya Pradesh. The prevalence of *An. culicifacies* was significantly higher in all study villages with peak in July while lowest number was recorded in May. Proportion of vector density was observed to be low in foothill terrains. The other anopheline species viz, *Anopheles subpictus*, *Anopheles annularis*, *Anopheles vagus*, *Anopheles splendidus*, *Anopheles pallidus*, *Anopheles nigerrimus* and *Anopheles barbirostris* were also recorded in the study area, although their prevalence was significantly less compared to the *An. culicifacies*. In 2017, *An. culicifacies* was found to be resistant to dichloro-diphenyl-trichloroethane (DDT) and malathion, with possible resistance to alphacypermethrin and susceptible to deltamethrin. However, in 2019, the species was found to be resistant to alphacypermethrin, DDT, malathion, with possible resistance to deltamethrin. The bioassays revealed 82 to > 98% corrected % mortality of *An. culicifacies* on day-one post-spraying and 35 to 62% on follow-up day-30. *Anopheles culicifacies* sibling species C was most prevalent (38.5%) followed by A/D and E while B was least pre-dominant (11.9%). *Anopheles fluviatilis* sibling species T was most prevalent (74.6%) followed by U (25.4%) while species S was not recorded. One *An. culicifacies* (sibling species C) was found positive for *Plasmodium falciparum* by PCR tests in the mosquitoes sampled from the test areas.

Conclusion

Based on the nine entomologic investigations conducted between 2017–2019, it was concluded that *An. culicifacies* was present throughout the year while *An. fluviatilis* had seasonal presence in the study areas. *Anopheles culicifacies* was resistant to alphacypermethrin and emerging resistance to deltamethrin was observed in this area. *Anopheles culicifacies* was confirmed as the malaria vector. This type of information on indigenous malaria vectors and insecticide resistance is important in implementation of vector control through indoor residual spraying (IRS) and use of insecticide-impregnated bed nets for achieving the malaria elimination goals.

DEPARTMENT OF MICRO-BIOLOGY

DEPARTMENT OF MICRO-BIOLOGY

Student Study Project On

COVID-19 PANDEMIC IN TELANGANA

(ONLINE MODE)



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Introduction

On December 31, 2019, hospitals in Wuhan, Hubei province, China reported on a cluster of cases suffering from pneumonia of unknown cause, attracting global attention.[1] Two weeks later, a new variant of coronavirus was identified, which was named 'severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). SARS-CoV-2 is part of a group of viruses in a format similar to the crown (Corona), more specifically belonging to the species Betacoronavirus, such as the Middle East respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome coronavirus (SARS-CoV). Over the next few weeks, it spread to 18 countries (excluding China), and on January 30, 2020, the World Health Organization (WHO) declared the outbreak to be a Public Health Emergency of International Concern (PHEIC). Subsequently, on March 11th, it was declared a pandemic as it had spread to 113 countries. As of March 31, 2020, barring a few, almost all countries and more than a million people are affected. In terms of fatality, though the case fatality rate of SARS-CoV-2 is 3.44%, lower than MERS-CoV (34.4%) and SARS-CoV (9.19%), the absolute numbers affected are more.

Review of literature:

SARS verses SARS- CoV-2

SARS outbreak took place in 2002 in China and infected 8,422 people globally.[4] The total number of deaths was 916 globally.[4] As of March 31, 2020, the SARS-CoV-2 has infected over a million and has caused more than 50,000 deaths.[2] One reason why its spread is evidently much wider as compared to SARS is the rapid urbanization and the increase in international travel during the last two decades. Hence, the control measures applied at the time of SARS are no longer adequate in these days, and more vigorous actions are required to control SARS-CoV-2.[5] Another reason is related to a difference in the infectious period between patients infected with SARS and those infected with SARS-CoV-2. While in the former case, viral shedding peaks only when the patient's illness is advanced and respiratory symptoms occur,[5] for SARS-CoV-2, transmission can occur in the early phase of the illness, when the patients are completely asymptomatic.[6,7] Hence, isolation after the onset of symptoms might be ineffective in preventing virus transmission and this also makes temperature screening less effective.[8] Finally, SARS-CoV-2 has been proven to hold higher transmissibility and wider community spread than other betacoronaviridae.[5] Despite

being highly infectious and having higher transmissibility, the severity of SARS-CoV-2 is much lesser compared to SARS.[5]

Containment measures:

Statistical models on the spread of SARS-CoV-2 suggested that, due to lack of herd immunity in the population and the highly contagious nature of the virus, 40-70% of the population can be infected unless strong containment measures are timely taken.[9] Based on the past experience with different epidemics and pandemics, as well as the current understanding of SARS-CoV-2, the WHO suggested frequent hand washing with an alcohol-based hand rub or soap and water, avoiding touching eyes, nose, and mouth, and practicing respiratory hygiene.[2] The use of face masks by everyone is still controversial, though WHO does not recommend its use by everyone.[2]

Coronavirus can survive on different surfaces for a long time – plastic (72 hours), stainless steel (48 hours), cardboard (24 hours), and copper (4 hours).[10,11] As regard to contact spreading, the virus can be effectively inactivated by surface disinfection with 70% isopropyl alcohol, 0.5% hydrogen peroxide, or 0.1% sodium hypochlorite.[10,11] Hence, thorough cleaning with disinfecting solutions in health facilities and public places is warranted. Health care facilities are advised to use personal protective equipment (PPE) with triple-layered masks or N95 masks and to educate the staff about the proper disposal of the equipment.[2] Respiratory precautions during aerosol-generating procedures are also recommended.[2] Anyone with fever, cough, and difficulty in breathing is advised to seek medical attention.[2] Social distancing (minimum one meter) is recommended both at individual and community levels.[2]

Response of Various countries to Corona Virus:

A range of strategies has been adopted worldwide based on the population structure as well as the health care infrastructure of each country. On January 23rd, a 3-week lockdown was ordered to the entire Hubei province, along with some major cities like Beijing and Shanghai.[16] Outdoor activities were limited, with each citizen being permitted to go out for 30 minutes only on every second day.[17] All transports in and out of the city were prohibited. Mobile-phone data location from Chinese Internet giant Baidu was used to track people's movements as well as person to person contacts.[18] In Wuhan, where the infection rate was the highest, residents were required to measure and report their temperature daily. The mild and asymptomatic cases were quarantined in 'Fangcang' hospital as well as in public spaces such as stadiums and conference

centers, which have been repurposed for medical care.[19] A 1,000-bedded hospital was built in a matter of 10 days to take care of patients with coronavirus.

India's Response to COVID-19

In India, the first case of COVID-19 was reported on January 30th, 2020, followed by two similar cases on February 2nd and 3rd. All three had a travel history to Wuhan, China. A month later, on March 2nd, two new cases were reported – one each from New Delhi and Hyderabad. A sharp increase in numbers then followed.

To contain the spread, the Ministry of Health and Family Welfare (MoHFW) immediately took action and issued a travel advisory, as travel restrictions had previously demonstrated efficacious on outbreaks of SARS, Ebola, and bubonic plague. All international travelers entering the country were asked to self-quarantine for 14 days. All travel visas to other countries were canceled until April 15th, 2020. All the states were asked to invoke the Epidemic Disease Act, which allowed officials to quarantine suspected cases and close down public places. An intensive campaign was rolled out and guidelines were developed for personal hygiene, surveillance, contact tracing, quarantine, diagnosis, laboratory tests, and management. People were advised not to visit farms, live animal markets or places where animals are slaughtered and to avoid mass gatherings. All the health care facilities were asked to stop regular out-patient and in-patient services and to continue with solely emergency services. Doctors were encouraged to use telemedicine services. Arogya Setu app was also launched to connect essential health services with people of India to fight against COVID-19. This app will reach out and inform the users of the risk, best practice and relevant advisories pertaining to containment of COVID-19. Amenities like hotels, colleges, railway train coaches, etc., were converted into quarantine facilities and large public places as stadiums were converted into isolation wards to handle an anticipated increased number of cases. Some of the states converted existing hospitals to exclusively handle COVID-19 patients. On March 22nd, Prime Minister Narendra Modi initiated the lockdown process with a 14-hour 'Janta Curfew', followed by lockdown in 75 COVID-19 affected districts and a nationwide lockdown for the 3 weeks. A containment plan involving the State and twenty ministries was set up. A round-the-clock control room was set up at the headquarters of the General Director of Health Service (DGHS) to address the virus-related queries. The countries of the South Asian Association for Regional Cooperation (SAARC) were invited to fight jointly against this pandemic and 10 million US dollars were allocated for SAARC countries. A huge evacuation program of many Indian nationals was done from the COVID-19 affected areas.

Covid Pandemic in Telangana

The first case of the [COVID-19 pandemic](#) in India was reported on 30 January 2020, [originating from China](#). Slowly, the pandemic spread to various states and union territories including the state of [Telangana](#). The first case was recorded in this region on 2 March from a man who had travel history with the [UAE](#)

Methodology

Data Collected based on the official bulletins released by the Government of Telangana time to time and large Data statistics available in the AROGYA SETU app are used for the study.

The data collected and drawn some conclusion about the spread of COVID-19 in our State.

The official web site for Department of Health, Medical and Family welfare is

<https://health.telangana.gov.in/>

The official web site for Telangana Fights corona for Media Bullitens

<https://covid19.telangana.gov.in/announcements/media-bulletins/page/23/>

Model New Bulletin:



**GOVERNMENT OF TELANGANA
OFFICE OF THE DIRECTOR OF PUBLIC HEALTH AND FAMILY WELFARE**

MEDIA BULLETIN - COVID-19

Dated:06/07/2021

As of:06/07/2021(5:30PM)

STATUS OF COVID-19 CASES

S.NO	DETAILS	NUMBER
1.	NO. OF POSITIVE CASES TODAY (CUMULATIVE)	784 (6,28,282)
2.	NO. OF RECOVERED CASES TODAY (CUMULATIVE)	1028 (6,13,124)
3.	NO. OF DEATHS TODAY (CUMULATIVE)	5 (3703)
4.	CASE FATALITY RATE	Telangana 0.58% INDIA 1.3%
5.	RECOVERY RATE	97.58% 97.14%
6.	TOTAL NUMBER OF CASES UNDER TREATMENT/ISOLATION	11,455

STATUS OF TESTS

S.NO	DETAILS	NUMBER
1	NO. OF SAMPLES TESTED TODAY (CUMULATIVE) AGAINST DAILY TESTING TARGET FOR TELANGANA AS PER W.H.O. BENCH MARK @140 PER MILLION PER DAY i.e., 5,600 TESTS PER DAY	1,05,186 (1,92,74,985)
2	SAMPLES TESTED PER MILLION POPULATION	5,17,866
3	NO. OF REPORTS AWAITED	1,370

STATUS OF CONTACTS

S.NO	DETAILS	NUMBER
1	NO. OF SAMPLES TESTED TODAY	1,05,186
2	% OF PRIMARY CONTACTS TESTED TODAY	49.9%
3	% OF SECONDARY CONTACTS TESTED TODAY	12.2%

SAMPLES TESTED ON 06/07/2021

S.NO	TYPE OF LAB	NO. OF SAMPLES TESTED
1	TOTAL SAMPLES TESTED	1,05,186
2	GOVERNMENT	98,073
3	PRIVATE	7,113

STATUS OF SYMPTOMATIC / ASYMPTOMATIC

S.NO	DETAILS	NUMBER
1	TOTAL NO. OF POSITIVES	6,28,282
2	% OF ASYMPTOMATIC CASES	79.8%
3	% OF SYMPTOMATIC CASES	20.2%

AGE WISE DISTRIBUTION OF POSITIVE CASES

S.No	Age Group	Age wise Positive cases %		
		Total	Male	Female
1	Upto 10 Years	2.9	1.5	1.4
2	11 - 20 Years	10.6	5.5	5.1
3	21 - 30 Years	21.7	13.4	8.3
4	31 - 40 Years	21.8	14.3	7.5
5	41 - 50 Years	17.5	10.9	6.6
6	51 - 60 Years	14.4	8.8	5.6
7	61 - 70 Years	7.7	4.7	3.0
8	71 - 80 Years	2.7	1.8	0.9
9	81 & above	0.7	0.5	0.2
Total		100.0	61.4	38.6

COMORBIDITIES STATUS AMONG DEATHS

PERCENTAGE OF DEATHS DUE TO COVID-19	44.31
PERCENTAGE OF DEATHS DUE TO COMORBIDITIES	55.69

TESTING FACILITIES

TYPE OF TEST	Government	Private
RT-PCR/CBNAAT/TRUENAT	21	63
RAPID ANTIGEN TESTING CENTERS	1064	-

Results and Observations:

June 2020

- As on 7 June, total number of cases in Telangana was 3650, including 1771 active cases 137 deaths and 1742 recoveries.
- As on 22 June, total number of cases in tjbkkgkr, including 4452 active cases 217 deaths and 4005 cures.
- On 23 July, the total number of cases in Telangana crossed the grim milestone of 10000 cases.
- As on 26 June, total number of cases was 11364, including 6446 active cases 230 deaths and 4688 cures.

July 2020

- As on 6 July, total number of cases in Telangana was 25733, including 10646 active cases 306 deaths and 14781 recoveries.
- As on 15 July, total number of cases was 39342, including 12957 active cases 386 deaths and 25999 recoveries.
- As on 17 July, total number of cases was 42496, including 13388 active cases 403 fatalities and 28705 recoveries.
- On 23 July, the total number of cases in Telangana crossed the grim milestone of 50000.
- As on 27 July, total number of cases was 54059, including 12264 active cases 463 deaths and 41332 recoveries.
- As on 29 July, total number of cases was 60717, including 15640 active cases 505 deaths and 44572 recoveries.
- As on 30 July, total number of cases was 62703, including 16796 active cases 519 deaths and 45388 recoveries.
- As on 31 July, total number of cases was 64786, including 17754 active cases 530 deaths and 46502 recoveries.

Aug 2020

Date	Total Cases	Active Cases	Total Deaths	Total Recoveries
1 August 2020	66,677	18,547	540	47,590
2 August 2020	67,660	18,500	551	48,609
3 August 2020	68,946	18,708	563	49,675
4 August 2020	70,958	19,568	576	50,814

5 August 2020	73,050	20,358	589	52,103
6 August 2020	75,257	21,417	601	53,239
7 August 2020	77,513	22,568	615	54,330
8 August 2020	79,495	22,869	627	55,999
9 August 2020	80,751	22,528	637	57,586
10 August 2020	82,647	22,628	645	59,374
11 August 2020	84,544	22,596	654	61,294
12 August 2020	86,475	22,736	665	63,074
13 August 2020	88,396	23,438	674	64,284
14 August 2020	90,259	23,379	684	66,196
15 August 2020	91,361	22,542	693	68,126
16 August 2020	92,255	21,420	703	70,132
17 August 2020	93,937	21,024	711	72,202
18 August 2020	95,700	20,990	719	73,991

19 August 2020	97,424	21,509	729	75,186
20 August 2020	99,391	21,687	737	76,967
21 August 2020	1,01,865	22,386	744	78,735
22 August 2020	1,01,865	22,386	744	78,735
23 August 2020	1,15,865	23,386	789	88,735
24 August 2020	1,06,091	22,919	744	82,411
25 August 2020	1,01,865	22,386	744	78,735
26 August 2020	1,01,865	22,386	744	78,735
26 August 2020	1,01,865	22,386	744	78,735
28 August 2020	1,17,425	28,951	799	87,675
31 August 2020	1,24,963	31,299	827	92,837

September 2020

- As on 3 September, total number of cases in Telangana was 133406, including 32537 active cases 856 deaths and 100013 recoveries.
- As on 8 September, total number of cases was 145163, including 31670 active cases, 112587 recoveries and 906 deaths.
- As on 11 September, total number of cases was 152602, including 32195 active cases, 119467 cures and 940 deaths.

- As on 17 September, total number of cases was 165003, including 30443 active cases, 133555 recoveries and 1005 deaths.
- As on 24 September, total number of cases is 179246, including 30037 active cases, 148139 cures and 1070 deaths
- As on 29 September, total number of cases is 189283, including 29477 active cases, 158690 recoveries and 1116 deaths.

October 2020

- As on 4 October, total number of cases in Telangana was 199276, including 27901 active cases, 1163 deaths and 170212 recoveries.
- On 5 October, total number of cases in Telangana crossed grim milestone of 200000 mark.^[7]
- As on 6 October, total number of cases in the state was 202594, including 26644 active cases, 174769 recoveries and 1181 fatalities.
- As on 14 October, total number of cases was 216238, including 23728 active cases, 191269 cures and 1241 fatalities.
- As on 21 October, total number of cases was 226124, including 20449 active cases, 204388 recoveries and 1287 deaths.
- As on 27 October, total number of cases was 232671, including 17890 active cases, 213466 recoveries and 1315 fatalities.

November 2020

- As on 8 November, total number of cases in Telangana was 250331, including 19890 active cases, 1377 deaths and 229064 recoveries.
- As on 24 November, total number of cases in Telangana is 265049, including 11047 active cases, 252565 recoveries and 1437 deaths.

December 2020

- As on 1 December, total number of cases in Telangana was 270318, including 9627 active cases, 259230 recoveries and 1461 deaths.
- As on 6 December, total number of cases in Telangana was 273341, including 8125 active cases, 263744 cures and 1472 deaths.
- As on 11 December, total number of cases was 276516, including 7604 active cases, 267427 cures and 1485 deaths.
- As on 21 December, total number of cases is 281730, including 6590 active cases, 273625 cures and 1515 deaths.
- As on 28 December, total number of cases is 285068, including 6231 active cases, 277304 cures and 1533 fatalities.
- As on 31 December, total number of cases is 286815, including 5815 active cases, 279456 recoveries and 1544 deaths.

January 2021

- As on 5 January, total number of cases in Telangana was 287993, including 5039 active cases, 281400 recoveries and 1554 deaths.

- As on 11 January, total number of cases was 290008, including 4518 active cases, 283924 recoveries and 1566 fatalities.
- As on 18 January, total number of cases was 291872, including 4049 active cases, 286244 cures and 1579 fatalities.
- As on 22 January, total number of cases was 292835, including 3781 active cases, 287468 cures and 1568 deaths.
- As on 26 January, total number of cases is 293590, including 3072 active cases, 288926 cures and 1592 deaths.

February 2021

- As on 1 February, total number of cases in Telangana was 294587, including 2092 active cases, 290894 recoveries and 1601 deaths.
- As on 13 February, total number of cases was 296567, including 1741 active cases, 293210 recoveries and 1616 fatalities.
- As on 20 February, total number of cases was 297435, including 1715 active cases, 294097 recoveries and 1623 deaths.

March 2021

- As on 7 March, total number of cases in Telangana was 299900, including 1886 active cases, 296373 recoveries and 1641 deaths.
- As on 15 March, total number of cases in Telangana was 301318, including 1983 active cases, 297681 cures and 1654 deaths.
- As on 29 March, total number of cases in was 306742, including 4583 active cases, 300469 cures and 1690 deaths.

April 2021

- As on 5 April, total number of cases in Telangana was 313237, including 8746 active cases, 302768 recoveries and 1723 deaths.
- As on 9 April, total number of cases was 321182, including 15472 active cases, 303964 recoveries and 1746 deaths.
- As on 21 April, total number of cases is 367901, including 46488 active cases, 319537 cures and 1876 deaths.

May 2021

- As on 7 May, total number of cases in Telangana was 481640, including 73851 active cases, 405164 recoveries and 2625 deaths.
- As on 18 May, total number of cases was 532784, including 49341 active cases, 480458 recoveries and 2985 deaths.
- As on 26 May, total number of cases was 563903, including 38632 active cases, 522082 cures and 3189 deaths.
-

June 2021

- As on 17 June, total number of cases in Telangana was 609817, including 19521 active cases, 586362 recoveries and 3534 deaths.
- As on 25 June, total number of cases was 618837, including 15524 active cases, 599695 recoveries and 3618 deaths.

July 2021

- As on 19 July, total number of cases in Telangana is 637373, including 9836 active cases, 623773 recoveries and 3764 deaths.

High Positivity Rate:

- Positivity Rate can be loosely defined as the number of patients turning positive for coronavirus upon testing per every 100 suspects. This rate can be calculated either on a daily basis or on a cumulative basis on the total number of tests conducted. In this parameter, Telangana state fares as one of the worst performing state in India with very high positivity rate.
- As per the [health bulletin issued by Government of Telangana on June 30](#), Telangana state claims to have conducted a cumulative number of 88563 tests of which, 16339 tested positive. The overall positivity rate comes to 18.44% (applicable for up to June 30). It needs to be noted that for a long time, the Telangana state did not publicly disclose the daily number of tests it was conducting daily that drew the ire of the High Court.^[9] Hence, the cumulative number of tests cannot be corroborated.

Conclusions

The daily positivity rate for number of tests conducted by Telangana state on June 30 comes to 27.33%. On 30 June, the Telangana state conducted 3457 tests, out of which the positive cases were 945.

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DEPARTMENT OF BIO-TECHNOLOGY

1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship for the year 2020-2021

Student Study Project (2/02/2021 to 15/02/2021)

- 1) Comparative study of antimicrobial activity of allium sativum and allium cepa.

STUDENT STUDY PROJECT (2020-2021)

Name of the Topic:

Comparative study of antimicrobial activity of allium sativum and allium cepa.

Under the Guidance of

R. Shyamala Chandra

Asst.Prof of Biochemistry

DEPARTMENT OF BIOTECHNOLOGY

Kakatiya Government College , Hanamkonda.

Names of the Students

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5	T.Rachana	006193041	BTZC
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Introduction

The use of higher plants and their extracts to treat infections is an age old practice in traditional African Medicine. Traditional medical practice has been known for centuries in many parts of the world (Sofowora, 1984). It is however observed that these practices vary from one country to another. Numerous plants & herbs are used all over Nigeria by traditional medicine practitioners. The use of herbs is the most ancient approach to healing known. The herbal medicines may be in form of powders, liquids, or mixtures which may be raw or boiled, ointments liniments & incisions (Apata 1979) roots, barks & leaves of various plants are employed in ethno medicine plant extracts are given singly or as concoctions for various elements, more than 70% of the people living in Nigeria depend on these various forms of concoctions & herbal decoctions for the treatment of some diseases (Kunbi & Fajbenro - Beyioku, 1996).

Many investigators have demonstrated the antimicrobial activity of the constituents of some higher plants (Akobundu & Agyakara, 1987 ; Rocio & rion, 1982; Almaghoul et al 1988 ; Misra et al 1992 ; Habtemariam et al 1993) & quite a number of chemical compounds of plant origin have been shown to possess antimicrobial activity (Corthout et al 1997). In diseases of microbial origin, the plants function as a result of antimicrobial activity against the causative agents (Sofowora, 1993).

This work reports the antimicrobial effect of garlic (*Allium sativum* Inn) & onion juice on some bacterial species this is in pursuance of the efforts to search for drugs from plants & the verification of the scientific basis of some known practices in traditional medicine.

Medicinal plants may be defined as any plant that can be put to culinary or medicinal use and include those we associate with, orthodox drugs such as fox glove and opium poppy, as well as everyday plants, such as garlic. We shall not forget that all drugs of the past were substances with a particular therapeutic action extracted from plants. More and more researchers find that food and their individual constituents perform similar fashion to modern drugs and sometimes better without the dreaded side effects. The use of herbs and medicinal plants as the first medicines is a universal phenomenon. Every culture on earth, through written or oral tradition, has relied on the vast variety of natural chemistry found in healing plants for their therapeutic properties.

The onion is one of the oldest cultivated vegetables in history. It is thought that bulbs from the onion family have been utilized as a food source for Millennia. Onion consists of its herbaceous plant part and its edible bulb part. It is probably a native to southwestern Asia. The leaves are bluish-green and hollow. The bulbs are large, fleshy and firm. There are three main varieties – white, red and purple skinned. The relative pungency of onion has both genetic and environmental components. Sulphur compounds in onions have also been shown to be anti-inflammatory both by inhibiting formation of thromboxanes and by inhibiting the action of platelet-activating factor (PAF). Thiosulfinates confer anti-thrombotic benefits, including antioxidant activity, reduced serum cholesterol and enhance in vitro platelet activity. This latter effect is important for cardiovascular health by reducing the probability that platelets aggregate in the blood, a major cause of heart attacks and strokes. Hence, thiosulphinates found in onion have been shown to inhibit in-vitro platelet aggregation.

Flavonoids are a second class of health enhancing compound produced by onions, an example is quercetin. Flavonoids are chemical

compounds active against micro-organisms. They have been found in-vitro to be effective antimicrobial substance against a wide array of micro-organisms.

The genus *Salmonella* is among the most common causes of food and water borne infectious diseases in the world. The organism has a wide host range which comprises most animal species including mammals, birds and cold-blooded animals in addition to human. A number of studies in Nigeria have shown that *Salmonella* infections is endemic in many parts of the country, and its endemicity increases especially in areas with low environmental hygiene.

Bacillus subtilis has been implicated in various food spoilage including ropiness in bread, production of CO₂ in canned meats, sliminess and coagulation in milk, etc.,

Escherichia coli is one of the main causes of both nosocomial and community-acquired infections in humans and one of the micro-organisms most frequently isolated from blood. *E.coli* in humans is a common inhabitant of the gastrointestinal tract. It can also cause various intestinal and extra-intestinal diseases. The pathogenic isolates of *E. coli* have a relatively large potential for developing resistance. The spread of microbial drug resistance is a global public health challenge, which impairs the efficacy of antimicrobial agents and results in substantial increased illnesses and death rate, hence, this work was therefore undertaken to investigate as well as authenticate the antimicrobial potentials of the two medicinal plants.

Materials And Methods:

All the chemicals that were used in the experimentation were obtained from hi-media unless stated.

Nutrient agar medium (NAM)

Peptone (gm/l) – 5gm

Beef extract (gm/l) – 3 gm

Nacl (gm/l) – 5 gm

Agar (gm/l) – 16 gm

Test Organism Confirmation

The test organisms *Escherichia coli*, *Salmonella typhi* *Bacillus Subtilis* and *Shigella* was collected from the Micro Biology Dept. The pure cultures were subcultured on Nutrient Broth medium and incubated fro 24 hrs at 37 c and preserved in the refrigerator at 4^oC until required for the study.

Collection of Plant Materials.

The plant materials, onion bulbs (*allium cepa*) and garlic (*Allium Sativum*) were purchased from main market where greater quantities were purchased by the sellers.

Extraction of The Plant Materials

Preparation of Raw Extracts:

- The onions were washed with clean sterile distilled water and allowed to air dry for one hour. The outer covering of the onion were manually peeled off. The onion bulbs being separated were washed and extracted in the following ways:
- Exactly 200g of fresh onion bulbs were blended 10 ml of ethanol was added during the process and the raw juice was extracted.
- In the same way cloves of garlic were also blended with 10 ml of ethanol and the raw juice was extracted.

Preparation of Nutrient Agar Plates by Pour Plate method:

- Nutrient Agar Medium was prepared and sterilized in an autoclave.
- 0.5ml of bacterial suspension of *Escherichia coli*, *Salmonella typhi* *Bacillus subtilis* and *shigella* was poured in to different Petri plates.
- The sterilized media was poured in to the above Petri plates containing bacterial suspensions.
- The media was allowed to solidify.
- In the same way another set of Petri plates were also prepared.

Screening of Antibacterial activity of Raw Extracts:

- The sensitivity of the test organisms, *Escherichia coli*, *Salmonella typhi*, *Bacillus subtilis* and *shigella* to the extracts of *Allium cepa* (onions) and *Allium sativum* (garlic) were carried out using the cup-plate diffusion method bacteria grew everywhere except in areas around the holes in the medium. Then, the resulting inhibition zones obtained were measured in millimeters and recorded against the corresponding concentrations.
- After solidification of media wells were made with the help of a gel bores.
- Wells of one set are filled with garlic extract and wells of another set is filled with onion extracts.
- Control plates were also maintained without garlic and onion extracts. The plates were maintained in duplicates.
- All the plates were incubated at 37°C for 24 hrs.
- After the incubation period the inhibition zones were measured.

Preparation of boiled extract

- Garlic and onion are boiled separately for 10 min at 50°C.
- Then the boiled garlic and onion are grinded by using ethanol.
- Two sets of nutrient agar plates were prepared by pour plate method by using bacterial cultures.

Screening of antibacterial activity of boiled extracts

- After solidification of media, wells were made with the help of a gel bores.
- Wells of one set is filled with boiled garlic extract & another set with boiled onion extract.
- Control plates were also maintained without boiled garlic & onion extracts, the plates were maintained in duplicates.
- All the plates were incubated at 37^oc for 24 hrs.
- After the incubation period the inhibition zones were measured.

Results

The results of the antimicrobial properties of the extracts on the test organisms are shown in tables below:

Table 1: Sensitivity pattern of Escherichia coli, Salmonella typhi and bacillus subtilis and shigella.

For raw extracts

S.No.	Organism	Zone of inhibition (mm)	
		Garlic	Onion
1	E. coli	29 mm	12mm
2	Salmonella	22 mm	20 mm
3	B. subtilis	18 mm	13 mm
4	Shigella	18 mm	12 mm

Discussion

The result of this work indicates that the raw extracts of onions and garlic (*Allium sativum*) have antibacterial properties. When these raw extracts were tested on *Escherichia coli*, *Salmonella typhi* and *Bacillus subtilis*, the widest zones of inhibition was obtained with *B. subtilis* for garlic extract & *salmonella* for onion extract. Garlic extract effect on gram positive organism was found to be higher than that of the gram negative organism.

But, when the same experiment is carried out with boiled extracts of onion (*A.copa*) and garlic (*A.sativum*) very little antimicrobial activity was exhibited by the boiled garlic extract. The inhibition zones were very small. Whereas the boiled onion extract had no antibacterial effect, inhibition zones were not observed. The reason may be explained by the fact that the antimicrobial substance in the onion extracts, which are mainly phenolic compounds are destroyed by heat.

This investigation indicates that though plants had antibacterial activity on the four test organism, garlic had more inhibitory effect thus confirming their use in folk medicine.

From this study we can also confirm that the raw garlic & onion are good antibacterial agents, if we cook them or boil them, the antibacterial activity is decreasing. So it is preferable to take or consume them in raw or semi boiled form.

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DEPARTMENT OF COMMERCE

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

WARANGAL URBAN



A study on impact of CRM practices on customer retention in insurance sect

(2020-2021)

Study Project

Submitted by

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1

A study on impact of CRM practices on customer retention in insurance sector

ABSTRACT

The factor of customer relationship management (CRM) in insurance sector had been described from the viewpoint of customer retention. The primary data had been collected through structured questionnaire and the sample size is 250. The statistical tools like regression and one-way ANOVA have been used for hypothesis testing. The major finding of this study is modern organizations in insurance sector both in public and private need to give important for reminder services and customer satisfaction. The customer retention is more important for sustaining in the competitive industry and it is possible by CRM techniques.

KEYWORDS: Customer relationship management, CRM, customer retention, customer satisfaction, loyalty programs.

INTRODUCTION

Customer relationship management (CRM) is maintaining communication with customers and predicting their future needs. Modern organizations are developing strategies for attaining customer retention with CRM tools and techniques. The companies in insurance sector have realized that instead of getting a new customer it is more important to meet the expectation of existing customers and retain them. In insurance sector every year or at regular intervals the customers need to renew their policy. At the same time there is chance that the customer may be attracted by competitors. Hence maintaining communication with existing customer is more important for retaining them.

CRM involves organizing and tracking all contacts with prospective and existing customers and in a simple scenario, it involves:

- Recording all customer and interactions details in an organized manner into a database
- Providing the tools to view selected customer or prospect data in a desired manner
- Generating alerts for pending actions such as follow ups, service calls and marketing contacts (Imam, n.d.)

CRM (Customer Relationship Management) software systems is used by the service industry and found to be beneficial for them. These systems are specifically designed for managing the customer community of a particular

organization. Such systems are able to gather the relevant data of particular product customers by using different techniques and analyze this data according to the need of a manager, using different data mining and pattern recognition methods (Hasmicro, 2016)

OBJECTIVES OF THE STUDY

1. To know the impact of customer relationship management (CRM) activities on customer intention.
2. To know the impact of selected demographic variables on customer retention towards insurance service providers.
3. To describe the importance of CRM activities in insurance sector.

REVIEW OF LITERATURE

Andotra and Abrol (2016) had analyzed the factors influencing customer loyalty in insurance sector. The independent factors considered in their study are trust, customer satisfaction, communication and conflict handling. The process of CRM understands the needs of customer and increases the ability of organization to build customer loyalty programs. Soumiya and Selvam (2017) had described the reinforcements of e-insurance while using website service of the insurance company. The attitude, customers' satisfaction and perception are considered to understand reinforcements for e-insurance services.

Karthick (2017) had mentioned that advertising costs reduces drastically with implementation of CRM practices for insurance companies. The effectiveness of campaigns can be measured with adoption of CRM practices. Life Insurance Corporation (LIC) had changed its traditional strategy and initiated personalized communication about its products and services to prospective customers. Abdullah and Siddique (2017) had considered dimensions like customer acquisition, customer response, customer knowledge, customer information system and customer value evaluation for predicting the implementation of CRM practices in banking sector.

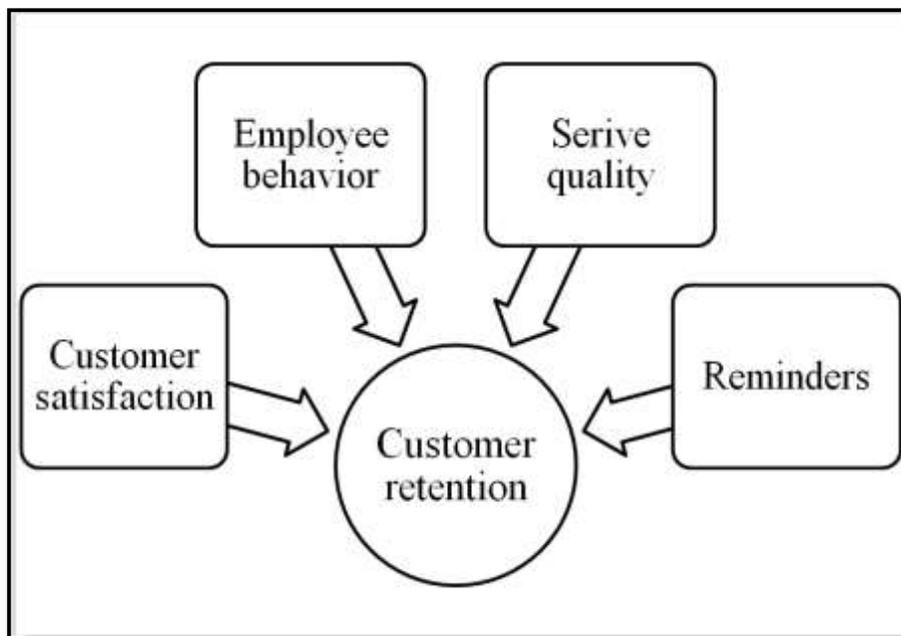
Biswamohan and Bidhubhusan (2012) had described about e-CRM practices in insurance sector. The factors like security, building relation, quick response, innovation delivery, customer satisfaction and brand population are considered for measuring the CRM practices of various companies like ICICI Prudential, AVIVA Life Insurance, Birla Sun Life Insurance and Reliance Life Insurance. CRM manages huge databases and perform analytics to predict the needs of customers and facilitates in effective customer relations. Cheng et al (2013) had conducted a study to know the impact of CRM practices on customer satisfaction by using American Customer Satisfaction Index model.

Agariya and Singh (2013) had stated that organizations maintain effective relationship and it can be found through CRM index. The factors of multidimensional construct CRM can be claim payment security, service quality and transparency in product selling. Dinesh (2012) had stated that rapid development in technology is supporting element for implementation of CRM practices by insurance companies. Chaudhuri (2013) had mentioned that different modes like operational CRM, analytical CRM, sales automation and claim management of CRM practices helps insurance organizations to sustain in the competitive global insurance sector.

RESEARCH METHODOLOGY

Primary had been collected through structured questionnaire. It consists of five demographic variables and five constructs. Scale developed by Diensh (2012) had been used as reference while developing measurement scale for this present study. The five constructs are employee behavior, customer satisfaction, reminder of due dates, service quality and customer retention. There are three items for each construct and opinion of respondents have been collected using five point Likert-type scale ranging from 1 to 5 where '5' means strongly agree and 1 means strongly disagree. The statistical tools used for data analysis are frequency analysis, descriptive statistics and regression analysis. Secondary data had been procured from books, journals and electronic sources. Figure 1 shows the research model used in this study which shows relationship between dependent and independent variables.

Figure 1: Research Model of the Study



(Source: Prepared by researcher)

DATA ANALYSIS

The sample size of the study is 250 and snowball sampling method had been used for data collection. The respondents who are having life insurance policy from either public or private life insurance companies are eligible to

participate in the survey. Majority of the respondents are male with regard to gender. Out of total respondents majority of them are married with regard to marital status. Many of the respondents nearly 57 percent are having monthly salary of above 30,000 INR. Table 1 shows the detailed profile of respondents of this study. The mean value and standard deviation for each construct is shown in Table 2. It is found that ‘reminder of due dates’ construct is having highest means value with least standard deviation. Hence insurance providers are communicating about due dates through reminders very effectively.

Table 1: Demographic profile of respondents

Variable	Characteristic	Percentage (%)
Gender	Male	74.8
	Female	25.2
Age group	From 18 to 30 Years	20.0
	31 to 45 Years	47.6
	Above 45 Years	32.4
Marital Status	Single	23.8
	Married	76.2
Monthly Income	Less than 20,000 INR	19.0
	20,000 to 30,000 INR	23.4
	Above 30,000 INR	57.6
Type of insurance provider	Public	45.6
	Private	54.4

(Source: Prepared from primary data)

Table 2: Descriptive Statistics

	N	Mean	Std. Deviation
Employee behavior	250	4.2560	0.775
Customer satisfaction	250	3.4520	0.498
Service quality	250	3.9933	0.867
Reminder of due dates	250	4.6720	0.410
Customer Retention	250	3.4520	0.498
Valid N (listwise)	250		

(Source: SPSS Output)

H1: There is an impact of reminder of due dates on customer retention towards insurance service providers

H1 is accepted because p-value for reminder of due dates construct is less than 0.05. Hence insurance service providers giving reminders for due dates can attain customer retention.

H2: There is an impact of service quality on customer retention towards insurance service providers

H2 is accepted because p-value in Table 3 for service quality is less than 0.05. There is positive impact of service quality on customer retention towards insurance service provider.

Table 3: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	8.178	0.423		19.336	0.000
1					
Reminder of due dates	0.330	0.077	0.235	4.264	0.000
Service quality	0.240	0.045	0.360	5.338	0.030
Customer satisfaction	0.358	0.074	0.270	4.803	0.000
Employee behavior	0.032	0.056	0.037	0.567	0.571

a. Dependent Variable: Customer retention

(Source: SPSS Output)

H3: There is an impact of customer satisfaction on customer retention towards insurance service providers.

H3 is accepted because p-value for customer satisfaction as per Table 3 is less than 0.05. Hence there is an impact of customer satisfaction on customer retention. It can be also stated as increase in customer satisfaction level increases customer retention towards the insurance service provider.

H4: There is an impact of employee behavior on customer retention towards insurance service providers.

H4 is rejected because p-value as per Table 3 for employee behavior is more than 0.05. Hence there is no significant relationship between employee behavior on customer retention.

Table 4: One-way ANOVA

Customer Retention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.815	2	9.407	53.901	.000
Within Groups	43.109	247	.175		
Total	61.924	249			

H5: There is an association between age group and customer retention towards insurance service providers.

H5 is accepted because p-value in Table 4 is less than 0.05. Hence age group is an important factor to know the customer retention towards insurance service providers.

DISCUSSION AND CONCLUSION

CRM practices in insurance sector plays a vital role because customer retention can be attained. It is nearly five times more costly for businesses in service sector to get a new customer instead of retaining the existing customer. The effective relationship with customer helps the organization to sustain in the competitive insurance industry. In this study the reminder services, service quality and customer satisfaction had positively influenced the customer retention. After the advent of technology the automation of business process had minimized the impact of employee behavior on customer retention.

FUTURE RESEARCH

In this study only four independent factors of customer relationship management (CRM) have been considered. The future researchers can consider other factors like claims management, brand image and personalized advertisements on customer retention intention can be studied. The association between demographic variables and customer relationship management activities can be studied by future researchers.

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KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

WARANGAL URBAN



Cashless Transaction : Methods Applications And Challenges.

(2020-2021)

Study Project

Submitted to

Department of Commerce

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

Under the Supervision of

Sri C.LAVANYA

Asst. professor of Commerce,

**Kakatiya Government College,
Hanamkonda, Warangal urban(Dist.)**

Department Of Commerce

Students Study Project

(2020-2021)



**Cashless Transaction: Methods, Applications and
Challenges.**

CERTIFICATE

This is to certify that the following mentioned students of Kakatiya Government college, Hanamkonda, Warangal urban (dist) have done the group project in Commerce with title: **“CASHLESS TRANSACTION: METHODS,APPLICATIONS AND CHALLENGES”** under the supervision of Smt . **C.Lavanya**, Assistant professor of Commerce of this college and submitted the same to the department of Commerce.

S.No	Regd.No of the student	Name of the student	Course
1	009212511	Nikita Bala	Taxation - II sem
2	009212281	Poraddy Neha	B.Com(CA)- II sem
3	006212323	S. K. Sameer	B.Com(CA)- II sem
4	006212311	K. Sunil	BBA-IV Sem
5	006201820	C. Monica	BBA - IV sem
6	006212259	N. Bhavani	B. Com(CA)-II sem
7	006212279	P. Mukesh	B. Com (CA)-II sem
8	006212515	Sai Manish	B. Cim(CA)-I sem
9	006212514	B. Sarika	Taxation - I sem
10	009212222	Md.Abdul Gaffar	B.Com(CA)-II sem

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(I) TITLE OF THE PROJECT:

CASHLESS TRANSACTION:

METHODS, APPLICATIONS AND CHALLENGES”

(II) INTRODUCTION:

The Indian payment system is rapidly transiting to more and more IT based systems. In the retail sector we have very high volumes of money transactions. Other than cash, one of the growing payment methods adopted by merchants in the sector is payment cards. However, the whole isometrics of moving from cash-driven economy to cashless economy has somehow been assorted with demonetization that was aimed to extract liquidity from the system to unearth black money .With increasing adoption of electronic payments, particularly those driving e-commerce and m-commerce ,there is a growing demand for faster payment services which, in turn, facilitate ease in doing financial transactions. Reducing Indian economy's dependence on cash is desirable for a variety of reasons. India has one of the highest cash to gross domestic product ratios in the world, and lubricating economic activity with paper has costs. According to a 2014 study by Tufts University, The Cost Of Cash In India, cash operations cost the Reserve Bank of India (RBI) and commercial banks about Rs21,000 crore annually. Also, a shift away from cash will make it more difficult for tax evaders to hide their income, a substantial benefit in a country that is fiscally constrained.

By the cashless transaction more transparency, more scalability and accountability will be obtained. As per the Abhay Doshi, Senior V-P and Head Digital Services Platform Business, Flytext "The new move of Demonetization will force the merchant to accept the cashless transaction". As per government of India, every method of fund transfer by means of digital money is termed as 'Prepaid Payment Instruments' for example Credit cards, Debit cards, online banking, E-Wallet etc.

Generally these methods of digital transaction are classified into three types .

- Closed
- Semi Closed
- Open

In case of closed types, money cannot be withdrawn. The service provider provides the points in a user account. User can directly use these points to purchase the goods and services. Ola Money is the example of the closed type.

In case of Semi-Closed, also the money cannot be withdrawn. These are also can be used to purchase the goods and services. Issuer and the merchant have a specific contract between them. It includes the E- Wallet issued by different service provider like Paytm and State Bank Buddy.

In case of Open type, money can be withdraw at ATM with the help of cards provide by the service provider. This types are also can be used to purchase the goods and services. It also includes the service of fund transfer at merchant location. For example Visa and Master cards.

(III) REVIEW OF LITERATURE:

Cashless transaction is not the complete absence of cash, it is an economic setting in which goods and services are bought and paid for through electronic media.

- **Nirmala. R. Sonu (2015): ANALYSIS OF THE USE OF PLASTIC MONEY** highlighted the advantage of instant transaction as one of the major factors favoring the use of plastic money over real money by the population today. It has already been highlighted by the study that convenience of not carrying cash and ease of transaction is one of the major psychologically influencing factors that encourage the use of plastic money instead of real money. Additionally, the results of the study have also stressed upon the convenience and ease of use while paying or shopping by plastic money. The saving of time and the fact that the plastic money seems to be more portable also seems to further the cause of a possible change in the scenario of money usage in the economy. On the other hand, Security comes forward as a major cause for concern for the population using plastic money. Therefore, it is easy to conclude that the population is ready as ever to use plastic money at a greater level due to its high levels of ease and convenience.
- **P Manivannan (2013) in his research paper “Plastic Money a way for cash Less Payment System”** examined that Plastic Money i.e. usage of Credit card was measured a luxury, and has become needed. These plastic money and electronic payments was and used by only higher income group. This facility

extended not only to customers in urban areas or cities, but also to customers residing in rural area. However, today, with development of banking and trading activity, the fixed income group or salaried classes are also start using the plastic money and electronic payment systems and particularly Credit cards.

- **Anupama Sharma (2012)** in her research paper “**Plastic card frauds and the countermeasures: towards a safer payment mechanism**” have thrown light on the number of frauds increased considerably in the usage of plastic cards as in case of plastic card frauds the most affected parties are the merchants of goods and services as they have to bear the full liability for losses due to frauds, the banks also bears some cost especially the indirect cost whereas the cardholders are least affected because of limited consumer liability and concluded that all these losses can be dealt with by making the prudent use of the new technology and taking the respective counter measures.

(IV) OBJECTIVES

The aim behind this project is

- To study the concept of cashless transaction
- To know the importance , methods , application and challenges of cashless transaction.
- Analyze the future trend of cashless transaction.

(V) SCOPE AND LIMITATIONS

This study covers the importance , method, application, challenges and analyse the future trends of cashless transaction in India .

(VI) METHODOLOGY:

5.1 What is Cashless Transaction:-

"A cashless economy is one in which all the transactions are done using cards or digital means. The circulation of physical currency is minimal."A Cashless Society describes an economic state whereby

financial transactions are not conducted with money in the form of physical banknotes or coins, but rather through the transfer of digital information (usually an electronic representation of money) between the transacting parties.

5.2 Importance of Cashless Transaction:-

- **Taxation:** with lesser availability of hard cash at homes and more in banks, there is lesser scope of hiding income and evading taxation and when there are more tax payers it ultimately leads to a lesser rate of taxation for the whole country.
- **Transparency and accountability:** it becomes a lot easier to track the flow of money with every transaction being recorded with the buyer, seller as well as regulatory bodies, making the system much more transparent and compliant. In the long term it leads to better business and investment prospects for the economy as a whole . More currency in bank will mean more circulation of money in the economy, leading to greater liquidity and would eventually mean lesser interest rates (according to the monetary policy of the country).
- **Reduced red tapism and bureaucracy:** with cashless transactions through electronic means the wire transfers are tracked and people are accountable which in turn reduces corruption and improves service time.
- **Less availability of cash for illegal activities:** when people are encouraged to go cashless, there is lesser cash available with the people and there won't be a means to invest in other activities to use the idle cash. Channels like hawala (illegal remittance) will ultimately suffer the brunt of a cashless economy.
- **Pack of cards:** No need to carry bulky notes in a case. Just carrying the required cards or mobile banking will suffice. More sense of safety with a PIN protected card etc. which will work only with your own credentials.
- **No fear of being robbed** unlike carrying cash and letting everyone know that there could be something worth snatching.
- **Tracking of expenses:** it becomes easier to determine how much was spent where.
- **The exact amount in small denominations can be paid.** Unlike cash transactions, there is no need to pay fringe amount in case the exact amount is not available with either of the parties. An important, though seemingly insignificant issue is that of hygiene of the notes.
- **Easier accounting** Direct payment to bank account. You don't need to go every day to deposit cash to your current account.

- **Easier transactions:-**We can easily do any transaction with security.

5.3 Different modes of cashless transaction in India

1. POS(Point of Sale)



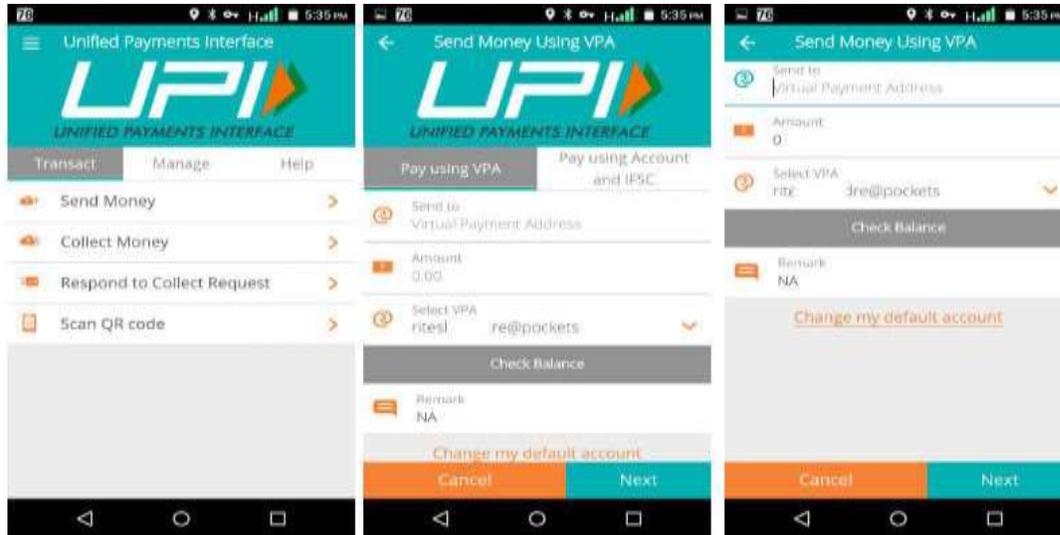
Point of sale generally means any location where a sale or transaction may take place such as shopping malls, a market or a city where something likely is going to be brought or sold. POS transaction is one of the easiest methods of cashless transaction through which you can control corruption. In this mechanism three simple steps have to be performed. First swipes, second, password entry, and finally get transaction detail.

2. UPI(Unified Payment Interface)

UPI is a kind of payment system through which we can transfer the money between two different parties. By using UPI a bank account can be initiated to transfer money from any time anywhere with the help of few clicks. The best things of such types of transaction are that you do not need to share your credit details or wallet password. Every bank has a personal Mobile App through it has become easier to transact. For this some steps need to be taken that are

1. Register mobile number into bank.
2. Download UPI app into smart phone.
3. Generate a unique ID into it.
4. Set UPI pin.

You can transact after following these steps



3. E-Wallet

This term is used for a kind in of electronic device that allows anyone to make electronic transaction. To use this service you just need a computer or a smart phone only. Anyone can also link his bank account with it, with the help of driving license, health cards, and other ID proof. To perform online transaction through E-Wallet anybody has to follow the following steps

1. Download any E-Wallet like SBI Buddy.
2. Use your Mobile number for registration.
3. Connect your Debit/ Credit card or Net banking with it.

By following these steps you can make your wallet in your phone.

4. USSD(Unrestricted supplementary Service Data)

To get benefit from this transaction you do not need any computer or smart phone. A simple featured phone is enough. Hence it is also known as —Quick codes

Let's talk about how it works?

When someone sends message to the phone company, the company reverts back with a call or message to give details of what the customer has asked. USSD also be used to refill the balance on user's SIM card to deliver OTP.

To perform the USSD transaction the following steps should be followed

1. Connect your mobile number with your bank account.
2. Dial *99# into your phone
3. Dial four numbers before the short name of your bank
4. Select the option of your —Fund Transferl.
5. Dial MMID of the person to whom the transaction money is transferred (Beneficiary).
6. Dial your amount and MPIN; dial four digit of your account number after a space.
5. UIDAI(Aadhar Enabled Payment System)

Link your Aadhar card with your bank and get benefited for the following safe and secure transaction.

1. Fund transfer.
2. Balance enquiry.
3. Withdraw/ Deposit cash.
4. Interbank transaction.

5.4 Benefits of cashless transaction

It is very obvious that everything has its pros and cons. Cashless transaction do has some. Some of them are.

1. Control over black money

Black money has become a hazard now a day's cashless transaction become very important to control the black money. Whenever we buy any product, the distributor do not disclose their income to the government and hence escape from given the tax that money do not come under government surveillance hence consider black money. Any properties which are not under government surveillance and the tax have not been paid for that is the black money .

2. Control over fake note

It is impossible to make fake noted if the cashless transaction is used by every individual in the society because notes becomes useless. In this situation all the transaction will be done online .

3. No funding to terrorism

Funding to the terrorism is done by the unaccounted money by the black money holders. But cashless transaction will eradicate black money as well as fake currency hence no support to terrorism .

4. Tax payment

No one can store money with themselves as all the transaction will be done online. So, everybody has to pay tax for what they have .

5. Illegal political funding

Political donation is the major concern in the country. Majority of the funding in the political party is unaccountable which is not revealed by the party as well as the donor. All that kind of illegal transaction would be stopped if a government follows cashless transaction .

6. Cost of printing and distribution of currency

The cost of printing and distribution of currency would be zero for the cashless transaction as no paper notes to print and distribute

5.5 CHALLENGES OF CASHLESS TRANSACTION

As per TRAI the total telephone subscriber (in million) are 1058.85 sill it is not in the range of all the people. The existing telephone infrastructure is not covering all the area .

Insufficient infrastructure is also a major barricade for cashless transaction. For a Large country like India, there are only 2.3 lakh ATMs and 14 lakh POS terminals are very low. Countries such as Brazil, Australia, France and the UK have POS terminals three or four times that of India. Also the customer awareness drive is virtually missing. The regulatory framework for card payment is sound.

The current business model of card payment is also under pressure Illiteracy is one of the major issue in the path of cashless transaction, as per UNESCO report India currently has the largest population of illiterate adults in the world with 287 million.

Indians illiterate population largest in the world says UNESCO report. Hacking is one of the issues for cashless transaction as per the Economic time 3.2 million debit cards information were compromised of the major banks such as SBI, HDFC, YES and AXIS.

(VII) FINDINGS and ANALYSIS:

• Future Trend of Cashless Transaction:-

The payment industry in itself keeps on evolving with the ever changing consumer sentiments and the needs of the businesses. An innovation in this space is thus a continuous process, while the adoption of each of new development takes its own pace to penetrate.

Figure-1 Growth in Cashless Transaction.

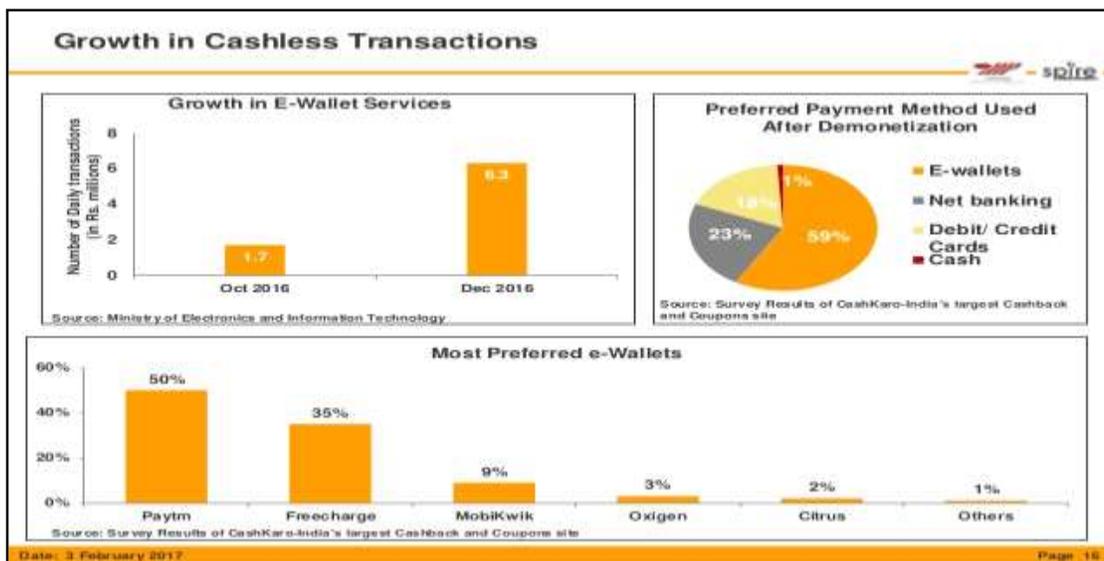


Table 1: Future Trend of Cashless Transaction in India (Source: RBI Bulletin)

System	Volume (Million)				Value (₹ Billion)			
	2015-16	2016		2017	2015-16	2016		2017
		Nov.	Dec.	Jan.		Nov.	Dec.	Jan.
	1	2	3	4	5	6	7	8
1 RTGS	98.34	7.88	8.84	9.33	1,035,551.64	101,894.49	110,980.33	100,602.54
1.1 Customer Transactions	93.95	7.56	8.47	8.98	700,899.82	66,880.17	72,702.57	68,863.65
1.2 Interbank Transactions	4.37	0.32	0.37	0.35	123,678.19	11,599.02	11,393.90	8,622.42
1.3 Interbank Clearing	0.016	0.002	0.002	0.002	210,973.63	23,415.30	26,883.86	23,116.47
2 CCIL Operated Systems	3.12	0.35	0.31	0.32	807,370.42	97,225.02	95,947.71	88,068.84
2.1 CBLO	0.22	0.02	0.02	0.02	178,335.28	17,637.88	24,112.95	21,189.97
2.2 Govt. Securities Clearing	1.02	0.17	0.13	0.12	269,778.20	40,141.88	38,256.72	34,408.21
2.2.1 Outright	0.88	0.15	0.12	0.11	97,285.41	20,487.42	14,966.26	13,427.04
2.2.2 Repo	0.134	0.015	0.015	0.014	172,492.78	19,654.46	23,290.46	20,981.17
2.3 Forex Clearing	1.89	0.17	0.16	0.19	359,256.94	39,445.26	33,578.04	32,470.67
3 Paper Clearing	1,096.37	93.50	138.82	131.17	81,860.79	5,845.13	7,289.40	7,281.23
3.1 Cheque Truncation System (CTS)	958.39	87.08	130.01	118.45	69,889.15	5,419.22	6,811.91	6,618.44
3.2 MICR Clearing	-	-	-	-	-	-	-	-
3.2.1 RBI Centres	-	-	-	-	-	-	-	-
3.2.2 Other Centres	-	-	-	-	-	-	-	-
3.3 Non-MICR Clearing	137.98	6.42	8.81	12.71	11,971.64	425.92	477.49	662.79
4 Retail Electronic Clearing	3,141.53	312.76	418.98	386.31	91,408.14	9,748.58	12,610.71	12,399.63
4.1 ECS DR	224.75	0.28	0.25	0.20	1,651.50	1.38	1.55	1.43
4.2 ECS CR (includes NECS)	39.00	0.76	0.91	0.76	1,059.44	7.89	12.84	10.51

According to RBI Bulletin Cashless Transaction in India increased day by day. From different transaction system E-wallet (PPI) system is going to be more popular, the statistics in report shows that, in NOV-2016 and DEC-2016 total value transaction done using E-wallet was 50.74 and 97.70 (Rs. In Billion) respectively and in JAN-2017 it is increased upto 108.69. According to the survey conduct by Cash-karo India (cash-back and coupons site), After Demonetization i.e. from NOV-2016, E-wallet payment method is more preferred by customers than any other payment methods. According to this survey, 1% users preferred cash as payment method, 18% for debit/credit cards, 23% for Net banking and 59% users preferred E-wallet as payment method. And in future also E-wallet system will be more preferable.

(VIII) CONCLUSION:

However, the benefits of this move have now started trickling in with more and more people switching to digital modes of receiving and making payment. India is gradually transitioning from a cash-centric to cashless economy. Digital transactions are traceable, therefore easily taxable, leaving no room for

the circulation of black money. The whole country is undergoing the process of modernization in money transactions, with e-payment services gaining unprecedented momentum. A large number of businesses, even street vendors, are now accepting electronic payments, prompting the people to learn to transact the cashless way at a faster pace than ever before.

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KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

WARANGAL URBAN



STUDENT STUDY PROJECT

(2020-2021)

**A STUDY ON PROSPECTS AND CHALLENGES IN
COMMERCE EDUCATION**

Under the Supervision of

Jarupula Rajeeru

Asst. Professor of Commerce, Kakatiya Government College, Hanamkonda

Details of the Students Participated in this Study Project

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3	B.Divaker	006212033	B Com CA-I yr
4	D.Mahesh	006212080	B Com CA-I yr
5	B.Kalyan	006212034	B Com CA-I yr
6	B.Akila	006212003	B Com CA-I yr
7	Zareen	006212174	B Com CA-I yr
8	G.Suresh	006212136	B Com CA-I yr
9	G.Vineetha	006212140	B Com CA-I yr
10	G.Poojitha	006212104	B Com CA-I yr

A STUDY ON PROSPECTS AND CHALLENGES IN COMMERCE EDUCATION

ABSTRACT: *Commerce education is important to gain knowledge of business, trade, industry and commerce. It provides the knowledge for various specialized and professionalized study related to the business. In India commerce education is available after the school period because of this school students were not taught commerce subjects and they don't possess any business and finance knowledge. There are various courses available to commerce students which help them to gain knowledge and competencies required for job in industries. But the students were not possess proper knowledge and competencies due to lack of faculties and practical training provided by colleges and institution which lacks students to get job. In present scenario everything is digitalized which also applies to education. Modern education also adopted the online education and MOOCs platform to achieve the objectives of commerce education. There are numerous professional opportunities available for commerce students' viz. CA, CMA, CS, and more who work on good managerial position. Many challenges are also there which are presented in the paper in detail. The challenges need proper solution which mostly possible by colleges and institutions with the help of good faculties. The faculties are like root because of root tree stands. "Trees are capable of growing deep roots but root is strongly influenced by soil and climate condition." Like this faculties are root which possess strong knowledge related to subject and make students capable to build their knowledge and understanding about subjects to grow in their life.*

Keywords: *commerce education, opportunities, challenges, online education, faculties*

INTRODUCTION

History

The growth of industry and science in the recent past has demanded a specialized education in the field of commerce and industry. Education of commerce was started by private commercial institutions. To start with only book-keeping was taught. We find Munims used to train junior Munims under their apprenticeship. Later on private commercial institutes started teaching of book-keeping and accountancy. If we see the history commerce in higher education is nearly 102 years old. For such an education, Madras became a pioneer state where it started in 1886. The Government of Madras laid the foundation of commerce education by setting-up commercial institute in Madras. Two other institutions were established during the next ten years (by 1896). Government of India also started Commerce College at Calicut and Presidency College at Calcutta. In India Commerce education at University level made its first beginning in 1913 when Sydenham College of commerce and economics was established by Bombay, since then there has been steady increase in commerce courses and its related branches all

over India, there is hardly any university or college which don't have commerce department. In the beginning of this century Calcutta Presidency College also introduced the teaching of commerce (1903). By about that time it was also introduced in Delhi. One more commercial institution was started in Bombay in 1912. In 1920's (1921-22) the first Fiscal Commission was set-up and this commission made certain important recommendations. In the light of these recommendations some major improvements were visible in various industrial fields especially in the field of iron and steel industry, sugar industry, tea industry, cotton industry and jute industry. A very rapid growth of commercial educational institutions was observed during 1920-40. The Indian Institute of Bankers was established in 1926, the Institute of Chartered Accountants of India was established in 1934. Later on in 1944, Institute of Works and Cost Accountants of India was established. In 1955, the Federation of Insurance Institutes was established. In the early part of 19th century commerce education and training programs were formally started through as vocational courses intended for meeting the requirements of different local cadres in business and industry as also in government department. Commerce courses were formally elevated to the level of undergraduate graduate and post graduate and by 1930 many universities and colleges in the country introduced B.Com and M.Com commerce training programs suitable for those seeking commerce courses after 12.

Commerce Education: Understanding & Definition

Commerce education is the area of education which develops the required knowledge, skills and attitude for the success handling of trade, commerce and industry. According to the needs of the business and society independent professions have emerged in the form of Chartered Accountant, Cost and work accountant, Company Secretary and business administrator (MBA)

Commerce Education, as a branch of knowledge imparts experience of business world at a large in all its expressions. Commerce Education is directly concerned with the day to day life of the students. Even then it is necessary to define commerce education. According to Cheesman Abiah Herrick, "Commerce education is that form of instruction which both directly and indirectly prepare the business man for his calling". In Herrick's view commerce education is preparation of a businessman. It includes all types of education which makes one person to become a great businessman.

The commerce education is primarily meant for providing the students in-depth knowledge of different functional areas of business so as to prepare people required by the community for the purposes of trade, commerce and industry.

In 1933 Fredrick G. Nichols defined commerce education as follows, "Commerce education is a type of training which while playing a part in the achievement of the general aims of education on any given level, has for its primary objective the

preparation of people to enter upon a business career or having entered upon such a career to render more efficient services there in and to advance from their present levels of employment to higher levels."

Pattern of Commerce Education in India

In India commerce education is available after 10years of secondary school education. Science and arts subjects are available for students at secondary school level whereas commerce subject not available for students.

Table-1 Pattern of Commerce Education in India

Secondary Education		Higher Education		Professional Education
Secondary School level	Higher secondary level	Under Graduate	Post Graduate and continuing education	Specialized and expertise education
Class I to X under state/central board	Science Arts Commerce	B.Com and other specialization in B.Com	M.Com, M.Phil. P.hd	CA/CMA/CS/ Actuaries/Law/M BA

LITERATURE REVIEW

Problems and Challenges of Commerce Education in Warangal District, -Journal of Humanities and Social sciences-Students studied the problems and challenges of commerce education and its contribution to the society. They also made a comparative analysis between commerce education and arts education.

A study about views of students on challenges in commerce education-Dr. Shiva nagasreenu and Sri K.Linga Reddy concluded Commerce education is one of the prime and important faculty which has got wide spread ability and acceptance from the society provided it is taken up in a right a perspective. It should not be treated as a course or faculty for average students but should be treated greater importance because growth of commerce and industry will help the society.

Commerce Education-Challenges & Opportunities-Dr. Samir Mazidhbahai Vohra-In his paper has covered the current scenario of commerce education; he tried to list the challenges and opportunities of commerce education in India. He has identified key challenges and recommendation to revitalise the commerce education.

Challenges of Commerce Education in India-Suraksha, Ritu, and Deepak Bhatia in their paper have tried to present the issues before commerce education in India.

METHODOLOGY OF STUDY

This research paper is focuses on the challenges and opportunities in commerce education. The research study is based on primary and secondary sources which consist of personal observations, discussion with the students, alumni students, other faculties and professionals in commerce field, commerce magazines and journals, and various internet websites.

OBJECTIVE OF STUDY

- ☐ To study various courses available for career opportunities
- ☐ To study various areas available where commerce education applies
- ☐ To study modern means of commerce education and its application
- ☐ To study prospects in commerce education for students and related people
- ☐ To study challenges in commerce education for students and related people
- ☐ To analyze the problems in commerce education and to provide suggestions

IMPORTANCE OF COMMERCE EDUCATION

Commerce education in our country has been developed to support growing manpower needs of business enterprises. Commerce education is important and helpful for various areas of business, trade, commerce and industry. Commerce education is important to the students and related people for the purpose of

proper management of money, work management, decision making, keeping record and maintenance of activities, management of risk, building entrepreneurship skills, tax management and payment, trade and marketing management, business communication and etiquettes, preparation of bookkeeping records, preparation of accounting statement and interpretation on them and may more. It is also important for the students to get the knowledge of various theoretical and practical business world situations.

CURRENT STATE OF COMMERCE EDUCATION IN INDIA

At present in India, some of central university and business schools are not world class educational institutes. Despite of many technological advances and introduction of new and modern pedagogical concepts, the commerce and management institutes are still continues on chalk and talk teaching (traditional) methods impart bureaucratic management skills. Commerce education remained unchanged i.e. today also mostly class rooms with full of students and teachers taught in traditional-style. Again syllabus and teaching is mostly exam oriented. The curriculum in commerce and management institutions is not in pace with current or modern trends in the world. The industries and institutions are not linked which lacks the students to get practical knowledge and jobs after completion of study. The colleges and universities are not providing proper career guidance and support.

MODERN MEANS OF EDUCATION AND THEIR APPLICATION IN THE COMMERCE EDUCATION

Modern day education is aided with a variety of technology, computers, projectors, internet, and many more. Diverse knowledge is being spread among the people. Everything that can be simplified has been made simpler. Science has explored every aspect of life. There is much to learn and more to assimilate. Internet provides abysmal knowledge. There is no end to it. One can learn everything he wishes to. Every topic has developed into a subject. New inventions and discoveries have revealed the unknown world to us more variedly. Once a new aspect is discovered, hundreds of heads start babbling over it, and you get a dogma from hearsay. Not only our planet but the whole universe has become accessible. Skill-development and vocational education has added a new feather to the modern system of education. There is something to learn for everyone. Even an infant these days goes to a kindergarten. Rightly said by Aristotle, "Education is an ornament in prosperity and a refugee in adversity." what everybody feels now.

- ❑ **E-commerce-** E-commerce involves conducting business using modern communication instruments like internet, trephine, Electronic Data Interchange (EDI), E-payment, money transfer system. E-commerce provides multiple benefits to the consumers in the form of availability of goods at lower cost, wider choice and save time. People or costumers can buy goods only by one click sitting at home or from any places. Similarity, online services such as internet banking, ticketing, mobile recharges, bill payments, etc provides tremendous benefits for customers. E-Commerce provides good information, knowledge and career opportunity to students and related people in today's time.
- ❑ **Online Education-** Online education is electronically supported learning that relies on the Internet for teacher or student interaction and the distribution of class materials. With online education, students can turn anywhere with Internet access and electricity into a classroom. It can include audio, video, text, animations, virtual training environments and live chats with professors. It's a rich learning environment with much more flexibility than a traditional classroom. When used to its full potential, online education has been shown to be more effective than pure face-to-face instruction. It can be engaging, fun and tailored to fit almost

anyone's schedule.

Covid effect is increased the online education system in every door steps in in rural area also like zoom and google meet types of plat forms are reach in rural area also.

❑ **Online Education Programs**

❑ **100% Online Education** -Fully-online degrees are earned from the comfort of your own home with no required visits to your college or university campus. Many commerce courses are offered in this mode mostly by outside universities with good designed syllabus and learning structure.

❑ **Hybrid Education** -Hybrid education allows students to pursue a combination of online and on-campus courses. Many commerce course are available in this mode by various distance Universities viz. IGNOU, Amity University, and more.

❑ **Online Courses** - While online courses may be part of a degree program, they can also be taken on their own in order to master a certain subject or learn a specific skill. Many certificate courses are available in online mode viz. social media marketing, human resource management, and more.

❑ **MOOCs** - MOOCs, or massive open online courses, are usually delivered in lecture form to online "classrooms" with as many as 10,000 people. SWAYAM is a MOOCs platform which provides various online courses approved by University Grant Commission (UGC) to achieve the three cardinal principles of Education Policy viz., Access, Equity and Quality. SWAYAM is an instrument for self-actualization providing opportunities for a life-long learning. Here learner can choose from hundreds of courses.

PROSPECTS IN COMMERCE EDUCATION

❑ Commerce Education provides numerous opportunities after studying various courses available at the degree (under graduate) level or master's degree (post graduate) level and professionals or job oriented courses.

❑ Graduate level courses are that which provides oneself platform to learn basic study in the relevant field and go for work as entry level job in industries or organizations. There are various courses available at bachelor's level viz. B.Com, BBI, BAF, BBM, BBA, BMS, BMS, BFM, B.Com (Actuarial Studies) recently logistic course are very popular and more.

❑ Post Graduate level courses are that which provides oneself platform to learn some advanced study in the field and go for work in industries or organizations as advance knowledge in the field. There are various courses Ansongaon at master's level viz. M.Com in various disciplines i.e. Accountancy, Business Management, Banking Finance, Business Economics, E-commerce and more.

❑ Job oriented certificate or diploma courses are also available after 10+2 studies or after graduation which provides specialization in the relevant fields. This courses are Computer Accounting Course (i.e. SAP, Tally), Diploma in Export Import, Diploma in Chain Management, Diploma in digital marketing, Certified Financial Planner, NSE or NISM modules, Insurance Agent Certification, and more.

❑ Professional Courses provides oneself platform to get high status job and expertise in the relevant field. These courses are Chartered Accountant (CA), Cost and Management Accountant (CMA), Company Secretary (CS), Actuaries India (IAI), Master's in Business Administration (MBA), Law (LLB), and more.

- ❑ One can learn various subjects as per their chosen discipline in commerce stream which gives knowledge and experience of theoretical learning with some practical learning of subjects. The various subjects are available for students which they can learn viz. Advertising, Auditing, Banking, Business Ethics, Business Economics, Business Management, Business Environment, Business Mathematics and Statistics, Business Communication, Bookkeeping and Accountancy, Corporate Accounting, Corporate Law, Corporate Financial Reporting, Cost Accounting, Direct Taxation, Entrepreneurship Management, Export Marketing, Financial Accounting, Financial Management, Financial Market Study, Foreign Trade Management, Human Resource Management, Indirect Taxation, Industrial Law, International Business, Insurance, Marketing, Management, Management Accounting, Operations Management, Quantitative Methods, Research Methodology, Strategic Management, and more.
- ❑ There are many industries available where commerce graduated Students can go for work viz. Banking, Financial, Insurance, Logistics, Telecommunications, BPO, Educational Institutions, Government departments and more.
- ❑ There are various areas available where commerce graduates can go for work viz. Sales and Marketing Assistant, Management Assistant, Tax Consultant, Tax Assistant, Account Assistant, Internal Auditor, Data Analyst, Human Resource Management Assistant, Stock Broker, Security Dealer, Fund Manager, Book Keeper, Personal Finance Consultant, Cashier, and more.
- ❑ One can also go for Lectureship or research oriented degree for continuing education which provides the professionalized in teaching field and make their contribution towards educational improvement and development of economy.
- ❑ One of the best things is that one can also start their own business and become good entrepreneur as per the knowledge and competencies learnt during studies.

CHALLENGES IN COMMERCE EDUCATION

Commerce education is the backbone of business and continuous development of the nations and considered as one of the most popular career in India. It covers wide range of business and economy. Commerce education gives to the people for democratic living, good citizenship and proper utilization of resources. Commerce education provides to business and society that hope to use it for the betterment of self, business and society at large. It provides skill oriented education to students and society. But quality of education system in India has been lagging for quite sometimes more in comparison to the quantity. The various challenges in commerce education are listed below.

- ❑ There is no commerce subjects available at high school levels like science and arts subjects which could provide the basic knowledge for the students to take admission in commerce and understand it's importance of study.
- ❑ The many present courses emphasis on theoretical or conceptual knowledge without offering as phenomenon or activity actually functions.
- ❑ The syllabus of commerce courses not provides practical work experience and industries oriented experience. This lacks them to get suitable job in future.
- ❑ There are many curriculums are outdated and has lost their importance to present scenario which lacks students to deal with current scenario.
- ❑ Many of colleges or institutions didn't have the facilities like well designed classrooms with modern devices like computer networks, overhead projector (OHP), digital library, internet facility and more.

- ❑ More of the colleges or institutions classrooms are overcrowded with non availability of proper required facilities and seating arrangements which lacks students to get proper learning and skill developments.
- ❑ The junior colleges and degree colleges are not providing timely counseling and guidance to their students for further studies, improvements and career building because of this many students are not able to choose proper career.
- ❑ There is absence of body to promote commerce education many people suggest for science or arts education.
- ❑ The commerce teachers are expected to teach all subjects in spite of their specialized field.
- ❑ There are more teaching faculties are required which is not filled as per rules. Most of teachers are kept on Ad-hoc basis or Visiting basis which sometime results teacher won't able to give their full effort.
- ❑ The graduate level commerce and management Institutions fails to have contact with industry or research institutes which fails to provide knowledge improvement to students.
- ❑ The business organizations feels that the commerce graduate degree holders does not possess the right kind of skills, practical knowledge and industrial exposure which need to have because of this they chose some professional degree holder or experience people for job which results graduate degree holders negatively to get suitable job.

SUGGESTIONS

- ❑ Education syllabus at school level needs to adopt subject like other art and science subjects.
- ❑ The traditional courses have to update in such manner which provides theoretical and practical knowledge equally as per industrial requirements.
- ❑ The junior colleges and degree colleges need to provide proper guidance and counseling for the choosing right course for their career development.
- ❑ The colleges and management institutes need to build good contact with industries and research institutions which will provide good practical skills development to students.
- ❑ Commerce education need to be promoted in such manner as it is very much important for financial manager and management of various activities.
- ❑ Actuarial education also needs to be promoted as it provides good control over the risk by use of strong mathematical and financial understanding. If possible then this is adopted as bachelor and master degree course by every universities and colleges.
- ❑ Current business practices and modern terms need to be opted in the syllabus which helps the students for proper understanding about various current phenomenons in business world.
- ❑ The colleges need to provide proper guidance and counseling to students regarding various courses available in commerce and what type of specialization respective courses offers for the personal and professional development.
- ❑ The colleges need to be providing autonomous status by UGC which results in making good study and syllabus pattern with proper evaluation process and timely declaration of results.
- ❑ The colleges need to be providing autonomous status by UGC which results in making good study and syllabus pattern with proper evaluation process and timely declaration of results.
- ❑ UGC has recognized SWAYAM MOOCs platform for digital teaching and learning process which need to be promoted by various means so that it will reach to students who want to pursue further knowledge improvement with their job.

- ❑ Computer education should be provided to students of commerce with consideration of the present need of industries and digitalization of everything. The computerized accountings need to teach to students because organizations are using enterprise software for accounting and management purpose.
- ❑ The commerce stream education provides skill development in various areas viz. professional skill, computing skill, communication skill, leadership skill, Managerial skill, entrepreneurial skill, etc are essential to enjoy a better human life. In academic curriculum, from secondary to higher level education it is need for inclusion all the indicators of human resource development.

CONCLUSION

Commerce education is very important and helps to gain knowledge of various accounting, commerce, trade, management and finance related areas. The Universities and colleges not providing courses which include equal practical as well as theoretical aspects of business and organizations. There are tremendous opportunities available where commerce educated students can go for job and show their knowledge and competencies acquired during study. One of the best thing is that commerce graduate can also become a good entrepreneur as per knowledge and skills acquired during their study. The industries and colleges are not summed up, but there is need to summed up commerce institutions with industries which will result students can learn practical aspects of work with theoretical knowledge. Everything is possible when teachers of commerce give their self effort to make changes in commerce education to meet with modern or new scenario. At same time students also need to give their self effort to develop the soft skills and hard skills required for outside industrial environment. Industries are not making their efforts toward promoting and developing commerce education as per their need which results they are not getting suitable candidate for job role specified by them. The modern means of education are adopted slowly by teachers of commerce they need to adopt it with good pace to mark their presence with current or modern requirements and provide better teaching learning aids to students.

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KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

WARANGAL URBAN



STUDENT STUDY PROJECT

(2020-2021)

Under the Supervision of

Jarupula Rajeeru

Asst. Professor of Commerce, Kakatiya Government College, Hanamkonda

Details of the Students Participated in this Study Project

Sl.No	Name of the Student	H.T.No.	Class
1	A.Naveen	TI2039204065	B Com CA-I yr
2	B.Mahesh	TI2038200962	B Com CA-I yr
3	G.Ranjith	TI2042201599	B Com CA-I yr
4	N.Bala	TI2038206391	B Com CA-I yr
5	R.Nagaraju	TI2039200917	B Com CA-I yr
6	S.Shirisha	Ti2039205654	B Com CA-I yr
7	S.Shivani	TI2038501039	B Com CA-I yr
8	AKARAPU NAVYAJYOTHI	TI2038206628	B Com CA-I yr
9	ALLI KARTHIK	TI2038208661	B Com CA-I yr
10	ARABATI VINAY	TI2044208193	B Com CA-I yr

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CHAPTER-I
INTRODUCTION

INTRODUCTION

In developing a marketing strategy for individual products, the seller has to confront the branding decisions. Branding is a major issue in product strategy. On the one hand, developing a branded product requires a great deal of long term investment spending, especially for advertising, promotion and packing. Many brand oriented companies subcontract manufacturing to other companies.

A brand is name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors.

A brand is essentially a seller's promise to consistently deliver a specific set of features, benefits, and services to the buyers. The best brand conveys a warranty of quality. But a brand is even a more complex symbol. A brand can convey up to six levels of meaning.

1. Attribute
2. Values
3. Culture
4. Personality
5. Benefits
6. Users

CONSUMER BEHAVIOUR ON BRAND PREFERENCES

The study of consumer behaviors as a separate marketing discipline began when marketers realized that consumers did not always act or react as marketing theory suggested they would. Despite “me too” approach to fads and fashions, many consumers rebelled at using the identical products that everyone else used. Instead, they preferred differentiated products that they felt reflected their own special needs, personalities, and lifestyles. Even in industrial markets, where needs for goods and services were always homogenous than in consumer markets, buyers were exhibiting diversified preferences and less predictable purchase behavior.

Other factors that contributed to the growing interest in consumer behavior were the accelerated rate of new product development, the consumer movement, public policy concerns, environment concerns, and the opening of national markets throughout the world.

The field of consumer behavior is rooted in a marketing strategy that evolved in the late 1950's, when some marketers began to realize that they could sell more goods, more easily, if they produced only those goods they had already determined that consumers would buy. Instead of trying to persuade consumers to buy what the firm had already produced, marketing oriented firms found that it was a lot easier to produce only products they had first confirmed, through research, that consumers wanted. Consumer needs and wants became the firm's primary focus. This consumer oriented marketing philosophy came to be known as the marketing concept.

The key assumption underlying the marketing concept is that, to be successful, a company must determine the needs and wants of specific target market and deliver the desired satisfactions better than the competition. The marketing concept is based on the premise that a marketer should make what it can sell, instead of trying to sell what it has made. The selling concept focuses on the needs of the seller; the marketing concept focuses on the needs of the buyer.

The widespread adoption of the marketing concept by American business provided the impetus for the study of consumer behavior. To identify unsatisfied consumer needs, companies had to engage in extensive marketing research. In so doing, they discovered that consumers were highly complex individuals, subject to a variety of psychological and social needs quite apart from their survival needs. They discovered that needs priorities of different consumer segments differed dramatically, and in order to design new products and marketing strategies that would fulfill consumer needs, they had to study consumers and their consumers and their consumption behavior in depth. Thus, the marketing concept underscored the importance of consumer research and laid the groundwork for the application of consumer behavior principles to marketing strategy.

The study of consumer behavior focuses on how individuals make decisions to spend their available resources (time, money, effort) on consumption related items. That includes what they buy, why they buy, when they buy, where they buy, how often they buy it, how often they use it. Consider a simple product such as personal fax machine.

Consumer researchers want to know

- What kinds of consumers buy fax machines for home use?
- What features they look for?
- What benefits do they seek?
- What kind of documents do they fax and for what reasons?
- How likely are they replace their old models when new models with added features become available?

The answers to these questions can provide fax manufacturers with important input for product scheduling, design modification, and promotional strategy. In addition to consumer uses and post purchase evaluations of the product they buy, consumer researchers are also interested in how individuals dispose of their products. For example, after consumers have used a product, do they store it, throw it or sell it, rent it.

Brand Preference

“Customers buying products are buying utility, function, and performance as much as image and status” (Terpstra and Sarathy, 1997, p. 375). Actually, Customer merchandise has implications more than their utilitarian, functional, and commercial significance (Czikszentmihalyi and Rochberg-Halton, 1981; Ericksen, 1996; Leigh and

Gabel, 1992; Levy, 1959; Mick, 1986). Consumers do not “consume products for their material utilities but consume the symbolic meaning of those products as portrayed in their images” (Elliot, 1997, p. 286). Therefore, the acquired goods are not only “bundles of attributes that yield particular benefits” (Holt, 1995, p. 1) but also indications of symbolic meanings to the public. Consumers are more likely to use brands to express how they are either similar to or different from people of their in-group (Markus and Kitayama, 1991).

Bhat and Reddy (1998) also reported that brands have practical and emblematic importance for consumers. The emblematic importance, which is attached to brands, is often broadcasted via the use and consumption of brands (Gottdeiner, 1985; McCracken, 1986). Consequently, there seems to be a noteworthy relationship between brand images, consistent with the emblematic importance of brands, and consumers’ self images (Zinkham and Hong, 1991). Individuals are more likely to buy brands whose personalities intimately match their own self images (Schiffman and Kanuk, 2000). Similarly, consumers express themselves by selecting brands whose personalities are recognized to be consistent with their own personalities (Aaker, 1999; Kassarian, 1971; Sirgy, 1982).

In many circumstances, consumers’ self image influences his/her purchase decisions (Zinkham and Hong, 1991). In other words, consumers use products to illustrate, maintain, and reinforce their self concepts to themselves (Sirgy, 1982; Wallendorf and Arnould, 1988; Zinkham and Hong, 1991). Therefore, “purchase and consumption are good vehicles for self-expression” (Jamal and Goode, 2001, p. 483).

Previous research indicated that self image/self expression affect consumers’ product preferences and their purchase intentions (Ericksen, 1996; Mehta, 1999). For example, Ericksen (1996) found a significant relationship between self image and intention to buy an American automobile (Ford Escort). Based on this finding, it might be inferred that “individuals prefer brands that have images compatible with their perceptions of self” (Jamal and Goode, 2001, p. 483; Belk, et. al., 1982; Ericksen, 1996; Solomon, 1983; Zinkham and Hong, 1991). Moreover, this self image consistency strengthen positive attitude toward products and brands (Ericksen, 1996; Sirgy, 1982, 1985, 1991; Sirgy, et. al., 1997). Specifically, “the more similar a consumer’s self-image is to the brand’s image, the more favorable their evaluations of that brand should be” (Graeff, 1996, p. 5).

Brand Personality

Contrary to product-related attributes, which refer to be performance-oriented for customers, brand personality seems to be representative/self-expressive oriented (Keller, 1993). Brand personality refers to “the set of human characteristics associated with a brand” (Aaker, 1997, p. 347). Moreover, researchers found that brand

personality facilitates a consumer to articulate his/her self (Belk, 1988), an ideal self (Malhotra, 1988), or exact aspects of the self (Kleine, Kleine, and Kerman, 1993) via the use of a brand. Additionally, this concept was the essential determinant of consumer preference and usage (Biel, 1993).

Brand personality can be shaped and influenced by any direct/indirect contact that the consumer has with the brand (Plummer, 1985). The direct influences included the brand's user imagery, which is defined as "the set of human characteristics associated with the typical user of a brand" (Aaker, 1997, p. 348); the firm's workers and/or boss; and the brand's endorsers. On the other hand, the indirect influences contained product-related features, product category relationships, brand name, mark or emblem, and other marketing mix elements (Batra, Lehmann, and Singh, 1993).

Moreover, according to Levy (1959, p. 12), brand personality consisted of demographic characteristics such as gender ("Usually it is hard to evade thinking of inanimate things as male or female"), age ("Just as most, people usually recognize whether something is addressed to them as a man or a woman, so are they sensitive to symbols of age"), and class ("The possession of mink is hardly a matter of winter warmth alone"). Some examples are provided as follows. First, in the tobacco industry, "Virginia Slims tends to be thought of feminine, whereas Marlboro tends to be perceived as masculine" (Aaker, 1997, p. 348). Second, in the pc business, "Apple is considered to be young, and IBM is considered to be older" (Aaker, 1997, p. 348). Third, based on the various pricing policies in relation to different department stores, "Saks Fifth Avenue is perceived as upper class, whereas K-mart is perceived as blue collar" (Aaker, 1997, p. 348).

Customer Perceived Value

Value has been recognized as "the fundamental basis for all marketing activity" (Halbrook, 1994, p. 22). Value has also been stated as "a cognitive-based construct which captures any benefit-sacrifice discrepancy in much the same way disconfirmation does for variations between expectations and perceived performance" (Patterson and Spreng, 1997, p. 421). Therefore, it is the outcome of a cognitive assessment procedure. Moreover, it is an affective evaluative reaction (Oliver, 1996).

Customer perceived value in commerce marketplace was defined as "the trade-off between the multiple benefits and sacrifices of a supplier's offering, as perceived by key decision-makers in the customer's organization, and taking into consideration the available alternative suppliers' offerings in a specific use situation" (Eggert and Ulaga, 2002, p. 110). That is, there existed three elements in this definition: "(1) the multiple components of value, (2) the subjectivity of value perceptions and (3) the importance of competition" (Eggert and Ulaga, 2002, p. 109).

First of all, the multiple benefits refer to a mixture of product/service attributes and/or technological support available related to a specific use condition (Monroe, 1990). The multiple sacrifices were occasionally illustrated in monetary forms (Anderson, et al., 1993). Secondly, customers' perceived value is subjective, not objective (Kortge and Okonkwo, 1993). In other words, different customers might have a variety of perceived values for consuming the same product/service. Thirdly, customers' perceived value is associated with competition on the market. Competitors generate sustainable competitive advantage by means of bringing a better trade-off between utilities and sacrifice in a merchandise/service.

Alternatively, customer perceived value was consisted of a "take" factor- the benefits a purchaser obtained from the vendor's contribution- and a "give" factor- the buyer's costs (financial and/or non-monetary) of receiving the offering (Dodds, 1991; Zeithmal, 1988). Even much of the precedent studies have emphasized product quality as the primary "take" factor and price as the "give" factor (Grewal et al., 1998; Lichtenstein, Netemeyer, and Burton, 1990; Zeithmal, 1988). But, "service is also a logical driver of perceived value" (Parasuraman and Grewal, 2000, p. 169). For the reason that outstanding before/after sale services provided by the seller really increase the benefits obtained (the take factor) and also "decrease the buyer's non-monetary costs, such as time, effort, and mental stress" (the give factor) (Parasuraman and Grewal, 2000, p. 169). Consequently, customer perceived value was composed of "service quality, product quality, and price" (Parasuraman and Grewal, 2000, p. 169).

1. Service quality

Perceived service quality was defined as the discrepancy between "expected quality and experienced quality" (Gronroos, 2000, p. 67). Expected quality refers to the expectations of the customer; experienced quality is "the outcome of a series of internal decisions and activities" (Gronroos, 2000, p. 101). In other words, customers' subjectivity has a significant influence on perceived service.

Based on a concrete background of empirical and conceptual research, Gronroos (2000, p. 81) provided a list of The Seven Criteria of Good Perceived Service Quality: "professionalism and skills" (i.e., service providers have required knowledge to offer skills in order to solve customers' problems in a professional way), "attitudes and behavior" (i.e., service providers are considerate of/friendly to customers), "accessibility and flexibility" (i.e., service providers are easy and adaptive for customers to reach), "reliability and trustworthiness" (i.e., service providers are dependable and honorable), "service recovery" (i.e., service providers are willing to correct mistakes as soon as they can), "serviscape" (i.e., customers feel comfortable in the environment related to the service process), "reputation and credibility" (i.e., service providers can be trusted by customers).

2. Product quality

Generally speaking, people buy products to satisfy needs and wants. That is, consumers would like to obtain a mixture of utilities when they procure items for consumption, and different customers seem to acquire a variety of benefits from the same kind of goods. In order to supply the benefits for consumers, marketers need to successfully incorporate the components that constitute a product. These components include “product features (quality, design, branding, and packaging) and customer service (purchase services and usage services)” (Bearden, Ingram, and LaForge, 2001, p. 185). Product quality refers to “how well a product does what it is supposed to do as defined by the customer” (Bearden, Ingram, and LaForge, 2001, p. 186).

3. Price

The price of a product/service can be analyzed associated with customers’ quality expectations and/or their past experiences. If the price is judged too expensive, consumers might not purchase. A low price policy causes poor positioning and neglected opportunities. However, price appears to be a standard for quality in some circumstances. “A higher price level equals a better quality in the minds of customers, especially when the service is highly intangible” (Gronroos, 2000, p. 80).

Hypotheses

Based on the literature discussed above, the hypotheses of this study are as follows:

1. There existed a significant relationship between brand preferences and respondents’ demographic characteristics.
2. There existed a significant relationship between brand personality and respondents’ brand preferences.
3. Brand preferences were significantly associated with variation in customers’ perceived value.

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NEED FOR THE STUDY

The present study is conducted considering the following aspects. Firstly, WARANGAL is a perspective of ELECTRONICS like Mobiles & Mobile accessories, televisions, laptops, speakers, home appliances, cameras, etc.. marketing in the state, which is highly promising with a lot of potential, which is to be tapped. Secondly, the behaviors of the target consumers are highly vibrant showing the past movement in this life that are also market drive. The marketing has accompanied to representations, both formal and informal marketing.

Having considered one by one of both consumer and retailer in present day market an attempt was made to study the perception of both consumers and retailers on the marketing of Samsung brands in general and market share of Samsung Smart TV in Warangal.

From early October through mid November 2012, Samsung, through its agency starcom worldwide, ran a social-mobile advertising campaign that targeted shoppers based on location. Using location based advertising technology from LiWire, the brand and agency sought to get consumers out of their homes and into physical retail stores to experience the Samsung TV.

With the Smart TV launch in fall 2012, Samsung introduced motion control and voice control features. The challenge was not only to create consumer demand for an entirely new TV category, but also to get consumers to experience the TV in person. Based on Samsung's consumer research, 86% of people who bought a Smart TV first experienced the product at retailers.

The brand's research also indicated that online reviews and word of mouth heavily drove Smart TV purchases, so the goal became to drive consumer awareness of Samsung's new product by getting people to experience it in stores. Then the hope was they would be compelled to share their experience with friends and family.

It is the time to take steps to improve the market share of such products; it is necessary to conduct market survey.

OBJECTIVES OF THE STUDY

- To examine the Smart TV's evolution and growth.
- To know about the percentage of promotional activities like retail outlet in RELIANCE DIGITAL STORE (HNK).
- To know the brand preferences of customers at the time of buying Smart TVs.
- To know the perception of customers towards Samsung Smart TV.
- To evaluate the market potential & SWOT Analysis of Samsung Smart TV.
- To make necessary suggestions for the improvement of Samsung brands.
- To make necessary suggestions and conclusions for the improvement of Samsung Smart TV sales in RELIANCE DIGITAL STORE (HNK).

IMPORTANCE OF THE STUDY:

Reliance Digital smart tv is a consumer durables and information technology concept from Reliance Retail. It is a subsidiary of Reliance Retail

SCOPE OF THE STUDY

The study on consumers brand preference towards samsung smart tv at Reliance digital this sheds employes on brand preferences on samsung smart tv and how consumers are perceiving the brand of samsung which vareis at realince digital at hanamkonda

This study edentifies the difference of samsung smart tv at realince digital to wards other showrooms

This study examines the differences from other show rooms and analysis the brand preference of samsung smart tv only at Reliance digital which helps to develop and create more brand preference in futures

This study enhaces both brand preference of samsung smart tv and reliance digital simultaneously

RESEARCH METHODOLOGY

The study on consumer brand preferences helps to identify and understand ther brand preferences of samsung smart tv compare to other smart TV only at Reliance digital it examines to the systems of the other smart TV Research Design method is descriptive with convince sampling method with a sample size 100 the data collection methods are both premary and secondary data analysis and based on Tabular , Baragraphs,piecharts and describe analysis and interpretation to find the importance and enhance for the further study

RESEARCH DESIGN

The study is pertaining to descriptive with convenience sample the servey is conducted only by selecting the customers of realince digital hanamkonda who prefered brand Samsung at Reliance digital.

The convenience sampling widens to know why the consumers preferred samsung smart tv at Reliance digital than other showrooms

SAMPLING METHODS:

Simply methods is help to known and get the relevant data through survey with the help of Questionnaire

SAMPLE DESIGN:- convenience sampling

SAMPLE SIZE:

A sample of 100 consumers selected on simple random basis on a tot

DATA COLLECTION:

1. PRIMARY DATA COLLECTION: Questionnaire

The primary source of data collection was through questionnaire. Consumes has to give their feedback about brand preferences of the soft drinks by answering the questionnaire

2. SECONDARY DATA COLLECTION :

- a. Articles in magazines
- b. Journals
- c. Internet
- d. News papers
- e. company website

PERIOD OF STUDY

The total period of the study is 45days.

SOURCES OF DATA

Data has been collected from the consumers through questionnaire and also from the internet.

LIMITATIONS OF THE STUDY

- Due to time and resource, the sample size was restricted to 100 in consultation with project guide.
- The survey was restricted to Warangal only.
- The sample respondents may not be the true presentations of the total population.
- There can be errors due to bias of respondents.
- Convenience sampling has own its limitations, which would have resulted in minor errors.
- The time within which the study is being attempted is too short to carry out a detailed analysis.

CHAPTER-II
COMPANY PROFILE

COMPANY PROFILE

FACT-SHEET

Industry : retail

Brand : Reliance

Head Quarters : Mumbai (MAHARASHTRA)

Variety of Products : More than 2800

Founded by : Mukesh Ambani (Chairman and MD), Braine bade (CEO)

Founded in : 2007

Area served : India

Products : Consumer Durables and Information Technology

Revenue : Rs 610 million (US \$9.2 million)

Slogan : We bring Technology to Life for You

Website : www.reliancedigital.in



RELIANCE DIGITAL

INTRODUCTION:

Reliance Digital., is a consumer durables and information technology concept from Reliance Retail. It is a subsidiary of Reliance Retail, which is a wholly owned subsidiary of Reliance Industries.

Reliance digital is a consumer electronics company in India. The first reliance digital store was opened on 24 April 2007 in Delhi. Currently there are around 1200 Reliance Digital stores in around 270 cities in India. The stores are spread across the states of Maharashtra (Mumbai, pune), Gujarat (Ahmedabad), Delhi, Karnataka (Bangalore, Mangalore, Mysore, Hubli), Tamil Nadu (Chennai, Madurai, Salem, Coimbatore) and Telangana (Hyderabad, Warangal). Reliance digital stores are bigger in size than the other two formats Digital Xpress & Mini stores. The company plans to ramp up its current store count of 1200 stores to 2500 by the end of 2015.

Digital Xpress., recently they also launched of premium stores called as Digital Xpress, where customers can test devices in their designated solution docks-environments created for custom experience. The Xpress stores house lifestyle products like smartphones, ultrabooks, speakers, cameras, tablets, laptops and smart TVs among others. The stores offer buyers an opportunity to learn to do extra stuff with their gadgets such as setting up IP cameras at one's house to help monitor using a mobile device, or set up wireless backup solution and then access data using a mobile app.

Digital Xpress Mini., these are relatively smaller in size than Reliance Digital & Digital Xpress Stores. These stores are about 250 square feet and mainly sell the company's telecom services, smartphones, tablets and also accessories of other brands. They are planning to open around 2,000 stores at the end of the fiscal year 2015-2015.

Reliance ResQ., it is the service arm of Reliance Digital/Digital Xpress and Digital Xpress Mini stores, which caters to customers for after sales service. ResQ is India's first multi product, multi brand, multi location service facility which offers service from 10am to 10pm, 365 days a year. The ResQ care plans offer scheduled preventive maintenance visits and standby units in special cases.

iStore., Reliance Digital also operates a chain of Apple resellers in India under the name iStore. There are about 19 such stores in India currently.

Reconnect., Reliance Digital launched its private label of products branded "RECONNECT" in October, 2011. Reconnect product range covers over 200 products, from the latest large-screen LED TV's, Star-rated air conditioners, Washing Machines, Smartphones, Tablets to household appliances & personal care products. The entire range comes with a 2-year warranty.

Awards & Recognitions., Reliance Digital, the consumer electronics & durables arm of reliance retail has been recognized as 'Best Indian Retailer – CDIT & Telecommunications' at the Franchise India "Indian Retail Show 2014" held in Gurgaon.

ABOUT RELIANCE DIGITAL:

Discover, Experience and Buy a range of products at Reliance Digital. Discover 150 international and national brands and over 4000 products. Experience the best potential of each product in an ambience that stimulates your life style. Not only we enable you to make an intelligent buying decision, but also offer complete product life cycle support - ResQ - our proprietary advisory and post-sales support service.

Top brands and wide range of products:

Choose products from the best of brands-from Sony, LG in Home Entertainment, Nokia and Samsung in mobile phones, to Panasonic and Toshiba in Home Appliances. Discover products that best suit your lifestyle needs and provides best value for money in terms of TCO (total cost of ownership).

Experience, the Digital Zone:

Touch, feel and try every product before you make your buy decision! Get Up, Close and Personal with the latest products in our specially designed Experience Zone for high end entertainment systems like home theatres, televisions, home and car music systems. These zones stimulate an environment that brings the best of each product alive-thereby guiding you to make the right choice.

After sales service and support:

Bought that big smart TV and don't know where best to place it in the room? Or have a device malfunction/breakdown and hassled about setting it right? Be it product installation, breakdown or maintenance – Trust ResQ to ball you out! Our ResQ personnel shall personally visit, rectify and provide you with a step-by-step guidance for maintenance till the life cycle of the product. ResQ services are available to support days a week, from 10A.M. to 10P.M.

Simply walk into any of our stores to discover and experience all the Reliance Digital has to offer!

Company profile of SAMSUNG

FACT-SHEET

Type	: Public company
Industry	: Conglomerate
Brand	: SAMSUNG
Head Quarters	: Seocho-gu, Seoul, South Korea
Variety of Products	: More than 2800
Founded by	: Lee Kun-hee (Chairman of Samsung Electronics), Lee Jae-yong (Vice chairman of Samsung Electronics)
Founded in	: 1938; 77 years
Area served	: World wide
Products	: Apparel, chemicals, consumer electronics, electronic Components, medical equipment, semi conductors, ships,

Tele communications equipment.

Revenue : US \$305 billion

Services : Advertising, construction, entertainment, financial

Services, hospitality, information and communications

Technology, medical and health care services, retail etc.,

Website : www.samsung.com



SAMSUNG

Introduction:

In 1938, Lee_Byung-chull (1910–1987) of a large landowning family in the Uiryeong county moved to nearby Daegu city and founded *Samsung Sanghoe*. Samsung started out as a small trading company with forty employees located in Su-dong (now Ingyo-dong). It dealt in locally-grown groceries and made noodles. The company prospered and Lee moved its head office to Seoul in 1947. When the Korean_War broke out,

he was forced to leave Seoul. He started a sugar refinery in Busan named *CheilJedang*. In 1954, Lee founded *CheilMojik* and built the plant in Chimsan-dong, Daegu. It was the largest woollen mill ever in the country.

Samsung diversified into many different areas. Lee sought to establish Samsung as an industry leader in a wide range of industries. Samsung moved into lines of business such as insurance, securities and retail. President Park_Chung_Hee placed great importance on industrialization. He focused his economic development strategy on a handful of large domestic conglomerates, protecting them from competition and assisting them financially.

In 1947, Cho Hong-jai, the Hyosung group's founder, jointly invested in a new company called Samsung MulsanGongsa, or the Samsung Trading Corporation, with the Samsung's founder Lee Byung-chull. The trading firm grew to become the present-day Samsung C & T Corporation. After a few years, Cho and Lee separated due to differences in management style. Cho wanted a 30 equity share. Samsung Group was separated into Samsung Group and Hyosung Group Hankook UTire, and other businesses.

In the late 1960s, Samsung Group entered into the electronics industry. It formed several electronics-related divisions, such as Samsung Electronics Devices, Samsung Electro-Mechanics, Samsung Corning and Samsung Semiconductor & Telecommunications, and made the facility in Suwon. Its first product was a black-and-white television set.

1970 to 1990



The SPC-1000, introduced in 1982, was Samsung's first personal computer (Korean market only) and used an audio cassette tape to load and save data – the floppy drive was optional.

In 1980, Samsung acquired the Gumi-based *HangukJeonjaTongsin* and entered the telecommunications hardware industry. Its early products were switchboards. The facility was developed into the telephone and fax manufacturing systems and became the center of Samsung's mobile phone manufacturing. They have produced over 800 million mobile phones to date. The company grouped them together under Samsung Electronics in the 1980s.

After Lee, the founder's death in 1987, Samsung Group was separated into four business groups—Samsung Group, Shinsegae Group, CJ_Group, and the Hansol Group. Shinsegae (discount store, department store) was originally part of Samsung Group, separated in the 1990s from the Samsung Group along with CJ Group (Food/Chemicals/Entertainment/logistics), and the Hansol Group (Paper/Telecom). Today these separated groups are independent and they are not part of or connected to the Samsung Group. One Hansol Group representative said, "Only people ignorant of the laws governing the business world could believe something so absurd", adding, "When Hansol separated from the Samsung Group in 1991, it severed all payment guarantees and share-holding ties with Samsung affiliates." One Hansol Group source asserted, "Hansol, Shinsegae, and CJ have been under independent management since their respective separations from the Samsung Group". One Shinsegae department store executive director said, "Shinsegae has no payment guarantees associated with the Samsung Group".

In 1980s, Samsung Electronics began to invest heavily in research and development, investments that were pivotal in pushing the company to the forefront of the global electronics industry. In 1982, it built a television assembly plant in Portugal; in 1984, a plant in New York; in 1985, a plant in Tokyo; in 1987, a facility in England; and another facility in Austin, Texas, in 1996. As of 2012, Samsung has invested more than US\$13 billion in the Austin facility, which operates under the name Samsung Austin Semiconductor. This makes the Austin location the largest foreign investment in Texas and one of the largest single foreign investments in the United States.

1990 to 2014

Samsung started to rise as an international corporation in the 1990s. Samsung's construction branch was awarded a contract to build one of the two Petronas Towers in Malaysia, Taipei 101 in Taiwan and the BurjKhalifa in United Arab Emirates. In 1993, Lee Kun-hee sold off ten of Samsung Group's subsidiaries, downsized the company, and merged other operations to concentrate on three industries: electronics, engineering, and chemicals. In 1996, the Samsung Group reacquired the Sungkyunkwan University foundation.

Samsung became the largest producer of memory chips in the world in 1992, and is the world's second-largest chipmaker after Intel. In 1995, it created its first liquid-crystal display screen. Ten years later, Samsung grew to be the world's largest manufacturer of liquid-crystal display panels. Sony, which had not invested in large-size TFT-LCDs, contacted Samsung to cooperate, and, in 2006, S-LCD was established as a joint venture between Samsung and Sony in order to provide a stable supply of LCD panels for both manufacturers. S-LCD was owned by Samsung (50% plus one share) and Sony (50% minus one share) and operates its factories and facilities in Tangjung, South Korea. As of December 26, 2011, it was announced that Samsung had acquired the stake of Sony in this joint venture.

In 2010, Samsung announced a ten-year growth strategy centered around five businesses. One of these businesses was to be focused on biopharmaceuticals, to which the company has committed ₩2.1 trillion.

In first quarter of 2012, Samsung Electronics became the world's largest phone maker by unit sales, overtaking Nokia, which had been the market leader since 1998. On 21 August's edition of the Austin American Statesman, Samsung confirmed plans to spend 3 to 4 billion dollars converting half of its Austin chip manufacturing plant to a more profitable chip.

The conversion should start in early 2013 with production on line by the end of 2013. On 14 March 2013, Samsung unveiled the Galaxy S4.

On September 4, 2012, Samsung announced that it plans to examine all of its Chinese suppliers for possible violations of labor policies. The company said it will carry out audits of 250 Chinese companies that are its exclusive suppliers to see if children under the age of 16 are being used in their factories.

In 2013, a New Zealand news outlet reported a number of Samsung washing machines spontaneously catching on fire. The corporation is expected to spend \$14 billion on advertising and marketing in 2013, with publicity appearing in TV and cinema ads, on billboards, and at sports and arts events. In November 2013, the corporation was valued at \$227 billion.

In October 2014, Samsung announced a \$14.7 billion investment to build a chip plant in South Korea. Construction will begin next year with production beginning in 2017. The company has not yet decided the type of chips to be produced.

In October 2014, Samsung also announced it would invest 633 billion South Korean won (\$560 million USD) in the construction of a new 700,000 square meter production complex in Vietnam.

Samsung plans to launch a new set of services beginning early 2015. The goal of this new suite of business offerings, dubbed Samsung 360 Services, is to become a help desk of sorts for businesses IT departments. The customizable services range from technical support to security solutions for having a Samsung employee embedded in a client's business as an on-site support manager or technology consultant.

On December 2, 2014, Samsung announced it will sell Fiber Optics to U.S. specialty glass manufacturer Corning Inc.

Samsung Electronics Inc. is expanding in Silicon Valley with a \$300 million facility in San Jose, California. The 10-story complex will include 1.1 million square feet of floor space, a clean room for semiconductors and a "fitness center in the sky". The facility will be split between semiconductor research and development and other sales and marketing functions. It will serve as the North America headquarters for semiconductor operations.

SWOT Analysis:

STRENGTH:

- Samsung's established brand name and reputation as the leader in digital TV industry with the biggest market share positions the company in the top of consumer's minds and overall awareness in the process of making a TV purchase decision.
- Samsung has its own section on its website dedicated to the Smart TV. The interactivity of it allows more about the product's features and have an idea of how the TV works in real life.
- Samsung's Smart TV offers a line of features that no apps specially built for the products, the TV itself is an innovation and enhancement to the current ordinary TV viewing behavior.
- Consequently, from the previous point, one of the Smart TV's features is the ability to connect other Samsung devices wirelessly to the TV. This is useful for the target market, since we found (from the

reviews on the Samsung Smart TV website) that the current Smart TV owner has or had an average of four other Samsung devices or products prior to their Smart TV purchase.

WEAKNESS:

- The Smart TV is equipped with internet connectivity and a webcam that bring a security hazard; security experts found that they could hack into the hard drive and take over the control of the built-in camera and microphones.
- Samsung has already established its social media presence through Facebook and Twitter. A special Facebook page for its TV product line (Samsung TV USA) has generated more than 1.3 million likes, and the Twitter page (@Samsung) has more than 37,000 followers. These numbers, however, are not followed by engaging content that should be complementing its interactive website.

OPPORTUNITIES:

- The Smart TV's success is visible in the growing rate as compared to previous year's revenue (2010 to 2011 to 2012), showing a growth in the consumer's interest and awareness about the product.
- Samsung currently has the biggest market share in the flat panel TV category, with Smart TV sales also contributing to this number.
- Samsung is constantly updating and innovating their Smart TV. This is also includes Samsung's effort to develop and launch the hardware that will allow Smart TV users to upgrade their TV and keep up with the latest technology without having to buy a new TV.

THREATS:

- Smart TVs have an higher price point compared to their competitors and other digital TVs in the market. Although the features are not really comparable to the ones in the Smart TVs, it still gives consumers cheaper alternatives. Moreover, Apple TV is also offered at much lower price, and in general it also provides integration from the user's smartphones and tablets to the TV.
- From our interviews and survey, we found that most people in the target market are already satisfied with their current TV, and they don't feel that they will need and use all the features carried in the Smart TV.

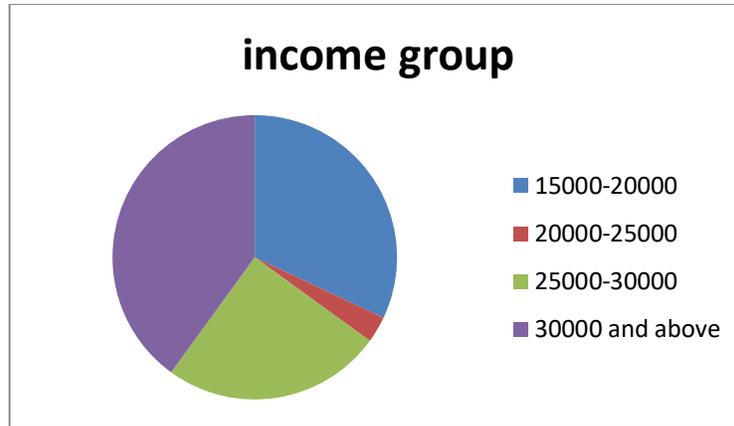
CHAPTER-III

DATA ANALYSIS AND PRESENTATION

DATA ANALYSIS AND PRESENTATION

3.1. WHICH INCOME (PER MONTH) GROUP DO YOU FALL INTO?

S.NO	Response	Respondents	
		Numbers	Percentage
1	15000 – 20000	32	32
2	20000 – 25000	3	3
3	25000 – 30000	25	25
4	30000 and above	40	40
Total		100	100%



Data ANALYSIS:-

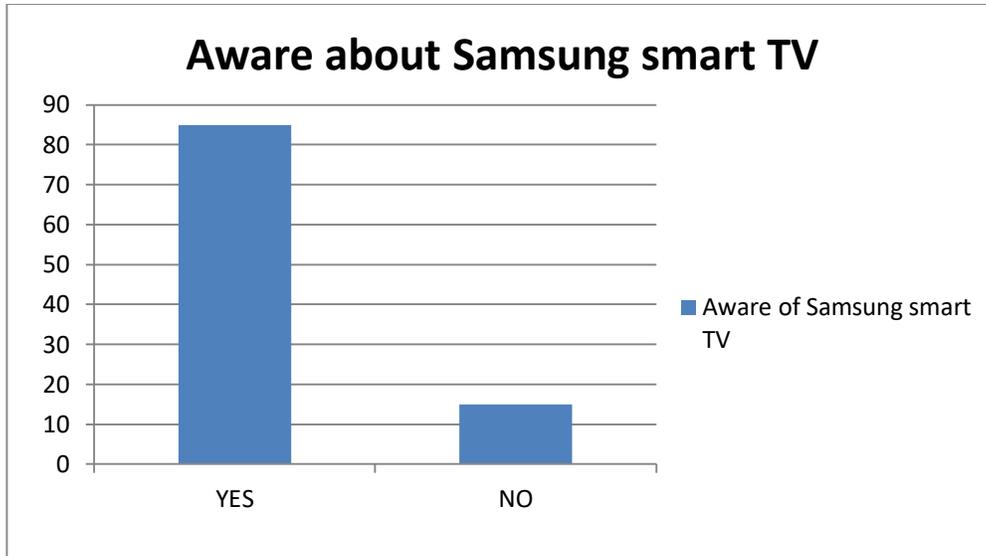
- ❖ 32% belong to income group ranging between 15000-20000
- ❖ 40% belong to income ranging 30000 and above.
- ❖ 25% and 3% belong to 25000-30000 and 20000-25000 respectively.

INTERPRETATION :

40% of Respondents are satisfied income (per month)

3.2. Are you aware about Samsung smart TV?

S.NO	Response	Respondents	
		Numbers	Percentage
1	Yes	85	85
2	No	15	15
Total		100	100%



Data ANALYSIS :-

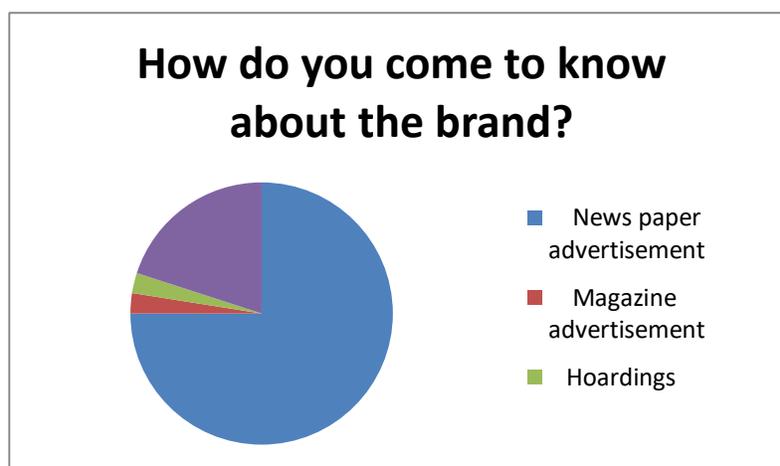
- ❖ The above table shows about the number of customers aware about Samsung smart TV.
- ❖ Out of 100 people, 85% of them are aware about Samsung smart TV at least once.
- ❖ 15% of them are not aware about it at all. It was surprising to see that all
- ❖ The 15% were the illiterate.

INTERPRETATION:

Maximum number of responses are I know about Samsung smart TV

3.3. If YES! Then how you come to know about the brand?

S.NO	Response	Respondents	
		Numbers	Percentage
1	News paper advertisement	90	90
2	Magazine advertisement	1	1
3	Hoardings	1	1
4	Through friends or relatives	8	8
Total		100	100%



Data ANALYSIS :-

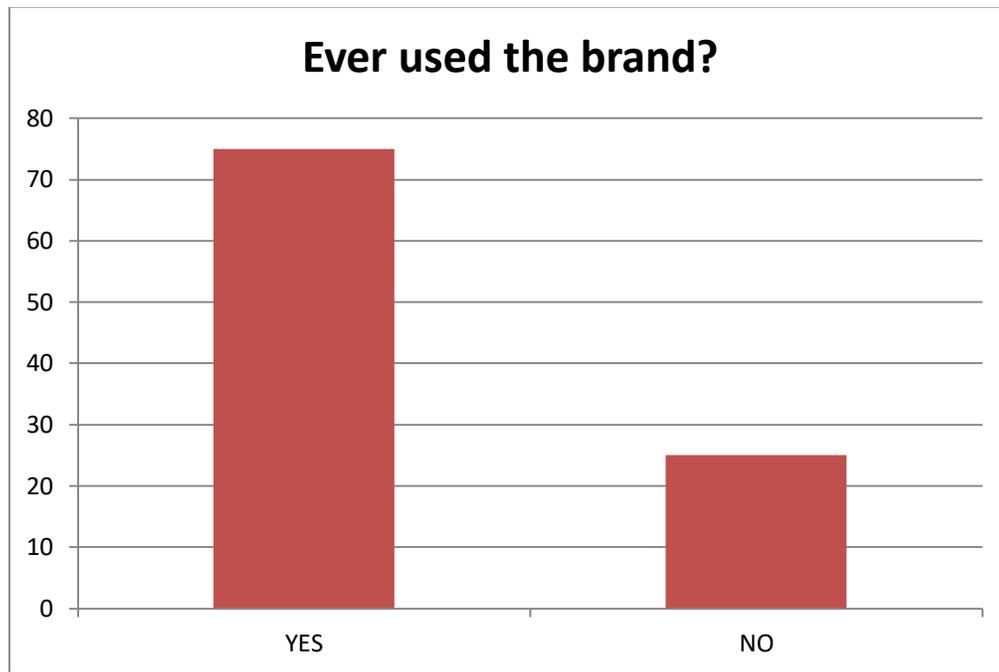
- ❖ The above pie chart shows that out of 100 people,
- ❖ 90% of the people come to know about the brand through newspaper advertisement,
- ❖ 1% through magazine advertisement, and other
- ❖ 1% by hoardings and the rest of the 8% through their friends and relatives.

INTERPRETATION :-

Maximum number of responses came to know about the brand by their newspaper advertisement

3.4. Have you ever used this brand?

S.NO	Response	Respondents	
		Numbers	Percentage
1	YES	75	75
2	NO	25	25
Total		100	100%



Data ANALYSIS :-

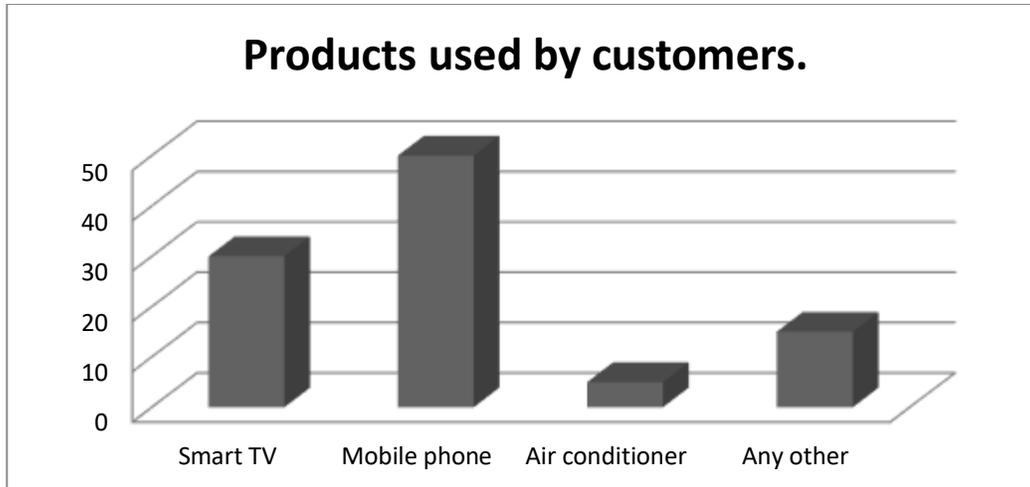
- ❖ It is observed that out of 100 respondents,
- ❖ 75% of the customers had used the Samsung brand products,
- ❖ whereas 25% of the customers did not use the Samsung products ever before.

INTERPRETATION:-

Maximum number of respondents ever used this brand

3.5. If YES! Then which product did you use?

S.NO	Response	Respondents	
		Numbers	Percentage
1	Smart TV	30	30
2	Mobile phone	50	50
3	Air conditioner	5	5
4	Any other	15	15
Total		100	100%



Data ANALYSIS:-

- ❖ The above table 5 shows that out of 100 respondents,
- ❖ 50% of the customers used Samsung mobile phones,
- ❖ 30% used Smart TVs and the remaining 15% and 5% of customers other Samsung products like home appliances, accessories and air conditioners.

INTERPRETATION:-

Maximum number of respondents used by mobile phones

3.6. Do you have Samsung smart TV at your home?

S.NO	Response	Respondents	
		Numbers	Percentage
1	YES	60	60
2	NO	40	40
Total		100	100%

Percentage of customers who hav smart TV.



Data ANALYSIS:-

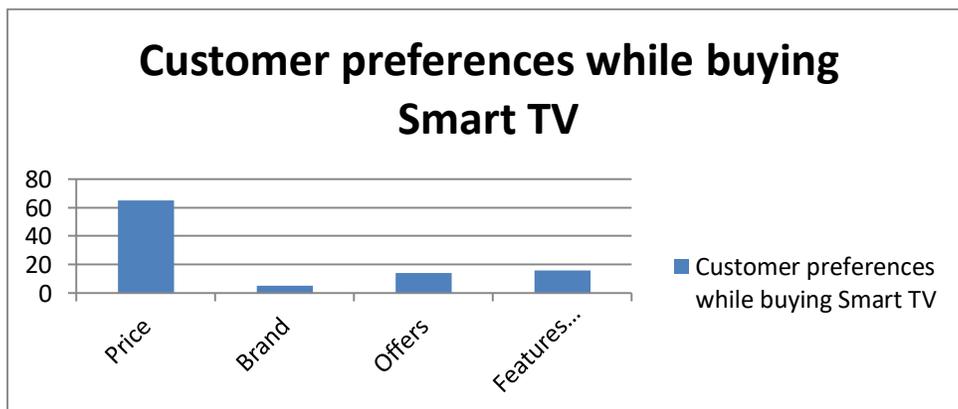
- ❖ The above table 6 shows that out of 100 respondents sample of the survey,
- ❖ 60% of the customers have smart TV at their home and the remaining
- ❖ 40% don't have smart TV.

INTERPRETATION:-

Maximum number of respondents are Samsung **smart TV at your home?**

3.7. While buying the smart TV which of the following factors is more important to you?

S.NO	Response	Respondents	
		Numbers	Percentage
1	Price	65	65
2	Brand	5	5
3	Offers	14	14
4	Features/specifications	16	16
Total		100	100%



Data ANALYSIS:-

- ❖ The above chart 7 shows that out of 100respondents,
- ❖ 65% of the respondents said that they buy a product by seeing the price of it. 5% of them said that brand will affect their buying decision,
- ❖ 14% of them said that they buy the products when it is available in any attractive offers and the remaining
- ❖ 16% said that features and specifications are the thing which are to be checked while buying Smart TV.

INTERPRETATION:-

Maximum number of people's are while buying the smart TV price is the most important

3.8. Is the smart TV used by you is safe and vision free to your eye?

S.NO	Response	Respondents	
		Numbers	Percentage
1	YES	69	69
2	NO	31	31
Total		100	100%

Is the Smart TV which they have is safe and vision free?



Data ANALYSIS:-

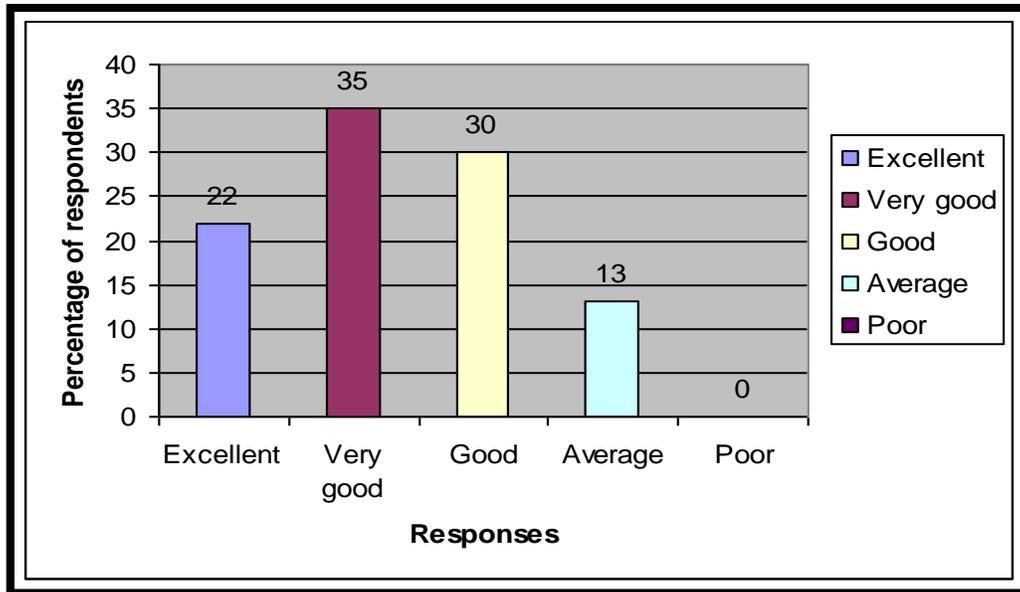
- ❖ The above pie chart 8 shows that out of 100 people who have Smart TVs at their home,
- ❖ 69% of the customers said that the TV which they use is vision free and safe to their eyes while
- ❖ 31% of them told that they didn't like the screen quality of TVs.

INTERPRETATION:-

Maximum number of people's is the smart tv have is safe and vision free

3.9. How do you rank the Samsung smart TV?

S.NO	Response	Respondents	
		Numbers	Percentage
1	Excellent	22	22
2	Very good	35	35
3	Good	30	30
4	Average	13	13
5	Poor	0	0
Total		100	100%



Data ANALYSIS:-

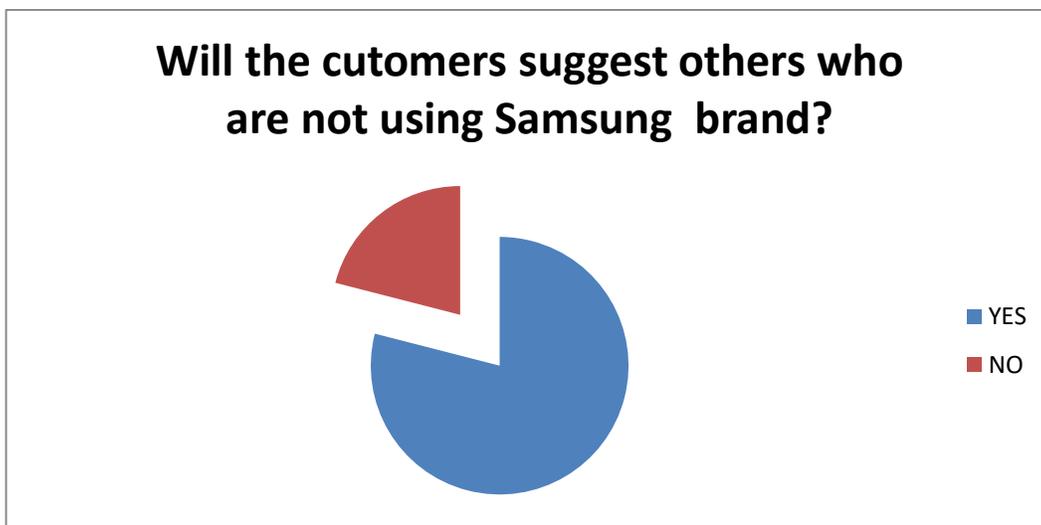
- ❖ From the table, it is clear that out of the 100 respondents
- ❖ 22% rated as excellent, 35% rated it as very good,
- ❖ 30% rated it to be good and the remaining
- ❖ 13% rated average. None of the customers rated it as poor.

INTERPRETATION:-

Maximum number of respondents saying that the rank is very good

3.10. Will you suggest this brand to your friends who are not using this?

S.NO	Response	Respondents	
		Numbers	Percentage
1	YES	79	79
2	NO	21	21
Total		100	100%



Data ANALYSIS:-

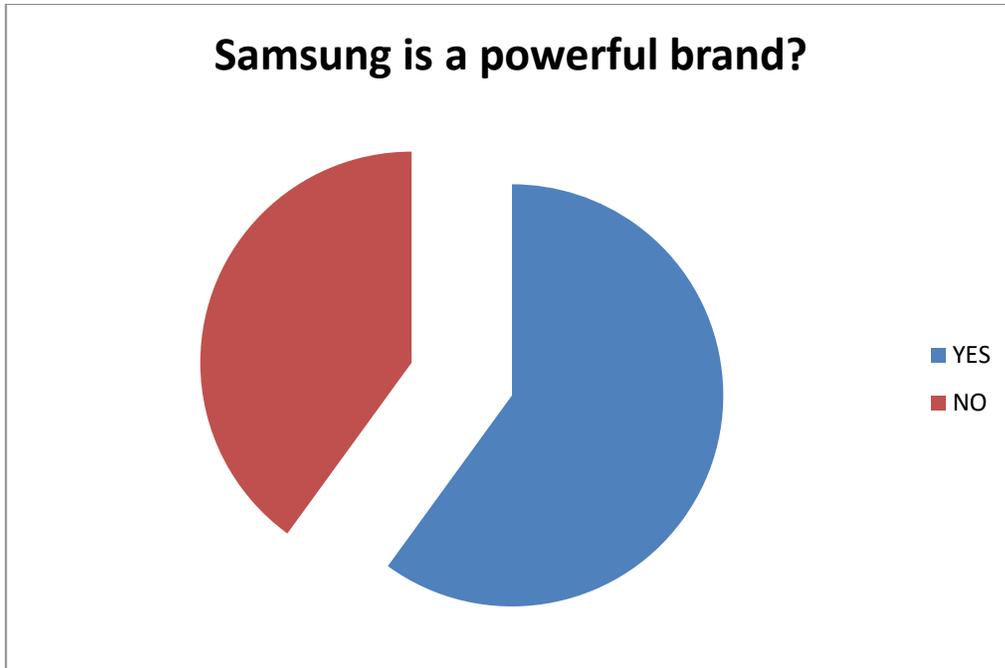
- ❖ From the pie chart, it is clear that out of the 100 respondents
- ❖ 79% of the respondents said that they will suggest the Samsung brand to others who are not using while the remaining
- ❖ 21% are not satisfied and hence they don't suggest to others.

INTERPRETATION:-

Maximum number of respondents will you suggest this brand to your friends

3.11. Do you think Samsung is a powerful brand?

S.NO	Response	Respondents	
		Numbers	Percentage
1	YES	60	60
2	NO	40	40
Total		100	100%



Data ANALYSIS:-

- ❖ The above table 11 shows that 60% of the people responded that Samsung is a powerful brand, while the remaining
- ❖ 40% of the respondents told that other brands are now acquiring market more than Samsung these days.

INTERPRETATION:-

Maximum number of people's think samsung is a powerful brand

3.12. Was the visit/purchase pleasant at Reliance Digital?

S.NO	Response	Respondents	
		Numbers	Percentage
1	YES	70	70
2	NO	30	30
Total		100	100%



Data ANALYSIS:-

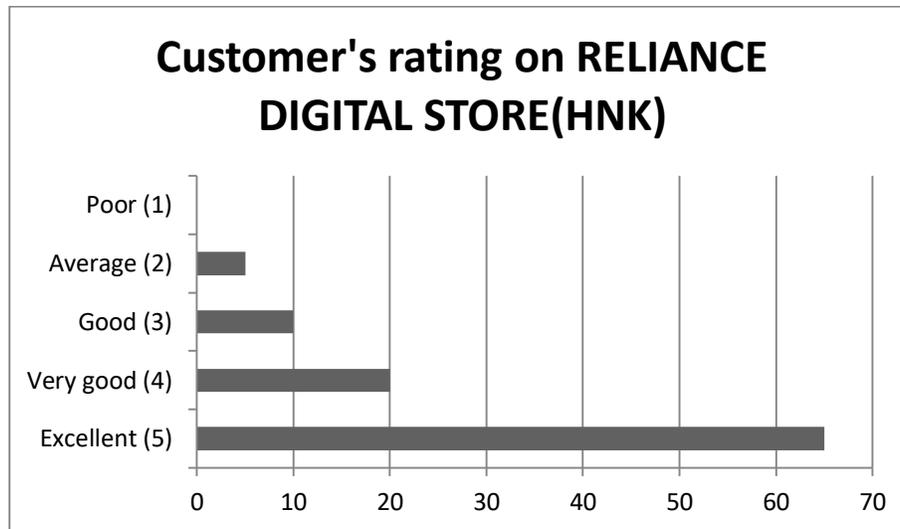
- ❖ The above pie chart 12 shows that about 70% of the people say that shopping/visit/purchase at RELIANCE DIGITAL STORE (HMK) was pleasant enough and the staff members of the store also responded well to them. While the remaining
- ❖ 30% of the visitors say that it wasn't so satisfactory visiting the store because they didn't get the product they were looking for

INTERPRETATION:-

The number of people's are saying the visit and purchase pleasant at Reliance digital

3.13. Please rate store service experience?

S.NO	Response	Respondents	
		Numbers	Percentage
1	Excellent (5)	65	65
2	Very good (4)	20	20
3	Good (3)	10	10
4	Average (2)	5	5
5	Poor (1)	0	0
Total		100	100%



Data ANALYSIS:-

- ❖ The above chart shows the ratings which customers gave to the RELIANCE DIGITAL STORE (HNK), 65% of the customers rated 5 out of 5,
- ❖ 20% rated 4 out of 5 and 10% of them rated 3 out of 5 and the remaining
- ❖ 5% gave a rating of 2 out of 5. It is observed that no customer gave the store as a poor rating.

INTERPRETATION:-

The number of people's saying excellent is rate store service experience

CHAPTER-IV

FINDINGS, SUGGESTIONS AND CONCLUSIONS

SUMMARY

FINDINGS:

1. It is found that discounts and offers will have a greater impact on the purchasing power of the consumers.
2. Most of the consumers brought the products from their convenience stores.
3. Next to Sony Smart TV majority of the consumers preferred to buy Samsung Smart TV.
4. Samsung Smart TV purchases are higher when compared to the other brand's Smart TVs.
5. Most of the consumers rated satisfactorily when asked about the features, price and appearance of the Samsung Smart TV.
6. Majority of the respondents preferred to have branded TVs.
7. It is also found that Samsung is the most preferred brand when compared to others.
8. The sales of other branded TVs are comparatively little poor.
9. The company did not have any scheme for off-season.
10. Customers want to check the product physically before buying it.

SUGGESTIONS

1. The sales of TVs with higher rates are little poor. Some precautions should be taken to avoid this problem.
2. The company/organization did not have proper scheme for middle class customers. It should provide some schemes for them.
3. As there are no proper schemes on products, they have no other chance and they plan to buy it in mere future.
4. Increase the offers and schemes on products. Schemes like installment method of payment with any bank.
5. Supply more number of attractive company advertising posters and boards to the retailers.
6. The company/organization should see that the servicing and repairs is done in such a way that there are no unsatisfactory answers from the customers.

CONCLUSION:

There is a revolution taking place in distribution with the entry IN THE METRES AS WELL AS SMALLER CITIES AND TOWNS, OF SELF SERVICE stores, super markets, shopping malls, departmental stores, chain stores and information technology. But that does not mean that 'morn and pop' stores will die. What will certainly happen is that many will become spruced up. At the same time, direct selling by mail order, and door to door, will see tremendous growth. Already, a recent entrant like AMAZON, FLIPKART has crossed more than Rs100 cores in turnover and is expecting faster growth, especially as they prepare to tap rural and mass markets.

Foreign brands will dominate most Indian consumer products. Indian brands that are in niche markets have a better chance of surviving and growing. So do those that have already reached large size. Indian business have to overcome their history of past short term thinking.

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3. <http://www.samsung.com>
4. <http://www.wikipedia.com>

QUESTIONNAIRE

NAME

Phone number

3. Which income group (per month) do you fall into?

- 15000-20000
- 20000-25000
- 25000-30000
- above 30000

4. Are you aware about SAMSUNG smart TV?

- YES
- NO

5. If YES! then how you come to know about the brand?

- News paper advertisement
- magazine advertisement
- hoardings
- through a friend/relative

6. Have you ever used this brand?

- YES
- NO

7. If YES! then which product did you use?

- smart tv
- mobile phone
- air conditioner
- any other

8. Do you have Samsung smart TV at your home?

- YES
- NO

9. While buying the smart TV which of the following factors is more important to you?

- price
- brand
- offer
- features/specifications

10. Is the smart TV used by you is safe and vision free to your eye?

- YES
- NO

11. How do you rank the Samsung smart TV?

- excellent
- good
- average

poor

12. Will you suggest this brand to your friends who are not using this?

YES

NO

13. Do you think Samsung is a powerful brand?

YES

NO

14. Was the visit/purchase pleasant at Reliance Digital?

YES

NO

15. Please rate store service experience?

1 2 3 4 5

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

WARANGAL URBAN



**Impact of television advertising on consumer behavior
Towards four wheelers in Telangana State**

(2020-2021)

Study Project

Submitted by

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2. N.Lavanya	H.T.No. 006192035	B.Com III year
3. SD. Jayeed	H.T.No. 006192041	B.Com III year
4. V.Pavan	H.T.No. 006192044	B.Com III year
5. MD. Moimuddin	HTNo. 006192031	B.Com III year
6. N.Harish	HTNo.006192033	B.Com III year
7. N.Sravanthi	HTNo.066192036	B.Com III year
8. P.Naga Raju	HTNo. 006192038	B.Com III year
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Impact of television advertising on consumer behavior Towards four wheelers in Telangana State

Abstract

This study had been conducted to know the memory of various four wheelers brands through television advertising. A close ended questionnaire had been developed for empirical verification with a sample size of 230. It is found that television had an impact on brand recognition by consumers towards various brands of cars. The major finding is that timing of television advertisement and channel for airing are important for marketers. The frequency of airing television advertisements of four wheelers enhances the brand image. The managerial implications are described in this paper.

Keywords: Consumer behavior, advertising, purchase behavior, automobiles, durable products

Introduction

Automobile industry plays a vital role in movement of mankind from one place to another. It is impossible to imagine the world even for a moment without movement of wheels. Indian automobile industry is one among the largest automobile industries across the globe. The demand for automobile had increased along with economic development of nation from the past few decades. By 2030 India may become the leader in the automobile industry with its production and consumption capacity. The automobile industry had initiated its journey towards electric cars. Automobile exports grew 14.50 per cent during financial year 2019. It is expected to grow at a compound annual growth rate (CAGR) of 3.05 per cent during 2016-2026 (IBEF, n.d.).

In addition, several initiatives by the Government of India and the major automobile players in the Indian market are expected to make India a leader in the two-wheeler and four-wheeler market in the world by 2020. Major regulatory interventions, such as the accelerated transition from BS IV to BS VI, adoption of electric vehicles, safety rules and stringent vehicle standards are leading to a shift in vehicle technology. This is creating significant challenges, not only for automotive industry but also in related sectors such as energy, oil & gas, transportation, and urban development (PWC, n.d).

Research Objectives

1. To study the association between occupation and awareness on brands in television advertising with regard to four wheelers.

2. To know the various brands memorized by audience after watching television advertisements.
3. To study the impact of personal norms, social norms and attitude on purchase intention towards four wheelers.

Scope of the Study

The automobile industry is large and many companies provide various categories of products. For this study only four wheelers (cars) have been considered. The automobiles are advertised in various modes but only impact of television advertisements is considered in this research study. The consumer behavior with regard to Telangana State had been described in this research study. Therefore the results cannot be generalized to other geographical locations.

Literature Review

Ojha (2018) had mentioned that transportation facilities, life style and income are primary factors influencing the behavior of consumers towards four wheelers. Bhattacharjee (2014) had described the economic environment of India had positive impact on consumers and demand for luxury products like four wheelers and other automobiles for personal use had increased in the recent decades. Many global automobile companies have entered into India market by anticipating potential demand for four wheelers.

Brennan et al (2015) had performed content analysis to know the trend of advertisements in news papers. The advertisements settings display the stereotypic behavior of gender according the product. McMillin (2015) had explained that life of people in the economy is shown in television advertisements. Further the environment in the advertisements has an impact on trust of consumers towards the brand. Maheshwari et al (2017) had used Delphi technique to analyze the effectiveness of advertising in television with regard to advertisements.

Brasel and Gips (2014) had discussed about the role of subtitles in advertisements on brand recall in television advertising. It is found that subtitles in same language enhance the effectiveness of television advertisements. When there is large difference between the preceding advertisements and current advertisement then audience observes the advertisement. Hence it is important for the marketer to know the preceding advertisement information for selecting the time slot of advertisement (Jeong, 2017).

Wilbur (2016) had conducted a study using set-up box information and found that movie advertisements are negatively associated by viewership and advertisements related to clothing, websites and insurance are positive associated. It is also found that advertising viewership is influenced by time like more viewership during evening and rainy evenings. Jerath and Pandey (2015) the location and gender has an impact on attitude and behavior towards the content in the advertisement.

According to Prieler et al (2010) the celebrity endorsement is important for consumers with regard to durable products. Khairullah and Khairullah (2013) had found that blend of Eastern values and Western values in advertisement are having positive impact on consumer behavior for modern products. Conley (2016) had described about the impact of automobile industry on the environment. The advertisements of automobiles influence the consumers to think about product and the environment.

Research Methodology

A structured closed ended questionnaire had been used for collecting primary data. The respondents are selected with non probability sampling method. It is essential for respondent to have knowledge about automobile with regard to four wheelers for participating in the survey. The statistical tools used for data analysis are multiple response analysis, regression, cross tabulation and frequency analysis. All the respondents are male with an average age of 34.78 years. Secondary data had been gathered from books, journals and electronic sources. The recent television advertisements are viewed to gain knowledge about advertisements of various four wheeler brands.

Data Analysis

The sample size for the study is 230 and out of the total respondents' majority of the respondents are having driving license. The large portion of the respondents have own car and they watch television advertisements of four wheelers. Majority of respondents are having income between 20,001 to 40,000 INR as per Table 1. Many of the respondents are employees and next majority group are having own business with regard to occupation.

Table 1: Profile of respondents

Variable	Characteristic	Frequency
Brand in Memory	Mahindra	120
	Toyota	82
	Tata	60
	Maruti	104
	Others	94
Driving License	Yes	196
	No	34
Own Car	Yes	184
	No	46
Car Advertisements	Watch completely	36
	Sometimes	138
	Can't say	56
Income	Less than 20,000 INR	46
	20,001 to 40,000 INR	104
	Above 40,000 INR	80
Occupation	Employee	116
	Business	79
	Others	35
Total Respondents		230

(Source: Primary Data)

Table 2: Multiple Response Analysis for Brand Frequencies

		Responses		Percent of Cases
		N	Percent	
Brand in Memory ^a	Mahindra	121	25.7%	52.6%
	Toyota	86	18.3%	37.4%
	Tata	64	13.6%	27.8%
	Maruti	110	23.4%	47.8%
	Others	90	19.1%	39.1%
Total		471	100.0%	204.8%

a. Dichotomy group tabulated at value 1.

(Source: SPSS Output)

Interpretation

The multiple response analysis is performed on the primary data by giving dichotomous values to each option for the item related to awareness on brand. For this question the respondent can select more than one option therefore multiple responses had been implemented through SPSS software. It is observed that Mahindra brand had been remembered by majority of the respondents. After Mahindra the respondents have opined that they remember the advertisement of Maruti brand. Overall there are 471 responses from 230 respondents and 39.1 percent have remembered other brands of four wheelers advertisements of other brands as per Table 2.

Table 3: Brand in Memory versus Occupation Cross-tabulation

			Occupation			Total	
			Employee	Business	Others		
Brand in Memory ^a	Mahindra	Count	40	46	35	121	
		% within \$Brand	33.1%	38.0%	28.9%		
	Toyota	Count	40	34	12	86	
		% within \$Brand	46.5%	39.5%	14.0%		
	Tata	Count	5	35	24	64	
		% within \$Brand	7.8%	54.7%	37.5%		
	Maruti	Count	64	23	23	110	
		% within \$Brand	58.2%	20.9%	20.9%		
	Others	Count	59	20	11	90	
		% within \$Brand	65.6%	22.2%	12.2%		
	Total		Count	116	79	35	230
	Percentages and totals are based on respondents.						
	a. Dichotomy group tabulated at value 1.						

(Source: SPSS Output)

Interpretation

Among the responses for Mahindra majority of the people with own business have remembered the advertisement in television. For Toyota brand many employees approximately 46 percent have remembered the advertisement. For TATA brand the 54.7 percent of total responses are from respondents with own business as per Table 3. For Maruti the majority is from employees for remembering the advertisement. Approximately 65 percent of respondents who have remembered advertisements of other brands are employees.

Table 4: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	5.452	0.354		15.416	0.000
	Personal norms	0.196	0.045	0.250	4.333	0.000
	Social Norms	-0.135	0.034	-0.224	-3.917	0.000
	Attitude	0.356	0.055	0.367	6.526	0.000

a. Dependent Variable: Purchase intention

(Source: SPSS Output)

Hypothesis testing

H1: The personal norms have positive impact on purchase intention for four wheelers.

H2: The social norms have positive impact on purchase intention for four wheelers.

H3: The attitude has positive impact on purchase intention for four wheelers.

Interpretation for hypothesis testing

H1 is rejected because the significant value for personal norms is 0.00 (less than 0.05) as per Table 4. Hence personal norms of respondents are having positive intention to own four wheelers in future. H2 is rejected because the significant value for social norms is 0.00 as per Table 4. But beta value is negative therefore social norms have negative impact on purchase intention for four wheelers. H3 is accepted because significant value for attitude is less than 0.05 as per table 4. Therefore attitude towards television advertisements has positive impact on purchase intention towards four wheelers.

Discussion

The television advertisements are frequency watched by respondents. Majority of the respondent with driving license and having four wheelers are watching television advertisements of cars. The brand image of four wheelers is being remembered by respondents. Hence it can be stated that television advertisement has positive impact on purchase intention of consumers. Mostly individual decide at the personal level to watch advertisements of cars in television. The television advertisements of all the selected brands in this study are effective. The occupation has an impact on memory of brands of various cars. It is observed that Mahindra is mostly watched by businessmen and employees are remembering Maruti advertisements. Hence according to personal requirements consumers keep the brand image in their memory. The TATA brand is remembered by business men and employees.

Managerial Implications

The appeal of advertisements is different to different market segments. The television advertisements of cars should be modified frequently to appeal for market segments. For example some advertisements show cars for adventurous people and few advertisements appeal as cars for family needs. The marketers need to be clear about the target market segment. The advertisements targeting employees should be aired in evening and weekends. The advertisements targeting business people can be aired at any time. It is also important to study the television viewing pattern of businessmen so that time slot of television advertisement can be selected. The television advertisements should motivate the viewers to follow the brand name on their social networking sites. The companies need to maintain two-way communication by synchronizing television advertisements and social networking sites.

The selection of television channel is important because some channels related to spirituality may not be suitable for modern cars. But movie channels and sports channels are better option for airing automobile advertisements. The marketers need to promote the automobile brands during summer seasons in sports seasons like Indian Premier League (IPL). The television advertisements should be designed to be followed by other popular advertisement. Now a day a trend began where television advertisements are aired during the program time and not during specific break time.

Conclusions

Television advertisements should be developed by associating with professional advertising agencies. The core benefit of the automobile or brand need to be communicated with the target consumers. The advertisements should convey the unique features of the product. The personal norms of consumers need to be enhanced so that they develop positive purchase intention and positive attitude towards the brand. The frequency of advertisement should be increased so that consumers keep the brand image in their memory. It is important to enhance the brand image of four wheelers so that consumers feel appreciated for associating with the brand. Automotive Industry participants must, therefore, reinvent themselves to find new ways of creating and delivering value in the future. India is emerging as a priority market for global automotive companies. Indian companies are globalizing as well.

Future Research

In this study only men have been selected to know their memory of television advertisements related to four wheelers. The future research should be conducted to know the opinion of female respondents for memory of brand image of various automobiles. The impact of family on purchase decision towards cars needs to be done. Future researchers need to consider the factors like mileage, design, automation and brand image on purchase decision of four wheelers. The purchase decision process needs to be deeply analyzed so that insights can be given to automobile manufacturers. The impact of brand on selection of cab services can be analyzed by future researchers.

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KAKATIYA GOVERNMENT COLLEGE, HANUMAKONDA

WARANGAL URBAN



STUDENT STUDY PROJECT

(2020-21)

INNOVATION IN HIGHER EDUCATION

Under the Supervision of

Smt.G.PAVANI,
ASSISTANT PROFESSOR
DEPARTMENT OF COMMERCE
KAKATIYA GOVERNMENT COLLEGE, HANUMAKONDA

Details of the Students Participated in this Study Project

SL.NO	NAME OF THE STUDENT	HALL TICKET NUMBER	CLASS
1	RAMAVATH RAMU	TI2039204764	B.Com (CA) I yr
2	PUNNAM MEGHANA	TI2039204744	B.Com (CA) I yr
3	RACHA SAI TEJA	TI1938511475	B.Com (CA) I yr
4	SANA	TI2038214364	B.Com (CA) I yr
5	SHEIK MADHINA PASHA	TI2063202240	B.Com (CA) I yr
6	SILUVERU AKHILA	TI2038224175	B.Com (CA) I yr
7	THOUTAM RAHUL	TI2038202550	B.Com (CA) I yr
8	THUDUM GOUTHAMI	TI2033201650	B.Com (CA) I yr
9	VALGULA SRISAI NEERAJ	TI2038220724	B.Com (CA) I yr
10	VELPULA NAGARAJU	TI2039302458	B.Com (CA) I yr

INNOVATION IN HIGHER EDUCATION

INTRODUCTION

After independence, there has been tremendous increase in institutions of higher learning in all disciplines. But with the quantitative growth has it been able to attend to the core issue of quality. Quality should embrace all its functions and activities: teaching and academic programmes, research and scholarship, staffing, students, building, facilities, equipment, services to the community and the academic environment. Internal self-evaluation and external review, conducted openly by independent specialists, if possible with international experts, are vital for enhancing quality. Due attention should be paid to specific institutional, national and regional context in order to take into account the diversity and to avoid uniformity. Quality also requires that higher education should be characterized by its international dimensions: exchange of knowledge, interactive networking, mobility of teachers and students and international research projects, while taking into account the national cultural values and circumstances.

USE OF TECHNOLOGIES

The role of technology in higher education is of different importance; it not only equips the students with information but also helps in disseminating access to quality education to maximum number of students. Technology helps overcome the barriers of time and space to promote lifelong learning opportunities for all while encouraging creativity, curiosity and collaboration. Here are the details of some of the new digital initiatives and technologies which are as follows:

1) Swayam and Swayam Prabha

Swayam and Swayam Prabha as Digital Initiatives in Higher Education were inaugurated on 9th July 2017 by Shri Pranab Mukherjee, former Hon'ble President of India under which interactive learning is being provided.

Under this, educational courses are made available online, in which any person / student of the country can register and get education, he also gets the facility to get a certificate, in which the entire study material and test videos are made available free of cost. Swayam Prabha is direct to home facility.

2) National Educational Depository

It is a digital bank with the help of which educational degrees, certificates, diplomas etc. are secured by educational institutions. It is also helpful in solving the problem of verification of fake degrees and certificates.

3) National Digital Library

It is an online library with about 70000 scanned books uploaded and these books can be made available to the people across the country. It is the largest digital library in India.

4) National Mission on Education through ICT

It is a centrally sponsored scheme which aims to increase enrollment rate by 5% and is very helpful in connectivity and content creation. In its objective, the digital divide i.e. bridging the skill gap between urban and rural teachers is a priority. In which attention to proper teaching area for e-learning, providing facility to experiment through virtual laboratory, online testing and verification, availability of online teachers, use of available education satellite EDUSAT and direct to home etc.

5) E-ShodhSindhu

Through this initiative more than 15000 international electronic journals and e-books are made available to all higher educational institutions. It has been constituted by the Ministry of Human Resources, comprising three institutions (UGC-INFONET, N- LIST and INDEST-AICTE).

VIRTUAL LABS

1) E-Yantra

This is an initiative of NMEICT. Here robotics has been used to increase the participation of students in engineering education.

Campus connectivity under NMEICT

Under this scheme, universities have been provided with 1 GBPS bandwidth connectivity and colleges have also been provided with a fixed broadband connectivity. Wi-Fi is now available in all IITA, IIM and NIT institutions.

2) Talk to teacher

It is funded by MHRD to provide free admission to selected undergraduate and postgraduate courses.

3) E-Vidwan

It is related to the information and library network and it receives financial support from NMEICT as well as support in the form of expert database and national researchers etc. Its main objectives are as follows:

- a) To collect academic and research documents of scientists, faculty and research scientists working in leading academic and R&D organizations in India and abroad.
- b) Providing information to collaborators, funding agencies, policy makers and research scholars in the country.
- c) Identifying peer reviewer to review articles and research proposals.
- d) To provide opportunities for information exchange and networking among scientists.

4) Sakshat Portal

Adequate amount of educational resources, scholarships, testing, high availability and discussion opportunities have been provided in this portal, to fulfill the desire to know through e-books, e-journals, digital repositories, digital libraries etc. Adequate support is available in it.

5) Lekhika 2007

Lekhika 2007 is developed by the Center for the Development of Advanced Computing in partnership with India's Ministry of Information and Israel's FTK Technology. The objective of this project is to spread computer literacy to the masses in India who do not know Jungle Bhasha.

6) Virtual Technical University

National Mission on Education through ICT with the aim of providing training to U G / P G students with new teachers to set up V.T.U.

7) Education and Research Network

It provides communication infrastructure and services to educational research institutions in India. It is running networking projects like AICTE-NET, Indian Council of Agricultural Research-NET and

UGC-INFONET to provide internet and intranet facilities.

8) Artificial intelligence(AI)

One technology that brings a great potential for higher education to achieve these benefits is artificial intelligence (AI). AI is driving new ways of learning, teaching and learning, and it also transforms society in ways that present new challenges for educational institutions. It widens the skill gap, it equalizes learning opportunities.

9) Online learning

Online learning has become a more popular medium of education in the current global corona era. Online learning is a broad term that includes multiple learning methods, such as blended learning and eLearning. It is a subcategory of digital learning which simply means the use of online tools to learn.

This type of learning takes place in non-traditional settings, enabling students to engage in learning regardless of time, distance, or space constraints. In other words, the lecturer and the student do not need to be in the same room to learn. The nature of online learning, as well as technological advancements, explain the reasons why it is becoming so prevalent. Online learning is fueled by the advent of high-speed internet, which facilitates ubiquitous connectivity. This coupled with virtual communication and virtual reality technology, means that lecturers can deliver online-only live lectures to students in remote locations. The use of online-only courses has gained momentum in recent months and appears to be accelerating even after the COVID-19 dust has settled.

10) Virtual Reality

Virtual reality has the ability to isolate the learning experience from the physical environment of the students, allowing learning in the real world that is not possible elsewhere. As this immersive technology develops, educators are increasingly looking for ways to incorporate VR into pedagogical approaches as it benefits students. Increased engagement and motivation, exploratory and contextual learning, and experiential learning opportunities that might otherwise be inaccessible are just some of the costs provided by VR.

Many universities are using VR directly to appeal to students—be it virtual campus tours, “Day in the Life” VR videos, or showcasing virtual learning as part of the curriculum. The technology helps make what would traditionally be done via a brochure come alive. Universities can utilize VR as a great way to effectively communicate key teaching concepts, as well as exhibit research findings, especially for people from different courses. VR could be a key aspect in data presentation to help its students and its audience truly understand research results and findings.

11) Massive Open Online Course(MOOC)

Information and Communication Technology has become a vital resource in the field of Education and has started revolutionizing the process of teaching and learning. Technology has significant effect on the education system from many years. In academics, the knowledge transfer is used as the building block and technology is proving to be quite useful for this purpose. Technology changes the way teachers teach and offering educators effective ways to reach different types of learners and assess student understanding through multiple means. When technology is effectively integrated into subject areas, teachers grow into roles of adviser, facilitator, content expert, and coach. In the present era MOOCs, OERs and blended learning are very emerging concepts in higher Education.

The MOOC is considered on the one hand as a panacea for education and on the other as a defilement of the sanctity of the higher education tradition. A MOOC may be patterned on a college or university course or may be less structured. The rapid growth of OER has offered various new prospects for teaching and learning. Due to

their possibility and assurance to prevent geographical, demographical and economical barriers of education and to encourage life-long learning and personalized learning OER has achieved very high attention. Blended Learning refers to mixing of different learning environments which integrate new ideas with prior knowledge in order to make sense, meaning, reconcile a discrepancy and curiosity. They construct their own meaning for different phenomena which they learn through technology. The combination of face-to-face (traditional) and computer-mediated instruction (online with the assistance of educational technologies using computer, cellular or iPhones, Satellite television channels, videoconferencing and other emerging electronic media, in order to optimize learning by applying a number of learning technologies to contest various learning styles is referred to as blended learning. This workshop will be a great starting point for effective teaching in the 21st century learning environment. The workshop also leverages Moodle's unique capacity to seamlessly bring together instructional materials, dynamic activities, social interaction, and student management functions.

MOOCs are open online courses designed to cater to a large number of participants and provide free access to students, anyone, anywhere, as long as they have an internet connection. Popular online courses Building on the foundation of MOOCs, MOOCs have made a strong outreach in the education sector. Today this revolutionary concept is giving a new shape to the higher education model.

The benefits of MOOCs are many. First, unlike traditional online courses, MOOCs come with the benefits of unlimited enrollment, low requirements, and are accessible globally. Second, MOOCs are being offered at minimal cost, so they have proven to be the safest bet to turn the tide of the enormous cost of education.

Another interesting fact is that MOOCs are not fixed in the traditional semester model of universities. This means that students can start a course at any time and can be of any length. Better still, most courses are short and highly focused on a specific topic. This makes them a compelling prospect for learners who wish to gain a deeper understanding of a field.

Top universities are increasingly introducing MOOCs not only to stay ahead but also to improve access to education. In 2019 alone, MOOC providers launched approximately 2,500 courses, 170 micro-credentials and 11 online degrees. Overall, the MOOC movement has so far reached over 110 million learners excluding China (Shah, 2019). Companies such as Coursera, edX, Udacity, FutureLearn and SWAYAM are partnering with leading institutions to solve the most pressing educational needs of modern students.

12) Video Conferencing Software

Video conferencing software is of great importance in the modern education system, it allows participants to organize or participate in meetings via the Internet. It is also known as online meeting software or simply video conferencing. It enables remote meetings based on VoIP, online video, instant messaging, file sharing and screen sharing.

Web and video conferencing tools have become fundamental for various types of webinars organized by many institutes and universities during the COVID period. This software enables remote employees, students, teachers and partners to connect easily and frequently. Typical uses for web conferencing software include:

- presentations or webinars
- conference calls
- Video meeting with multiple participants
- Ongoing Product Demos and Training
- 1-on-1 meetings with remote employees
- face to face customer support

The top three benefits of using web and video conferencing software are:

- advanced communication
- low travel cost
- increased efficiency

Video Conferencing Software is Useful in High-Quality Audio & Video, Chats, Screen Sharing, Multi-Device Support, Easy-to-Use Interface, Meeting Recording etc. Zoom, Google Meet, To go meeting, join. Me, Webex meetings etc are the high rated software for the purpose.

13) Changing Trends in Fee Deposition: An Easy Way

To keep higher education available to maximum students, there have also been many changes in the fee depositing system, which is optional, if any student has problem in paying fees by visiting the institution, then he can also deposit his fee by online transactions through e-banking.

OTHER EFFORTS TO PROMOTE HIGHER EDUCATION

1) Focused system on quality of education and admission rate

At present, a very systematic admission method is being adopted to improve higher education, in which the admission process is being completed through entrance exam, merit system and interview etc. Keeping the admission rate in mind, presses are also being made to increase admission in education every year.

2) Increase in female enrollment in higher education

According to the Higher Education Survey the total enrollment in higher education is 38.5 million - 19.6 million boys and 18.9 million girls. The Gross Enrollment Ratio (GER) for the age group of 18-23 years in higher education institutions in India is 27.1

3) Different kind of Fellowship and scholarship

The objective of the fellowships and scholarship is to encourage the students from various sectors specially ST students, a section of society with the lowest literacy levels in the country, to acquire higher education in the form of fellowships to pursue M. Phil and Ph.D. Courses, with a view to create qualified professionals to hold posts of teachers/professionals and other higher stages of employment. To encourage higher education, there is also a system of fellowship scholarship, due to which the opportunities of pursuing higher education have also been rapped for such students who lack the means, such as various types of fellowships for Scheduled Castes, Tribes and Women candidates.

4) Skill Development

Inclusion of study materials related to the skill development has become necessary for higher education in current scenario. In the present transition period, changes are taking place in the society. In accordance to the emerging needs, the objectives of education have also been affected. In today's time, education needs innovation. Modern technology becomes a catalyst for educational innovation. In the present time, we believe, without computer education, a person is considered as equivalent to uneducated. In daily life, the use of computer has increased in every aspects and it has become essential for education as well online education, a innovation getting popularity and it is only possible through the help of technology during corona pandemic we have noticed that this become a great help for teacher as well as students. So we can see it become important to make online education accessible to every student.

At present, reforms have been made in the modern education system to increase productivity through education, for social and national integration, modernization, strengthening of moral, social and spiritual values nationwide. Now the new education policy 2020 has also become functional and presented some fundamental principles in the higher education system, which are

very commendable and important, mainly by identifying and promoting the unique abilities of each student, both teachers and parents should be encouraged to promote the holistic development of each student. To motivate in academic and non-academic field, most commendable step is Flexibility, allowing learner the flexibility and flexibility to choose their own learning paths and programs and thus be able to choose their own path according to their talents and interests. There are some significant highlights of the **NEP 2020** are,

- 1) A single regulator for **higher education** institutions,
- 2) Multiple entry and exit options in degree courses,
- 3) Discontinuation of M.Phil. programmes,
- 4) Low stakes board exams,
- 5) Common entrance exams for **universities**.
- 6) No hard separations between arts and sciences
- 7) Multidisciplinary and a holistic education
- 8) Emphasis on conceptual understanding
- 9) Creativity and critical thinking
- 10) Ethics and human & Constitutional values
- 11) Promoting multilingualism and the power of language
- 12) Life skills such as communication, cooperation, teamwork, and resilience
- 13) Focus on regular formative assessment for learning
- 14) Extensive use of technology in teaching and learning, removing language barriers, increasing access for *Divyang* students, and educational planning and management
- 15) Respect for diversity and respect for the local context in all curriculum, pedagogy, and policy, always keeping in mind that education is a concurrent subject;
- 16) Full equity and inclusion
- 17) Synergy in curriculum across all levels of education
- 18) Teachers and faculty as the heart of the learning process
- 19) 'Light but tight' regulatory framework to ensure integrity, transparency, and resource efficiency of the educational system through audit and public disclosure while encouraging innovation and out-of-the-box ideas through autonomy, good governance, and empowerment
- 20) Outstanding research
- 21) Continuous review
- 22) Substantial investment in a strong, vibrant public education system

Currently, the educational development of Telangana is being carried out by the Rashtriya Uchchar Shiksha Abhiyan. This organization has taken various initiatives such as establishing a new education system, establishing a faculty member network, and improving the infrastructure.

- 1) Model degree colleges
- 2) Infrastructure grants to universities
- 3) Infrastructure grants to colleges
- 4) New vocational colleges,
- 5) Faculty reforms
- 6) Initial grants and
- 7) Up gradation of colleges into universities.

8) Starting of DigitalLibrary

In the present era, the changing standards of education and the efforts being made for educational development must be appreciated. There is a lot of contribution of teachers in implementing schemes, policies and practical knowledge distribution focused on the development system of education, online education has its own importance as a new form of education. In many circumstances, the benefit of new education mediums has also been found and sometimes due to lack of awareness, lack of resources and lack of cooperation, it seems very difficult to take education through onlinemediums.

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KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA

WARANGAL URBAN



A study on - LADY ENTREPRENEURS DEVELOPMENT IN TELANGANA

(2020-2021)

Study Project

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ABSTRACT

A new Leaf in entrepreneurial history Voluntary organizations play an increasingly more important role in support of developmental process in the world. Most importantly, the civil society activity has covered new fields, like education, vocational rehabilitation, environment, but not many to support women entrepreneurs in establishing small and medium economic initiatives. In Andhra Pradesh, the number of NGOs has been notably mushroomed. The sustainable and successful development of every society is the one that is based on the large venture of available and organized human resources. Mrs. Rama Devi and her team realized the importance of institutional and transparent mechanism of action, with many innovative ideas to help other women who are in need of information to start up and support in establishing their own business or enterprises. The Centre for Entrepreneurs Development (CED) was inaugurated on 13th December 2003 by his Excellency Dr. APJ Abdul Kalam , the President of India. CED aims at initiating training and research on problems on development that must be solved for realizing planned objectives. CED conducts seminars on topics oriented towards Industrial Establishments.CED is associated with State Level Entrepreneurship Development Organizations, NGO's Voluntary Organizations, Educational Institutions, Financial Institutions, Business Association & EDI Ahmedabad.

History:

A new Leaf in entrepreneurial history Voluntary organizations play an increasingly more important role in support of developmental process in the world. Most importantly, the civil society activity has covered new fields, like education, vocational rehabilitation, environment, but not many to support women entrepreneurs in establishing small and medium economic initiatives. In Andhra Pradesh, the number of NGOs has been notably mushroomed. The sustainable and successful development of every society is the one that is based on the large venture of available and organized human resources. Mrs. Rama Devi and her team realized the importance of institutional and transparent mechanism of action, with many innovative ideas to help other women who are in need of information to start up and support in establishing their own business or enterprises.

The basic idea of commencing an association exclusively for women is to disseminate information regarding the start up procedures for any business. The main aim o ALEAP (Association Of Lady Entrepreneurs of India) is to support women to be economically independent and guide them in converting their idea into business. As a result of much research and hard work, ALEAP was conceptualized and was inaugurated by Sri. K. Vijayabhaskara Reddy, then Honourable Chief Minister, Govt. of A.P. on December 18th 1993. ALEAP was the dream of women entrepreneurs, who wanted to train, guide, support and enhance the lives of other women. The Association of Lady Entrepreneurs of India (ALEAP) was established with an aim to bring Women Entrepreneurs trying to help each other. From the past 20 years ALEAP is striving to make the

state of Andhra Pradesh empowered through promoting women entrepreneurship. ALEAP's aim is to make the women economically independent, through motivation, counselling, training and hand holding. Accordingly, during the last two decades, increasing number of women have entered the field of entrepreneurship and also they are gradually changing the face of economy of Andhra Pradesh and Telangana. Today ALEAP is ISO 9001-2008 certified organization. ALEAP developed India's first Industrial Estate exclusively for women in Hyderabad. ALEAP is the first organization in India, got the Certificate of Accreditation with Gold Grade from National Accreditation Board for Educational Training (NABET) , The Quality Council of India (QCI) and Ministry of MSME , Govt. of India & GIZ, Germany in March 2015. Centre for Entrepreneurship Development (CED) has been set up as an undertaking of ALEAP, to give the necessary training to the upcoming entrepreneurs.

Objectives of the study:

1. The main objective of the study is to bring out the organizations which are giving encouragement to women entrepreneurs.
2. And also to know the various forms of help is being provided to the needy entrepreneurs.
3. To take participation in the programmes. As such, one of the authors, has participated in training programme at Ramagundam in giving training and guidance.
4. To offer some suggestions for further development of the women entrepreneurs.

Methodology:

Most of the primary data is collected from the participants/ beneficiaries of the training programmes. The secondary data is also collected from the website of the respective organizations. Since the author also participated in the programme, participatory method is also used for the study.

Limitations of the study:

The study is mostly limited to the Ramagundam Centre only. It is also noticed that most of the trainees are not actively taking the role of the entrepreneurs in future.

Facilitator Business Development Cell (FAB)

FAB CELL was introduced in the year 2006 to facilitate women with required information in a single window. ALEAP provides counseling to Women entrepreneurs through Facilitator and Business Development Cell (FAB CELL) and this enables them to choose a business activity in which they possess interest. Counseling and motivation are the key areas in FAB Cell. This cell provides all required information on government schemes. The Policy guidelines, Industry specific incentives and other details. This Cell is established in collaboration with the Ministry of SSI, Government of India under NEDB Scheme. The prospective entrepreneur is given all the material to convert their idea into Business. FAB Cell provides information about: 1. Source of technology 2 .Financial requirement 3 .Government schemes and Incentives 4 .Certifications 5. Market Demand and Supply

Centre for Entrepreneurship Development (CED)

CED was inaugurated on 13th December 2003 by his Excellency Dr. APJ Abdul Kalam , the President of India. CED aims at initiating training and research on problems on development that must be solved for realizing planned objectives. CED conducts seminars on topics oriented towards Industrial Establishments. CED is associated with State Level Entrepreneurship Development Organizations, NGO's Voluntary Organizations, Educational Institutions, Financial Institutions, Business Association & EDI Ahmedabad. CED acts as a liaison between Government and Entrepreneurs by providing necessary information and helps women entrepreneurs by providing necessary consultancy.

CED conducts EDP, REDP, PMRY, WEDP, EAC's, TOT's, Agri Clinic and Agri Business Development programmes. CED provides follow up services after the training programmes.

OBJECTIVES

- Stimulate and augment the entrepreneurial spirits and skills among women and youth to create new small and medium enterprises. In the private sector.
- Enhance Entrepreneurial values among women and youth and facilitate their choosing Entrepreneurship as preferred career.
- Facilitate introduction of entrepreneurship courses in academic system.
- Promote the development of competent entrepreneurship in strategic industries through research studies and consultancy services.
- Networking with national and international agencies, NGOs and Government organizations for developing & promoting entrepreneurship, facilitating technology transfer, product development, partnering and market accessibility.
- To be a centre of learning for trainers – motivators on entrepreneurship development.
- Capacity building \ enhancement of entrepreneurship development organizations and NGOs
- Create a conducive business environment for emergence, sustenance and growth of the enterprises in general and specific Micro, Small & Medium Enterprises (MSMEs) in particular.
- Support by active research and consulting for prospective and existing Business to strategic planning and managing growth.
- Providing support and facilitation services to prospective and existing entrepreneurs in business related activities.
- To become a resource centre to offer capacity building initiatives in developing countries and neighbouring countries in the area of Entrepreneurship Development, Women empowerment and micro finance development and small business management.
- Build capacities of country level agencies for institutionalization of Entrepreneurship.
- Integrate/Converge various approaches in Entrepreneurship Development in different regions to facilitate a visible impact and internalization.

ALEAP Credit Guarantee Association (ACGA)

To help and support the entrepreneurs financially, ALEAP has come up with Aleap Credit Guarantee Association (ACGA). ALEAP is the 1st Organisation, which has taken initiative to implement the scheme in the state of Andhra Pradesh. For this a separate Company was promoted by ALEAP in the name of “ALEAP Credit Guarantee Association.”

ACGA is a company incorporated under section 25 of companies Act. 1956 for the purpose of implementation of Mutual Credit Guarantee Scheme. ALEAP Mutual Credit Guarantee Scheme was formally launched by Honourable Minister for Major Industries, Govt of A.P. on the occasion of ACGA meet between ACGA, Andhra Bank & CGTMSME. ALEAP has the recognition of being the 1st industry Association to implement the MCGS in India.

OBJECTIVES

- To implement Mutual Credit Guarantee Scheme through corpus contributions to be made by its members to the small scale industrial units including service industries.
- To identify genuine entrepreneurs who require credit assistance.
- To enable Entrepreneurs access finance from Banks/financial Institutions without collateral security.
- To promote MSME units by improving Credit flow to Small and tiny sector in a cost effective manner.
- Enhance comfort level of bankers and provision of technical services in choosing entrepreneurs.
- To build a platform for Bankers and Entrepreneurs to solve various issues pertaining to Credit.

Aleap Industrial Estate at Kukatpally, Gajularamaram

ALEAP developed the First Women Entrepreneurs Industrial Estate in India at Gajularamaram, R.R. District, Hyderabad with the support of Government of India under IID scheme. The estate has all the required Infrastructure facilities to transform women into excellent entrepreneurs. Central Government and State Government supported to develop the best Industrial estate in Hyderabad. Today there are more than 103 industries established and run by women entrepreneurs. The industrial estate is provided with all the required infrastructure facilities like electricity, water, drainage etc. The electricity is provided free of cost to the entrepreneurs by ALEAP.

Today all the industries are being operated successfully without any hurdles by women. The following are the different areas in which industries are being operated:

- Food Processing
- Garments
- Packaging & printing
- Pharmaceuticals
- Bio-Technology
- Plastics
- Electronics
- Buildings Materials
- Diagnostics
- Paper cups
- And other services industries

Other Additional Services Being Provided to the Members:

- One Stop Service provided by ALEAP made it possible for entrepreneurs to set up Industry without any loss of time on paper work, permissions and procedural difficulties are minimized.

- As ALEAP is having MOUs with Commercial Banks and SFC's, members are able to access Credit without many hurdles.
- Networking & Guidance regarding markets helps women entrepreneurs to penetrate into new Markets with the support of ALEAP.
- Training is being provided in management of the enterprises and Awareness regarding export and quality certifications are imparted to prepare the members for expansion in the Globalize scenario.
- ALEAP's project "EU-India network of Women Entrepreneurs" enabled them to understand the requirements and upgrade their quality standards to meet the Demand of EU markets.

Aleap Industrial Estate at Nandigama, Medak District (Proposed):

ALEAP is in the process of developing ALEAP Green Industrial Park (AGRIP) in association with GIZ, Germany under Indo-German Development Cooperation in 70 acres of land at Nandigama Village, Patancherumandal, Medak District, bearing Survey.nos. part of 347, 398 to 402, 409 to 420. It will inhabit 147 micro & small industries exclusively for women and create employment for 8000 local people. The proposed MSEs to be set by women entrepreneurs are pollution free, belonging to the sectors of paper, Garments, Jewelry, Electronics, Food Processing etc.

This Green industrial Park will maintain all the international standards. There is a need to promote, develop and adapt appropriate technologies, transfer of proven technologies and demonstration of live technologies, to promote women entrepreneurs in this industrial estate.

Ramagundam Unit:

The Centre for Entrepreneurship Development (CED) has selected 40 female upcoming and interested entrepreneurs from the Mandal Ramagundam and gave one month training at the Municipal Corporation Building at Ramagundam. Some subject experts from finance, industry and marketing are being invited to give lectures and offer practical experience.

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KAKATIYA GOVERNMENT COLLEGE, HANUMAKONDA

WARANGAL URBAN



STUDENT STUDY PROJECT

(2020-2021)

**MONETARY INCENTIVES MOTIVATES EMPLOYEE'S ON
ORGANIZATIONAL PERFORMANCE**

Under the Supervision of

**Smt.G.PAVANI,
ASSISTANT PROFESSOR
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MONETARY INCENTIVES MOTIVATES EMPLOYEE'S ON ORGANIZATIONAL PERFORMANCE

ABSTRACT: *The aim of this research is to ascertain the relationship between monetary incentives and its impact on employee performance. The essence or purpose is also to affirm that monetary incentives is a good motivational tool on employee performance in a society like ours; where the cost of living is very high. It is also to bring to light that monetary incentive alone is not sufficient to motivate all categories of employee to perform better on their job .Employees are a priceless possession in the achievement of organizational goals and to ensure that all hands are on deck, they must be motivated, to inspired as one of the tools employed by management to motivate on inspired employee is incentive.*

KEYWORDS: Monetary Incentives, Motivates, Employee's, Organizational Performance.

INTRODUCTION

One of the major problems facing most employers in both public and private sector is how to motivate their employees in order to improve performance. Economics is largely based on the assumption that monetary incentives improve performance. It is generally believed that effect of monetary incentives is unambiguously positive a large monetary incentive improves employee performance.

The issue of employee performance cannot be over emphasized. The general believed is that employees will not perform to the best of their ability unless they are motivated to do so. Various researchers have come up with various ways to motivate people at work. However, because human beings are different from one another in terms of needs, culture, religion etc. so does what motivate them also varies. Some employees are motivated by financial and other incentives and some non- financial incentives.

Recent studies have shown that a combination of financial and non-financial incentives can motivates employee to perform well on their job. Managers continuously seek for ways to

create a motivating environment where employees will work at their optional levels to achieve the organizational objectives. Work place motivators include both monetary and non-monetary incentives. Monetary incentives can be diverse while having a similar effect on associates. The purpose of monetary incentives is to reward employees for excellent job performance through money. Research shows that desired monetary incentives differ for employees based on career stage and generation. Since human resource is the most valuable resource of any organization, it must activate, train, develop and above all motivate in order to achieve individual and organizational goals.

An individual who has possessed skills, ability and knowledge will not do much without being motivated. However, an individual with skills, ability and knowledge added with motivation is some to succeed. Motivation is the willingness to work. It is the drive and stimulation, which enables individual to perform their work. Some individual defines motivation as money and most people are motivated by money. Monetary rewards as a motivator is high in developing in countries due to high cost of living and low quality of lives which they are facing. Most activities of man is related to making money. To this extent, money is the most critical incentive to works but when money is taken away, how many people will continue to work in Nigeria today? In Nigeria, employee in both public and private sectors are sometimes owed between 3-6 months' salary and yet they have not resigned, but continue to work because they know they will be paid and not because they so much value the job. The truth here is that primarily, people are motivated by economic rewards. It is believed that man, if motivated will go extra mile in satisfying his employer.

LITERATURE REVIEW

The most important resources any organization possesses it people. Therefore, it is also very important for organization to seek for ways to encourage positive attitude in order to strengthen themselves and their profit margin. Organization needs human beings and because human nature though very simple can be very complex too. This makes it a task for organizations to know how to motivate its employees. An understanding appreciation of human nature is a pre-requisite to effectively motivate employees.

MONETARY FACTORS

The monetary motivational factors are connected directly with money or measurable in monetary worth which is provided for better performance. These factors are extremely attractive to employees as they get the benefits quickly and in concrete terms. This part of review of literature which pertains to the monetary factors of

motivation is further segmented as:

- i) **Emoluments**
- ii) **Fringe benefits**
- iii) **Rewards**

Emoluments

Emoluments are compensations an individual receives in exchange for performing an organizational task. It includes direct financial compensation and indirect financial compensation. The objective of the emoluments is to create a system of rewards that is equitable to the employer and the employee alike. It should be adequate, equitable, balanced, cost effective, secure, incentive providing and acceptable to the employees. The various literature reviews on emoluments can be viewed as follows:

Navdeep Kumkar (2011), through his study found that highly motivated and satisfied employees were the core strength for the success of every organization. The study focused on the influence of motivational factors, namely salary, facilities and promotion on the employees' satisfaction level in the organization. On analysis, it was found that among the three variables, salary was found to be the most influencing factor of motivation on employees' performance level.

Muhammad Arshad, Mohammad Safdar & Qamar-u-Din (2012), from their study presumed that better paid employees were more satisfied and highly motivated. A study conducted on the employees motivation in Islamabad, proved that a good combination of positive factors with good salary would increase the motivation level of the work force.

According to the study of Dr. Muhammad Naseer Ud Din (2012), the motivation holds a pivotal role in the teaching and learning process. Among the factors, namely, Economic Status, Relationship with colleagues, Examination stress, Appreciation and anxiety, Reward and incentives, it is found that financial incentives and economic status had more effect on teachers' motivation level.

Renu Sharma (2013) on her study analyzed the impact of different components of compensation on motivation level of employees. The study classified the compensation into five components, namely Basic salary, short-term incentives, long term incentives, benefits and services, and finally perquisites. It was found that short term and long term incentives found to motivate the employees and concluded that the compensation package should include benefits other than performance link pay.

The above literature review related to emoluments concludes that the

compensation the employees receive has a direct effect on their motivation level. Good salary was found to be the top motivating factor over 40 years. Studies had pointed out some differences found in the dispersion of compensation between employees of different types of organization. Performance based bonus and monetary benefits had aligned the action of employees to achieve their goals. A good compensation package can attract the future potential employees and make the recruitment process easier.

Fringe Benefits

Fringe benefits, referred to the benefits and services which an employee enjoys in addition to the salary or wages they receive. They are the substantial part of the salary administration. The purpose of such benefits is offered to retain employees in the organization and keeping absenteeism and attrition rate low. Fringe benefits include pension, paid vacation, health insurance, children educational allowance, housing facilities, subsidized lunch, transportation facilities, child care, etc. The various reviews of literature pertaining to fringe benefits are discussed below.

Nadia Sajjad Hafiza (2011) on her study examined the effect of intrinsic rewards like empowerment, challenging work, appreciation and extrinsic rewards like pay, fringe benefits, bonus and promotion on employee motivation. The study proved that the employees valued the extrinsic rewards mainly the fringe benefits the most.

Waqas Khan (2012), on his study focused on the effects of different components of motivation on employees. According to the study, the compensation was divided into three basic components, namely fixed pay, flexible pay and benefits. On analysis, it was found that the valance benefit component of compensation which includes vacations, severance pay, medical insurance, retirement benefits etc., had more effect on employee motivation.

The above review concluded that fringe benefits have a higher relationship with employee satisfaction on their compensation package as compared to mandatory benefits. When employees get more fringe benefits, their commitment towards the organisation tends to increase. The studies proved that employees gave more importance and preference to the material benefits which are additionally included in their compensation package. The fringe benefits, raise the standard of living of the employees and contribute to enrich the quality of work life.

Rewards

A reward refers to anything that attracts an employee's attention and stimulates him to work. It is an incentive scheme or a program to motivate individual or group

performance. It is most frequently built on monetary rewards, but may also include a variety of non – monetary rewards and prizes. The reward plan is required to be properly communicated to the employees to encourage individual as well as group performance, in order to provide feedback and encourage redirection. The literature review pertaining to rewards is discussed below.

Ong Tze San and Yip Mei Theen (2012) through their study on the insurance company and agency company in Malaysia, found that an appropriate reward system was essential for every organization to achieve its goal irrespective of the company's size, role and position in the industry. The study concluded that the reward system increased the company's financial and non-financial performance level and enhanced its reputation.

Christine Bradler (2013) in an innovative study, focused on the effect of public recognition on employee motivation and experimented whether recognition should be given to all employees or only according to their performance. The study concluded that recognition as a cost-effective motivation tool that increases the average effort to high performance level of the employees.

The above literature review on rewards concludes that the effective reward policies would greatly enhance the motivational level of the employees which in turn leads to increased productivity. Studies had provided that implementation of reward system is essential for achieving the company's goal, regardless of the organization's size or their role and purpose in the industry

TYPES OF MOTIVATION

Intrinsic Motivation

Deci, (1975) defines intrinsically motivated behaviour as those in which a person engages to feel competent and self-determining. It is a self-generated factor that influence people to behave in a particular way. These factors include responsibility, autonomy (freedom to act) interesting and challenging within an individual that gingers the individual to doing something. Intrinsic motivation is evident when people engage in an activity for its own sake, without some obvious external incentive present.

Extrinsic Motivation

This is something external to an individual that gingers the individual to doing something it is what is to or for people to motivate them to act in a particular manner such as reward,

pay-increase, praise, promotion etc.

The Evolution of Motivation

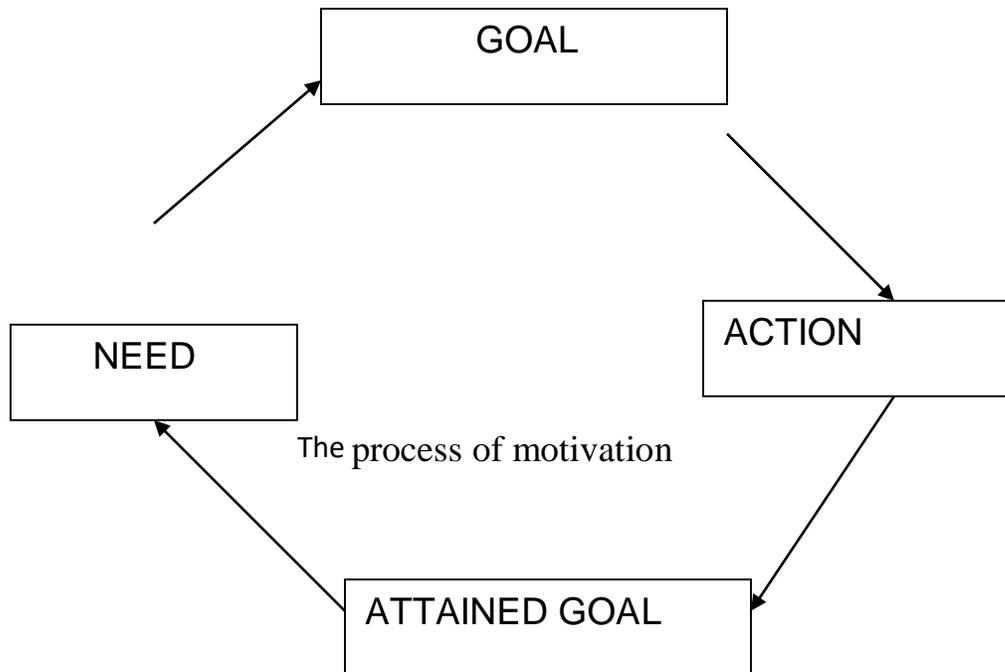
One of the most difficult issues to predict in the work environment is the human behaviour the problem that has always and will continue to occupy the mind of management is productivity. This was what led Taylor in the 1920's to devise a wage incentives system in order to motivate employees to be more productive. His approach however did not work; because he did not understand that employees are also social beings not only economic needs, but also psychological needs.

This led to the Hawthorn experiment which discovered that psychological factors were playing a higher motivational role in high productivity. Since 1940, the behavioral science management

started to focus on need as the primary motivators of behaviour, hence, the concept and practices of motivation became a critical issue in management.

PROCESS OF MOTIVATION

Armstrong (2001) motivation is initiated by the conscious or unconscious recognition of unsatisfied needs. These needs create wants, which are desired to achieve or obtained something. Goals are set, which is believed will satisfy certain needs and wants and a behaviour pathway is selected which is expected to achieve the goal. If the goal is achieved, the need will be satisfied and the behaviour is likely to be repeated the next time a sunile need emerges.



THEORETICAL FRAMEWORK

This study shall provide the reader with a theoretical framework of motivation in organization in general. Various theories have been propounded to explain the role of motivation at work places. These are discussed below.

Mc Clelland's Achievement Motivation Theory

This theory envisages that a person has three basic motivational needs but people differ in degree in which the various needs influence their behaviour. These needs are classified as follows:

Need for Power

It has been observed that people with a high need for power have great conceive with exercise influence and control. Such individuals generally are seeking position of leadership.

Need for Affiliation

Individual with a high need for affiliation usually derive pleasure from being loved to avoid the pain of being rejected by a social group.

Need for achievement

People with a high level for achievement have an increase desire or success and also equal intense fear or failure.

Goal Setting Theory of Motivation

This theory was developed by Murry & Stephen (1979) it states that motivation and performance are higher when individuals set specific goal. When goals are difficult but accepted and when there is feedback on performance. Participation in goal setting is important as a means of setting agreement to the setting of higher goals. Sambo and Mantami (1984) observed that as long as goals are agreed upon, demanding goals lead to better performance than easy ones. Thus, this theory is in line with the concept of Management by Objective (MBO).

Equity Theory

This theory is concerned with the perceptions people have about how they are being treated as compared with others. Motivation have is influenced by an individuals subjective judgement about fairness of the reward he/she gets in relative to the input (which include factors such as effort, experience, and educational qualification) compared with the reward of others. If people feel that they are in-equitably rewarded, they may be dissatisfied, they may reduce the quality and quantity of out put or they may even leave the organization. If people perceive the reward as equitable, they will probably continue at the same level of output. However, if the rewards are perceived to be greater they may work harder. The major problem here is that people may over estimate their contributions and the rewards others receive.

Maslow Hierarchy of Needs Theory

This theory was propounded by psychologist Abraham Maslow, who saw human beings in the form of a hierarchy ascending from the lowest to the highest. He concluded that when one set of need is satisfied, it ceases to be a motivator, Maslow hierarchy of need as follows.

- ❖ **Psychological:** This is the need for food, air, cloth, sex etc. This is a basic need that every one craves for without which life ceases.
- ❖ **Safety:** This is the need for protection
- ❖ **Social:** The need for affection, love and acceptance. It is a well-known fact that every one wants to be loved, accepted and wanted.
- ❖ **Esteem:** That is the need to a stable and high evaluation of one's self.
- ❖ **Self-fulfillment/Actualization:** This is the need to develop potentials and skills to become what one believes he/she is capable of. This theory states that when a lower need is satisfied, the next highest need becomes dominant and the individual's attention is turned to satisfying the higher need. However, the need for self-fulfillment can never be satisfied, because man is an insatiable being. This theory believes that the need for esteem and self-fulfillment provide the greatest impetus to

motivation.

Mc Gregor's Theory of X and Theory Y

Theory X and Y are two sets of assumptions about the nature of human beings.

The theory X Assumptions

- ❖ The average human being has inherent dislike for work and will always seek to avoid it if possible.
- ❖ Sequel to the above most people must be concerned. Controlled, directed and threatened with punishment to get them to put adequate efforts to the achievement of organizational goals and objectives.
- ❖ The average human being prefers to be directed, wishes to avoid responsibility, and has relatively little ambition and want security above all.

Theory Y Assumption

- ❖ The expenditure of physical and mental effort in work is as natural as play or rest.
- ❖ External control and the threat of punishment are not the only means for producing effort towards organizational objectives. People will exercise self-direction and control in the services of objectives to which they are committed.
- ❖ The degree of commitment to objectives is in proportion to the size of the rewards associated with their achievement.
- ❖ That average human being leaves under proper condition, not only to accept responsibility but also seek it.
- ❖ The capacity to exercise a relatively high degree of imagination, ingenuity and creativity in the solution of organizational problems is widely not narrowly distributed in the population
- ❖ Under the conditions of modern industrial life, the intellectual potentials of the average human beings are only partially utilized.

Vroom's Theory

The theory recognize the importance of individual needs and motivation. It acknowledges the fact that individuals have personal goals, which can be harmonized. This theory assumed that value varies between individuals at different times and in different places. For instance, the value people place to money in Nigerian many not be the same in the United Kingdom.

Self-Determination Theory

Self-determination theory was developing by Edward Deci . It focuses on the importance of intrinsic motivation in driving human behaviour. What the individual requires under this theory is an active encouragement from the environments.

CONCLUSION

Based on the research results, one can conclude that as it has been said by various researchers, that monetary incentives alone are not sufficient to motivate employees. Also that a maximum of both monetary and non-monetary incentive should be applied and like the saying goes “variety is the spice of life” Monetary and non-monetary incentives vary in their roles, effectiveness and appropriateness. A balance between monetary and non-monetary incentives should be used to satisfy the diverse needs and interest of employees. Motivation is a complex and individualistic concept and as such there is no best approach to it. The research shows that monetary incentives alone are not sufficient to motivate employees. Pay is important since it affords the provision of the basic necessities of life, but is most important for what it symbolizes to the recipient for money to be used as a motivational tool, managers must study their associates, the conditions under which they work and the task they perform. The value of incentives is determined by what people learn to associate with. According to Imoisili, high achiever do not work for the prospects of making money alone they are motivated by the love of accomplishment, interest in their work and by success itself. However, low achievers will often work for money because it symbolizes something they clearly want.

RECOMMENDATIONS

Based on the findings of the researcher, the following recommendations are suggested:

- ❖ Organisations should not be stereotype in the style or method of incentive put in place
- ❖ Organisation should ensure that their employees are well remunerated in line with an economic environment like ours
- ❖ Employers of labour should employ various types of incentives from time to time and from employee to employee. This could vary from earning commission to holiday package.
- ❖ Organisations should use money as often as possible particularly with employees on lower level.

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A
PROJECT REPORT
AN OVERALL STUDY ON THE
New Trends in Indian banking System –
A comparative study of Public and Private Sector Banks.



In partial fulfillment of requirement for the Award of the Degree of

B.Com

Submitted

By

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ABSTRACT

Commercial Banking has been a hub of the financial system and has played a pivotal role in the economic development. Apart from performing the key functions of providing liquidity and payment services to the real sector and managing bulk of the financial intermediation process, the banking sector has contributed to the process of economic development by serving as a major source of credit to all sections of the economy. The banking structure existing at present in India is the outcome of a process of expansion, reorganization and consolidation. Prior to nationalization, growth of banks was governed purely by economic considerations.

Banks and Financial Institutions are service providing organizations. They serve to a very large number clientele spread all over the country. These institutions provide service through a network of branches and cater to the needs of their customers in different areas with personalized service.

This study on "Impact of Computerisation on Performance of Public Sector Banks" is undertaken with the main objective of examining the impact of computerization in various banking services mainly the view point of Bank customer's and employees. For the purpose of study two public sector banks i.e., State Bank of Hyderabad and Andhra Bank are selected, the in-depth analysis of customers opinions and employees opinions are confined to selected branches in Telangana region of Andhra Pradesh. For the purpose of eliciting opinions of customers a sample of 300 respondents is selected similarly in case of employees, a sample of 100 respondents is selected.

New Trends in Indian banking System – A comparative study of Public and Private Sector Banks.

INTRODUCTION

A brief discussion about progress and trends of Indian banking sector, limitations, chapterisation scheme and review of literature is presented.

Need and Importance of the study

Commercial Banking has been a hub of the financial system and has played a pivotal role in the economic development. Apart from performing the key functions of providing liquidity and payment services to the real sector and managing bulk of the financial intermediation process, the banking sector has contributed to the process of economic development by serving as a major source of credit to all sections of the economy

In the six decades since independence, banking in India has evolved through six distinct phases.

These could be categorized as

- 1) Evolutionary Phase (Prior to 1948)
- 2) Foundation Phase (1948-1967)
- 3) Expansion Phase (1968-1984)
- 4) Consolidation Phase (1985-1990)
- 5) Reformatory Phase (1991-2000)
- 6) Mergers and Acquisitions Phase (2001 and onwards)

Foundation Phase

The foundation phase can be considered to cover 1948s and 1967s till the nationalisation of the banks in 1969. The focus of the strategy during this phase was lay foundation for a sound banking in the country. Consequently, this phase witnessed the development of necessary legislative framework for facilitating re-organisation and consolidation of the banking system, for meeting the requirement of the Indian economy. A major development during this period was the transformation of Imperial Bank of India into State Bank of India and a redefinition of its role in the India as category to the needs of the Government, individuals and

select traders opened its doors wider and set out for the first time to meet requirements of the entire economy, taking in its fold even small industrial and business units as well as agriculturists. Commercial banking took its first few steps from class banking towards mass banking

ICICI Bank Ltd., and Sangli Bank Ltd., were amalgamated with effect from April 19, 2007. The Government of India sanctioned the Scheme of Transfer of Undertaking of Bharat Overseas Bank which was made effect from the close of business on March 31, 2007 to help the bank's leverage their combined balance sheet strength and share the benefits of economics of scale. The alliance enables the banks to share business — e -payment system, sharing of IT infrastructure, training ATMs, treasury resources, loan syndication, capital market and international forays. In this collaborative arrangement each bank is a separate legal entity. This, thus, heralds a consolidation phase in the Indian banking.

Progress in Commercial Banking in India

The banking structure existing at present in India is the outcome of a process of expansion, reorganization and considerations. Prior to nationalization, growth of banks was governed purely by economic considerations.

New Trends in Indian Banking System

As a consequence of reforms, several new trends have been emerging in Indian banking. One such trend perceived is shift of focus from process based management to risk based management.

Moving towards privatization is another trend observed in post reform era. The Government is slowly reducing its stake in banks. There is a proposal to reduce the ratio of Government's equity to 33 per cent from 51 per cent. The third trend observed is change in efficiency parameters. Earlier deposits mobilized and outstanding figures of deposits were yardsticks for measuring performance. Today, strength of balance sheet is considered important. Return on assets, per employee productivity, quantum of profits and per employee profits, low ratio of NPAs and net NPA rate and earnings per share are considered efficiency parameters today. Another trend observed in post -reform era is the trend towards universal banking. Even development finance institutions are trying to convert themselves into universal banks.

(Grant of consumer loan was not possible during those days. Presently, banks lend for consumption purposes aggressively. Ten years ago, getting a housing loan was extremely difficult. They used to give very few housing loans that too, in cases where NUB refinance were available. Now banks compete for housing loans on the basis of rates of interest and there is virtually a rate warp

Need for Computerisation in Indian Banking

Banks and Financial Institutions are service providing organizations. They serve to a very large number clientele spread all over the country. These institutions provide service through a network of branches and cater to the needs of their customers in different areas with personalized service.

Similarly, transactions between sister branches of the same institution and the data transmission to the head Office, Regional Office and other Controlling Offices, were all done conventionally through a manual process) the system was slow and tardy. It was costly, as the banks and other institutions had to engage a large array of clerical and supervisory manpower to carry' out and later, to check and re -check the accuracy of manual tasks.,

The developments in information technology, the advent of the personal computer and networking technology in the eighties brought about partial relief to some of the problems of traditional banking with manual operations.

Indian banking is at the threshold of a paradigm shift. The applications of technology and product innovations are bringing about structural changes in the Indian banking system. Off -site ATMs, on-line debit cards and electronic everywhere banking are traditional concept of branch banking. While banks are striving to strengthen customer relationship and move towards 'relationship banking', customers are increasingly moving away from the confines of traditional branch banking and seeking the convenience of remote electronic banking. The traditional way of undertaking banking transaction with a visit to the friendly neighborhood branch is fast become passé.

Technology, which was playing it supportive role in banking, has come to the forefront with the ever increasing challenges and requirements. Technology to start with was a business enabler and now has become a business driver. The Banks cannot think of introducing a financial product without IT support. Be it customer service, transactions, remittances, audit, marketing, pricing or any other activity in the Banks. IT plays an important role not only to complete the activity with high efficiency but also has the potential to innovate and meet the future requirements.

Evolution of IT in Indian Banking

It came into picture as early as in the 1980s in Banking Industry through the Rangarajan Committee recommendations and the Banks who have given utmost importance to the technology since the last 24 years have occupied the top slot in performance. The Reserve Bank of India is constantly pursuing the Banks from

1980s to introduce computerization at branch level and to improve the quality of customer service through technology.

Review of Literature

The studies conducted on computerization in commercial banks are very few since computerization is relatively a new phenomenon. Hence, an attempt is made to review the research work done in commercial banking in general and computerization in banking in particular.

Studies on Commercial Banking in India

Many studies were conducted on the role of commercial banks regional development. Most of these were made at All India Level. The important studies in this context include those made by C.C.Pattan Shetti (1950-53), L.V.Chandler ((1962). B.M.L.Nigam (1967) and Reserve Bank of India 4 (1970). These studies have broadly concluded that non-availability of timely and adequate credit has been one of the important causes for the slow growth rate in the various sectors of the economy. They also highlighted the importance of banks as mobilisers of savings and purveyors of funds for productive activities carried on in various growth sectors of the Indian economy)

The main conclusions of the workshop on customer services are briefly mentioned here: -

1. It was agreed that the banking industry in the future will be judged primarily by the quality of the service it provides to its customers both depositors as well as borrowers. The banking industry should take immediate steps to improve both the human and the non –human aspects of providing better services to create in the public mind a new and more systematic image of the industry.
2. It was concluded that the teller system or an equivalent fast payment system should be introduced immediately leaving the choice to each bank regarding the particular system to be used.
3. It was felt that vigorous competition between banks would be conducive to a steady liberalization of the conditions as the banks gain more confidence based on experience.
4. Each bank individually and the banking industry collectively begins negotiations with the employees to arrive at satisfactory agreements for improving customers services.
5. Bank should be allowed to open more branches in urban areas in order to avoid congestions in busy locations.

The Banking Commission Report (1972) enquired into the existing structure of the commercial banking system having particular regard to size, dispersion and area of operation and brought out major recommendations which will assist the banking system in bringing a better life to the people of India;/ The main objective of all the recommendations was that the banking system must play the fullest possible role in achieving the desired level of rate of economic growth in the country.

Dr. Rangarajan studied the banking development period, since nationalisation and its role reduction of disparities. His study related to period 1969-73. To find out the disparities he used state wise data relating to bank offices, distribution of credit, deposit mobilization and CD Ratios for the period examined.

Tandon Committee was constituted in July 1974 by RBI under the chairmanship of Shri Prakash Tandon, then the chairman of Punjab National Bank, to frame guidelines for follow up of bank credit).

Objectives of the Study

The main objective of the present study is to examine the impact of computerisation on the performance of public sector banks with the special reference to selected branches of State Bank of Hyderabad and Andhra Bank from the view point of consumers and employees. To be specific, the objectives of the study are mentioned below.

1. To review the evolution, progress and trends in Indian banking sector.
2. To review the origin, rationale policy measures and implementation of computerisation in Indian banking sector.
3. To analyze the opinion of consumer on various aspects related to computerisation in the selected banks.
4. To examine the opinions of bank employees on various aspects related to computerisation in the selected banks.
5. To identify the problems, if any, in computerization of banking services

Scope of the Study

The present study of Impact of Computerisation on Performance Public Sector Banks is confined to only two nationalized banks, vizi., State Bank of Hyderabad and Andhra Bank. Further, the impact is examined on the basis of the opinions expressed by employees and consumers selected from selected branches of SIMI and Andhra Bank in Telangana region of Andhra Pradesh. Further, the study refers to selected urban banks in Telangana Region of Andhra Pradesh

Source of Data

The study is based both on primary data and secondary data. The primary data is collected from the customers and employees of selected banks i.e., Andhra Bank and State Bank of Hyderabad through questionnaires. In addition to personal discussions, separate schedules are administered on branches of selected banks to elicit information on different aspects related to study. The secondary data is collected from the official records of the banks like weekly abstracts, circulars and statistics of various banks published by RBI bulletins, the annual reports of the Banks, Annual Action Plan prepared by lead Bank Officers, information collected from Libraries of the Institutes and Universities and Banking journals published by Indian Banks Association.

Period of the Study

To evaluate the performance of the commercial banks in India, the period of 12 years is taken, i.e., (1996 to 2007) for the analysis of secondary data. The period of survey on customers and employees perception for impact of computerization on performance of select banks refers to the year 2007.

Methodology

The sample design, method of collection of data, analysis of data and presentation of data of the present study are explained below:

Sample Design

The present study is mainly based on primary data collected from sample customers and bank employees from sample branches of State Bank of Hyderabad and Andhra Banks. The sample branches are selected from four cities namely Hyderabad, Warangal, Karimnagar and Khammam.

TABLE

SAMPLE DESIGN FOR CUSTOMERS

Bank	No. of Branches	No. of Customers	Total
Andhra Bank	5	30	150
State Bank	5	30	150
Total Sample of Customers			300

Methods of Data Collection

For the purpose of data collection from customers and bank employees, separate set of questionnaires have been designed and administered on sample respondents. For eliciting data from selected branches, a schedule has been designed and data collected from branch offices.

CONCLUSIONS

This study on "Impact of Computerisation on Performance of Public Sector Banks" in undertaken with the main objective of examining the impact of computerization in various banking services mainly the view point of Bank customer's and employees. For the purpose of study two public sector banks i.e., State Bank of Hyderabad and Andhra Bank are selected, the in-depth analysis of customers opinions and employees opinions are confined to selected branches in Telangana region of Andhra Pradesh. For the purpose of eliciting opinions of customers a sample of 300 respondents is selected similarly in case of employees, a sample of 100 respondents is selected.

Keeping in view the objectives, the study is divided into six chapters the first chapter presents the objectives, sources of the data, methodology etc., it also covers review of literature about the topic concern. The second chapter presents an overview of trends in banking sector including the profiles of selected banks.

SUGGESTIONS

On the basis of discussions with bank staff and customers the following suggestions are offered for better management of computerized banking services to render better customer services as well as to improve bank performance.

1. A customer complaint cell should be created to in every branch of -public sector banks. So that customers can express their grievances and solve their problems.
2. The staff should be appointed and trained to take care of customers needs and maintain cordial relations with the customers.
3. The employees should be properly trained to handle computerized operations in banks. They 'should be coached through on the job training as well off the job training depending upon the requirements of their job.

4. In order to create better awareness to the customers about computerisation process, the customers should be well educated through posters, instruction manuals and the staff appointed to explain about use of computerized services.
5. The bank management should seriously consider to prevent frequent machine failures in ATMs as well as computers. Adequate trained staff should look after repairs and maintenance of these machines and see that they are attended promptly.

A
PROJECT REPO
PERCEPTIONS OF TRADERS AND CONSUMERS ON GST IMPLEMENTATION



In partial fulfillment of requirement for the Award of the Degree of
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PERCEPTIONS OF TRADERS AND CONSUMERS ON GST IMPLEMENTATION

Introduction

Indian Indirect tax system was framed on the basis of Belgium Indirect tax laws. France was the first country, which implemented GST in 1954. Further, 60 countries have adopted GST.

The introduction of Goods and Services Tax (GST) in India is a significant step in the field of indirect tax reforms. By amalgamating a large number of Central and State taxes into a single tax, it would mitigate cascading or double taxation in a major way and pave the way for a common national market. From the consumer point of view, the biggest advantage would be in terms of a reduction in the overall tax burden on goods and services. Introduction of GST would also make Indian products competitive in the domestic and international market. It may have a boosting impact on the economic growth. Last but not the least, this tax, because of its transparency and self-policing character, would be easier to administer. Initially, it was proposed that GST would be introduced from 1st April, 2010. Joint Working Groups of officials having representatives of the States as well as the Centre were set up to examine various aspects of the GST and draw up reports specifically on exemptions and thresholds, taxation of services and taxation of Inter-State supplies.

The Journey of GST in India

- 1, “A Model Roadmap for Goods and Services tax in India” by Empowered Committee of State Finance Ministers in April 2008.
2. “GST Reforms and Inter-Governmental Considerations in India” by Department of Economics Affairs, Ministry of Finance, Government of India in March, 2009.
3. GST Bill passed in Rajya Sabha on 3rd August 2016 (03-08-2016)
4. When GST is applicable – Modi Government want to applicable GST Bill from 1st July 2017, due to some legal problems, GST bill is not applicable before 1st July 2017.
5. In 2017 – Four GST related Bills become Act following Presidents assent and passage in Parliament:
 - a) Central GST Bill
 - b) Integrated GST Bill

- c) Union Territory GST Bill
- d) GST (Compensation to States) Bill

The Constitutions (One Hundred and First) Amendment Act, 2016

The Central Government has introduced Constitutional Amendment Bill 122nd for GST in the Lok Sabha on 19/12/2014. The bill came into effect after it passed by both the houses in the parliament, i.e. Lok Sabha and Rajya Sabha. A Goods and Services Tax (GSTC) shall be constituted comprising the Union Finance Minister, the Minister of State (Revenue) and the State Finance Ministers to recommend on the GST rate, exemption and thresholds, taxes to be subsumed and other features.

Objectives of GST

Various objectives of GST are as follows:

- i) To ensure One Country – One Tax
- ii) To ensure consumption based tax
- iii) To ensure Uniform GST Registration, payment and Input tax Credit.
- iv) To eliminate the cascading effect of Indirect taxes on single transaction.
- v) To ensure the subsumation of all indirect taxes under the Centre and State Level.
- vi) To reduce tax evasion and corruption.
- vii) To increase productivity.
- viii) To increase Tax to GDP Ratio and revenue surplus.
- ix) To increase Compliance.
- x) To reduce economic distortions.

Scope of GST

All goods and services are covered under GST Regime except Alcoholic liquor for Human Consumption.

Tobacco Products subject to levy of GST and Centre may also levy excise duty GST Council yet to decide the incidence and levy of GST on following:

- a) Crude Petroleum
- b) High Speed Diesel (HSD)
- c) Motor Spirit (Petrol)
- d) Natural Gas
- e) Aviation Turbine Fuel

Advantages of GST

For Citizens:

- (i) Simpler tax system
- (ii) Reduction in prices of goods and services due to elimination of cascading
- (iii) Uniform prices throughout the country
- (iv) Transparency in taxation system
- (v) Increase in employment opportunities.

For Trade/Industry

- i) Reduction in multiplicity of taxes.
- ii) Mitigation of cascading/double taxation.

- (iii) More efficient neutralization of taxes especially for exports.
- (iv) Development of common national market.
- (v) Simpler tax regime-fewer rates and exemptions.

For Central/State Governments:

- i) A unified common national market to boost Foreign Investment and "Make in India" campaign.
- (ii) Boost to export/manufacturing activity, generation of more employment, leading to reduced poverty and increased GDP growth.
- (iii) Improving the overall investment climate in the country which will benefit the development of states.
- (iv) Uniform SGST and IGST rates to reduce the incentive for tax evasion. Reduction in compliance costs as no requirement of multiple record keeping.

Need for GST in India

(There is a saying in Kautilya's Arthshastra, the first book on economics in the world, that the best taxation regime is the one which is "liberal in assessment and ruthless in collection". The proposed GST seems to be based on this very principle)

Benefits of Implementing GST

The benefits of GST can be summarized as under:

1. For Business and Industry
 - (i) Easy compliance: A robust and comprehensive IT system would be the foundation of the GST regime in India. Therefore, all tax payer services such as registrations, returns, payments, etc. would be available to the taxpayers online, which would make compliance easy and transparent.
 - (ii) Uniformity of tax rates and structures: GST will ensure that indirect tax rates and structures are common across the country, thereby increasing certainty and ease of doing business.

- (iii) Removal of cascading: A system of seamless tax-credits throughout the value-chain and across boundaries of States, would ensure that there is minimal cascading of taxes. This would reduce hidden costs of doing business.
- (iv) Improved competitiveness: Reduction in transaction costs of doing business would eventually lead to an improved competitiveness for the trade and industry.
- (v) Gain to manufacturers and exporters: The subsuming of major Central and State taxes in GST, complete and comprehensive set-off of input goods and services and phasing out of Central Sales Tax (CST) would reduce the cost of locally manufactured and services. This will increase the competitiveness of Indian goods and services in the international market and give boost to Indian exports. The uniformity tax rates and procedures across the country will also go a long way in reducing the compliance cost.

2. For Central and State Governments

- i) Simple and easy to administer: Multiple indirect taxes at the Central and State levels are being replaced by GST. Backed with a robust end-to-end IT system, GST could be simpler and easier to administer than all other indirect taxes of the Centre and State levied so far.
- ii) Better controls on leakage: GST will result in better tax compliance due to a robust IT infrastructure. Due to the seamless transfer of input tax credit from one stage to another in the chain of value addition, there is an inbuilt mechanism in the design of GST that would incentivize tax compliance by traders.
- (iii) Higher revenue efficiency: GST is expected to decrease the cost of collection of tax revenues of the Government, and will therefore, lead to higher revenue efficiency.

3. For the Consumer

- (i) Single and transparent tax proportionate to the value of goods and services: Due to multiple Indirect taxes being levied by the Centre and State, with incomplete or no input tax credits available at progressive stages of value addition, the cost of most goods and services in the country today are laden with many hidden taxes. Under GST, there would be only one tax from the manufacturer to the consumer, leading to transparency of taxes paid to the final consumer.
- (ii) Relief in overall tax burden: Because of efficiency gains and prevention of leakages, the overall tax burden on most commodities will come down, which will benefit consumers.

Impact of GST

GST has brought in 'one nation one tax' system, but its effect on various industries is slightly different. The first level of differentiation will come in depending on whether the industry deals with manufacturing, distributing and retailing or is providing a service.

The tax rate under GST are set at 0%, 5%, 12%, 18% and 28% for various goods and services and almost 50% of Goods & Services comes under 18% tax rate.

As per Article 246A, the power to levy GST has been given to the Parliament as well as to Legislature of every State.

- * CGST – enacted by Central Government of India.
- * IGST – enacted by Central Government of India.
- * SGST – enacted by respective State Governments
- * UTGST – enacted by Central Government of India

1. CGST: Central Goods and Service Tax

CGST refers to the Central GST tax that is levied by the Central Government of India on any transaction of goods and services tax taking place within a State. It is one of the two taxes charged on every intrastate (with in state) transaction, the other one being (or UTGST for Union Territories). CGST replaces all the existing Central taxes including Services Tax, Central Excise Duty, CST, Customs Duty, SAD, etc., The rate of CGST is usually equal to the SGST rate. Both taxes are charged on the base price of the product.

2. SGST: State Goods and Service Tax

SGST (State GST) is one of the two taxes levied on every intrastate (within one state) transaction of goods and services. The other one is CGST. SGST is levied by the state where the goods are being

sold/purchased. It will replace all the existing state taxes including VAT, State Sales Tax, Entertainment Tax, Luxury Tax, Entry Tax, State Cases and Surcharges on any kind of transaction involving goods and services. The State Government is the sole claimer of the revenue earned under SGST.

3. IGST: Integrated Goods and Services Tax

Integrated GST (IGST) is applicable on interstate (between two states) transactions of goods and services, as well as on imports. This tax will be collected by the Central Government and will further be distributed among the respective states. IGST is charged when a product or service is moved from one state to another. IGST is in place to ensure that a state has to deal only with the Union Government and not with every state separately to settle the interstate tax amounts.

4. UTGST: Union Territory Goods and Services Tax

The Union Territory Goods and Services Tax, commonly referred to as UTGST, is the GST applicable on the goods and services supply that takes place in any of the five Union Territories of India, including Andaman and Nicobar Islands, Dadra and Nagar Haveli, Chandigarh, Lakshadweep and Daman and Diu. This UTGST will be charged in addition to the Central GST (CGST) explained above. For any transaction of goods/services within a Union Territory: CGST + UTGST.

The reason why a separate GST was implemented for the Union Territories is that the common State GST (SGST) cannot be applied in a Union Territory without legislatures, so SGST is applicable to them.

Need of the Study

This study examines the impact of GST after its implementation. It will show the gap between past indirect taxes and GST.

As most of the Consumers and Business entities are so far not aware of the exact structure and process of GST. Similarly, there is a conception that GST has resulted in increased prices of goods and services in general. Hence this is an attempt to evaluate all these factors affecting the implementation of GST

Objectives of the Study

- To Study the impact of GST after its implementation.
- To Know the perceptions of Traders and Consumers on GST implementation.
- To identify benefits and challenges of GST after implementation.
- To know the level of awareness on GST among Traders and Consumers.

Scope of the Study

The study of the project will give an insight about the very understanding of the GST bill amongst traders and consumers in the sample area. The study covers very few kinds traders and limited categories of consumers. Similarly Specific impact on slab wise categorization has not been studies and their impact is not covered in this study.

The Scope of the study is limited to tri cities of Warangal only.

Research Methodology

The study covers both Primary and Secondary sources of data.

PRIMARY DATA: A structured questionnaire is used to collect the primary data.

SECONDARY DATA: Secondary data is collected by referring related books, journals and web sites.

PERIOD OF THE STUDY: The study covers a period of One month from 5th November 2018 to 5th December 2018

Sample Size

For the purpose of the study, 60 traders and 150 consumers were selected from tri cities of Warangal. i.e., Hanamkonda , Warangal and Kazipet.

Only limited traders were selected like small hotels and cafeterias, Beauty parlors, Provisional and Kirana shops, Book shops, electronics shops and Automobiles show rooms etc.

Similarly, among the consumers segment house wives, salaried persons and business men were included.

Limitation of the Study

- Due to time constraint, the study was restricted to Warangal tri cities only.
- The number of respondents was limited to 60 traders and 150 consumers only.
- Some of the respondents were not open in giving their opinions.
- Since sample size is very limited, the results of the study may not be generalized.

Chapterization

CHAPTER I –Introduction, Need for the study, Scope of the study, Objectives of the study, methodology, Limitations and Chapterisation scheme.

CHAPTER II- Theoretical presentation of an overview of GST –GST slabs – Benefits and Drawbacks of GST and Issues in GST implementation in India

CHAPTER III- Perceptions of Traders and Consumers on GST implementation – An Analysis

CHAPTER IV- Findings, Conclusion and Suggestions

Perceptions of Consumers on GST –An Analysis – Demographic Analysis

<i>Gender</i>	<i>No. of Respondents</i>	<i>Percentage</i>
Male	92	61%
Female	58	39 %
Total	150	100
Age Group		
Below 25	36	24%
25 to 40	72	48%
Above 40	42	28%
Total	150	100

Demographic Analysis Continued

Qualifications	Number	Percentage
Below Intermediate	40	27%
Graduation/Degree	71	47%
P.G and above	39	26%
Total	150	100
Income Per Month		
Less than 20,000	15	10%
20,000 to 40,000	31	21%
40,000 to 80,000	66	44%
80,000 and Above	38	25%
Total	150	100

Options about GST

Variable	Number	Percentage
Generalized Sales Tax	85	57 %
Goods and Service Tax	65	43 %
Will Increase Price - YES	92	61 %
NO	58	39 %
Awareness about GST Rates –YES	54	36 %
NO	96	64 %
GST – Whether Beneficial To Public -YES	87	58 %
No	63	42 %

Descriptive Analysis Of Respondent's Awareness On GST

<i>Factors</i>	<i>Categories</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Level</i>
General Awareness	Yes	138	92	High
	No	12	8	
Information Provided	Yes	90	60	Moderate
	No	60	40	
Promotional Activity	Yes	52	35	Low
	No	98	65	
Implementation	Yes	126	84	High
	No	24	16	
Tax Payer Responsibility	Yes	96	65	Moderate
	No	54	35	
Respondents Readiness	Yes	22	15	Low
	No	128	85	

Descriptive Analysis for Respondent's Acceptance on GST

<i>Factors</i>	<i>Item</i>	<i>Mean</i>
Acceptance	GST in Sample area	2.63
	GST is Fairer	2.93
	Bridging the Gap	2.85
	Contribution of Additional Revenue	3.31
	Understandability of the System	2.88
	Development of Economy	2.96
	Total Mean	17.56

Consumers' Knowledge on the Issue of GST (Using Five Point Scale)

<i>Variable</i>	<i>Strongly Agree</i>	<i>Agree</i>	<i>Neutral</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Total</i>
GST aims to make the tax system more efficient, comprehensive and transparent.		105 (70%)	30 (20%)	15 (10%)		150
GST will generate and increase revenue for the country	34 (23%)	100 (66.7%)	16 (10.67)			150
GST can overcome the sale and services tax which was introduced earlier.	16 (10.67)	52 (35%)	52 (35%)	30 (20%)		150
GST will not burden people.		52 (35%)	52 (35%)	16 (10.67%)	30 (20%)	150
GST protects the interests of low income earners	34 (23%)	52 (35%)	58 (39%)	6 (4%)		150
Do not understand how GST would be implemented		117 (78%)	14 (9%)	19 (13%)		150
GST will result in higher prices	54 (36%)	14 (9%)	52 (35%)	30 (20%)		150
GST is the best tax system adopted by many countries	52 (35%)	52 (35%)	34 (23%)	12 (8%)		150
No GST is imposed on exported goods and services.	32 (21%)	52 (35%)	36 (24%)	30 (20%)		150

Mean, Standard Deviation and Correlations

<i>Constructs</i>	<i>Mean</i>	<i>SD</i>	<i>Correlation N = 150</i>						
			<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	
1. Comprehensive and Transparency	3.56	0.91	1						
2. Impact on Revenue	4.00	0.75	0.162**	1					
Simplicity	3.74	0.87	0.357**	0.122*	1				
4. Impact on Prices	3.84	0.76	0.690**	0.092	0.183**	1			
5. Understandability	3.35	0.81	0.596**	0.135*	0.388**	0.617**	1		
6. Overall Awareness	3.57	0.90	0.374**	0.267**	0.278**	0.302**	0.323**	1	
√AVE				0.62	0.73	0.74	0.75	0.62	

Analysis of Traders Perceptions on Implementation of GST

Traders Perceptions on GST

<i>Opinion Variable</i>	<i>Number</i>	<i>Percentage</i>
WHETHER GST IS EASIER OR DIFFICULT TO COMPLY WITH		
Easier	08	13 %
Difficult	22	37 %
Do not know	30	50 %
Total	60	100
REGISTRATION OF BUSINESS		
Yes	45	75 %
No	15	25 %
Total	60	100
WHETHER CURRENT SOFTWARE SYSTEM SUITABLE TO HANDLE GST		
Yes	12	20 %
No	48	80 %
WHETHER GST IS A FAIR TAX		
Yes	51	85 %
No	09	15 %
IMPACT OF GST ON PRICES		
Prices Increased	38	63 %

Prices Decreased	14	24 %
No Change in Prices	08	13 %
IMPACT OF GST ON TURNOVER		
Sales Increased	08	14 %
Sales Decreased	38	63 %
No Change in Sales	14	23 %
Total	60	100
IMPACT OF GST ON PROFITS		
Profit Increased	17	28
Profit Decreased	33	55
No Change in Profits	10	17
Total	60	100

Descriptive Analysis of Traders Perception on GST

<i>Statement</i>	<i>Mean</i>
GST is a very good tax reform for India	2.62
GST has increased the legal compliances	2.41
GST has increased the tax burden on Businessman	3.12
GST has increased the tax burden on Common man	2.82
Government has imposed GST on People without preparation	2.45
GST is very difficult to understand	2.62
GST will increase the prices of goods and services	3.13
GST is beneficial in the long Run	2.52
GST will improve the tax collection and revenue to the Government	2.81
GST is affecting small business very badly	2.72
Total Mean	21.88

Conclusion

- The GST mechanism is advancement over the present tax system, the idea being that a unified GST Law will create a seamless nationwide market.
- It is also expected that Goods and Services Tax will improve the collection of taxes as well as boost the development of Indian economy by removing the indirect tax barriers between states and integrating the country through a uniform tax rate

Suggestions

1. Since the implementation of GST is in initial stages only, the Government and other officials should create more awareness among the consumers and traders on the positive effects of GST.
2. There must be dispute redressal mechanism and the same should be transparent and fair.
3. Trader must be given training and orientation on registration of their business entities under GST act.

DEPARTMENT OF HISTORY

STUDENT STUDY PROJECT WORK

ON

HISTORY OF KURAVI VEERABHADRASWAMY TEMPLE



SUBMITTED TO

DEPARTMENT OF HISTORY

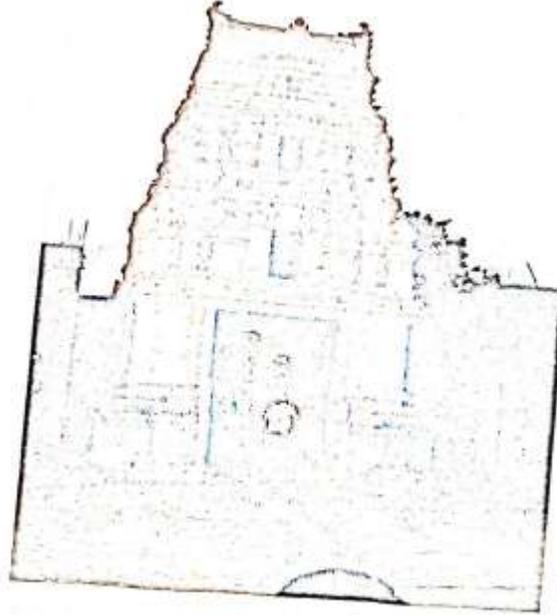
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కురవి విరభద్రస్వామి దేవాలయం

మహాబలి పాదు జిల్లా :- కురవి గ్రామ పంచాయతీ పరిధిలో ఈ దేవాలయం ఉంది సకల నెక్తిమూర్తి వరదాతల అయిన శ్రీ విరభద్రస్వామి శ్రీ భద్రకాళి సమేతంగా కీర్తివ్రండటం వల్ల ఈ తిలయాన్ని శ్రీ విరభద్రదేవస్థానాలయం' గా కూడా పిలుస్తారు





భౌగోళికాంశాలు :

ప్రధాన పేరు : పేరు
కురవి విరభద్రస్వామి
దేవాలయము

ఉపదేశము

దేశము : భారత దేశం

రాష్ట్రం : తెలంగాణ

జిల్లా : మహబూబాబాదు

ఉపదేశము : కురవి గ్రామం

జిల్లము వివరాలు

ప్రధాన కైవం : విరభద్రేశ్వర స్వామి

నిర్మాణ కైల. సంస్కృతి

వాస్తు శిల్ప కైల : కాకతీయ చాళుక్య
హిందూ

అలయ చరిత్ర :- అన ౩౫౦ పాఠాల్లో

వేగి రాజధానిగా లింధ దేశాన్ని పాలించిన
శోకల్లి రాష్ట్ర కూటుల చేత పరాజితుడైన ఛామరాజు
కురవి సగరాన్ని రాజధానిగా చేసుకుని పరిపాలనను
కాలయి ఈ అలయాన్ని నిర్మించినట్లు సిలాశాసనాల
ద్వారా తెలుస్తుంది నాట వేగి చాళుక్యుల ఆస్థాన
లోని కారతయ రాజైన ఒకటి చేతరాజు ఈ
అలయాని పునరుద్ధరించారు

అలయ నిర్మాణం :-

కురవి దేవాలయం అష్టాదశ స్తంభాల మహామండపాల్లో
మాడు గర్భాలయాలతో నిర్మించబడినది ఈ అలయాన్ని
నిర్మించినట్లు పేరుతోని గర్భగుడిలో మూలవిరాట్
విరాధుడని స్థాని ప్రాంతాల్లో దశహస్తాలతో తొందరగా
ఉండటం అనేకం స్థానికవారి నీటికేలువైపులా
కెండు కోరలు పొడవైన నందిశైలుడి విగ్రహం
ఉండగా ఎడమ వైపు శ్రీ భద్రకాళి అమ్మవారి
విగ్రహం ఉంటుంది

STUDENT STUDY PROJECT WORK

ON

INDUS VALLEY CIVILIZATION AND HARAPPAN CULTURE



SUBMITTED TO

DEPARTMENT OF HISTORY

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BOJJAM GANESH
CHETTABOINA PANINDRA
DASARAPU ABHI KUMAR
EEKA RAMANJAN
ESLAVATH JEEVAN
GUGULOTHU MAHENDER
ILONI ANVESH
KADARI RAKESH BABU
KUNAMALLA ARUN
MACHARLA SWAPNA
MARUPATLA SANDEEP
MOTAM THIRUPATHI
NAGARAPU RAJINIKANTH

THE DRAINAGE SYSTEM.

→ This civilisation had developed an advanced and efficient drainage system not found amidst other contemporary civilisations. Each house had its private drinking well and a bathroom. The water from them ran through clay pipes into underground drains which ran into main drains.

→ These main drains were made up of bricks set in mortar and had large cross-section to accommodate even a large waterflow. The house drains were first emptied into a receptacle or a sump in which the solid matter would first settle allowing the water to drain in the main drain.

THE GREAT BATH.

→ The great bath of Mohenjo-daro is one of the most important finds of this civilisation. Located on the citadel it was apparently used for ceremonial bathing purpose. The structure is rectangular in shape (12m by 7m and dept 2.43m).

→ It was accessible from two wide staircases each of the northern and the southern side. The tank was watertight, as it was made of tightly fitting bricks with coating of mud and gypsum plaster.

→ The great bath is a reflection of the achievement of this civilisation in the field of engineering and construction technology. Besides, it also indicates the social significance attached to religious/ceremonial matters in public life.

INDUS VALLEY CIVILIZATION AND HARAPPAN CULTURE.

If I were asked under what sky the human mind has most fully developed some of its choicest gifts, has most deeply pondered on the greatest problems of life and has found solutions, I should point India. - Man Mueller.

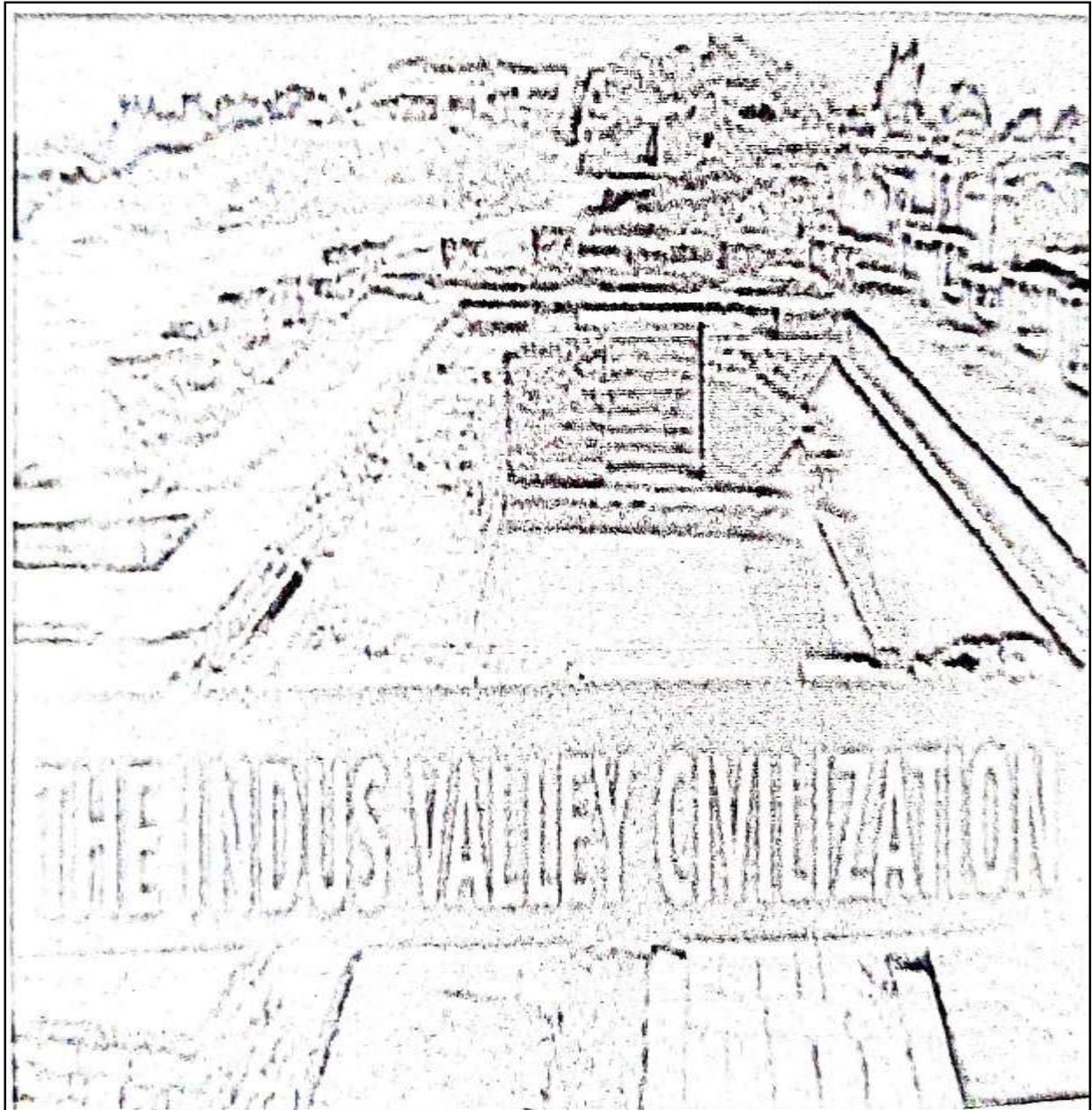
What is the INDUS VALLEY CIVILIZATION?

→ The Indus valley civilization was an ancient civilisation thriving along the Indus river and the Ghaggar-Hakra river in what is now Pakistan and north-western India. Among other names for this civilisation is Harappan civilisation in reference to the first excavated city of Harappa.

→ An alternative term for the culture is Saraswati-sindhu civilisation based on the fact that most of the Indus valley sites have been found along the Ghaggar-Hakra river.

→ R.D. Dayaram Sahni first discovered Harappa (1921). R. D. Banerjee discovered Mohenjodaro (or) 'Mound of the Dead' (1922). Sir John Marshall played a crucial role in both these.

→ A number of other sites such as Lothal, Kalibangan, Dholavira, Chanhudaro, etc have subsequently been discovered.



→ These indicate that the civilisation had spread to vast areas now located in present day Pakistan, Gujarat, Rajasthan, Punjab, and Jammu region in India and even in many parts of Afghanistan.

→ More than 100 sites belonging to this civilisation have been excavated.

→ According to radiocarbon dating, it spread from the year (2500-1750 B.C)

→ Copper, bronze, silver, and gold were known but not iron.

→ The largest and the latest site in India is Dholavira in Gujarat. Dr. G.P. Goshi and Dr. R.S. Bisht were involved in it.

SALIENT FEATURES OF THE HARAPPAN CULTURE.

The Harappan culture is known for some of its very distinct features. These include the development of urban centres, Planning of towns, streets, sewerage system, the great baths, and granaries. The discovery of numerous artifacts, seals and statues, standard weights and measures which are unique to this culture, also throw light on the art, culture,

STUDENT STUDY PROJECT WORK

ON

**HISTORY OF SRI SOMESWARA LAXMINARASIMHASWAMY
TEMPLE**



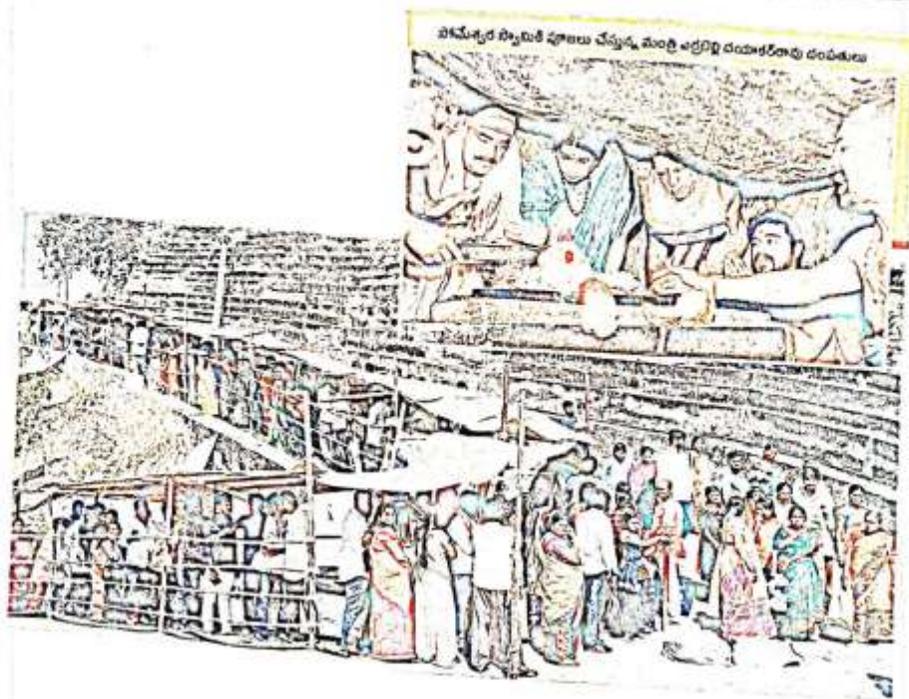
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M. Madhu
M. Raju
M. Ramarao
P. Ranjith
P. Laxminarayana
T. Ramesh
R. Sravani



The Palakurthy sub division is a well famous and it has rich historical value which is - situated in Warangal- district of Telangana. In Palakurthy there is famous and well known Sri Someshwara- Laxminarasimha swamy temple is situated. Palakurthy is the place of temple houses.

During the festival season it is too -
difficult to control the devotees because they used
to come for darshanam in a huge numbers. There is
a famous telugu poet Palakurthy Palakuriki Somanathudu,
named the village as Palakurthy. It is a famous
seat of veerashaivism. This is the faith of 6000 years
old primarily in the southern states of Telangana
and Karnataka and the western state of Maharashtra.
Irrespective of class and caste this has a progress
in teaching and it also stood against those barriers.



Project on :-

Sri
Someshwara, Lakshmi Narasimha
Swamy Temple
Palakurthy

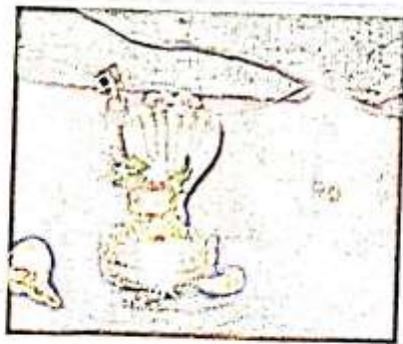
By :-

M. SomdRaju
P. Naveen
BA IInd Year

There is an alight hillock at a height of 120 meters. The Someshwara LaxmiNarasimha temple is a unique in it's structure and the location. It is 50km from Warangal city and it is very easy way to travel from Palakurthy by road. The accommodation facilities provided for tourists. This is a wonderful place to enjoy and in addition to religious importance the Palakurthy town looks attractive from the top hills. This is the place to have a trip to see the unique place.

The legends Lord Shiva and - Lord Vishnu are the two powerful gods of the Hindu Trinity, there are two caves formed next to the hillock.

The Someshwara Laxmi Narasimha temple formed in the caves. The hills around the temple form a natural road for the devotees to circle the shrine. This road around the temple is used to do pradakshina by the devotees. It is available almost in all temples. The temple Someshwara Laxmi Narasimha is dedicated to the Lord Shiva and Vishnu.



STUDENT STUDY PROJECT WORK
ON
PANDAVULAGUTTA & SAHASA YATHRALU

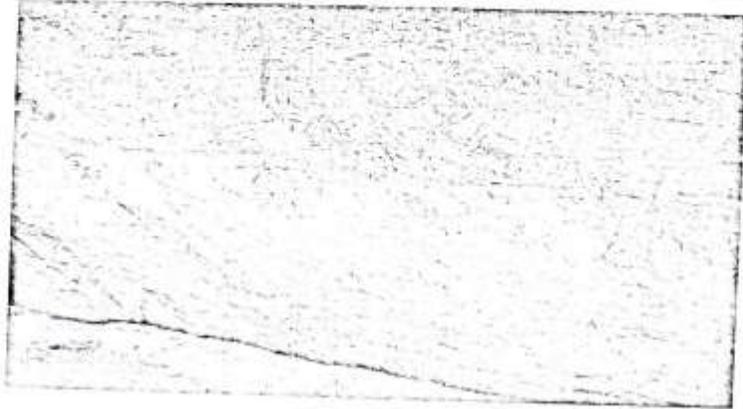


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HANAMKONDA

LIST OF THE PARTICIPATED STUDENTS

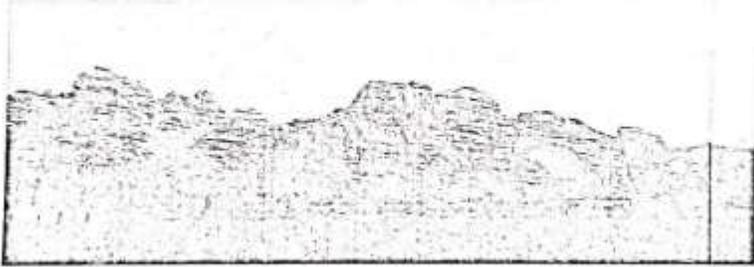
A.Rajkumar
A.Shireesha
A.Mounika
A.Sukanya
G. Suresh
K. Ramnath
P. Anilkumar
R. Saiswetha
S. Devender
T. Chandana
B. Mahesh
B. Ramesh
B. Chamanthi
D. Naveen
G. Prashanth
J. Raju
K. Rambabu
K. Sravan
M. Venu
N. Bixapathi

0003, 3030

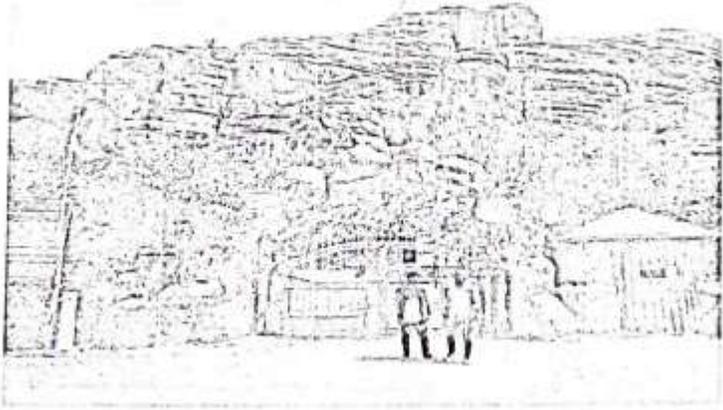


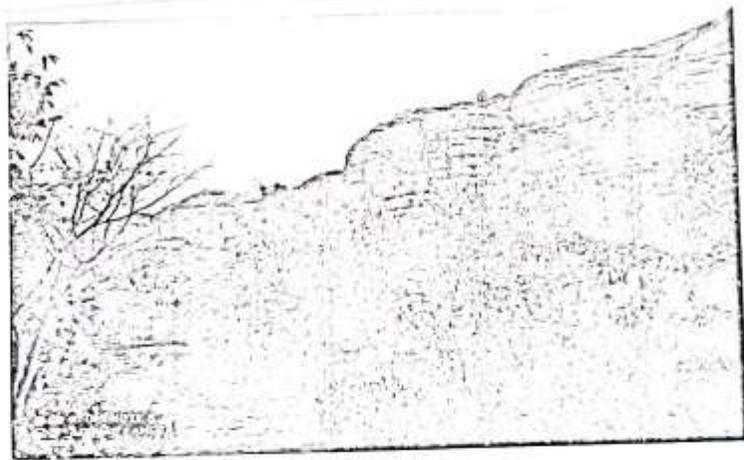
పొదవల గుట్టల - సొంతా ఆనాడే!

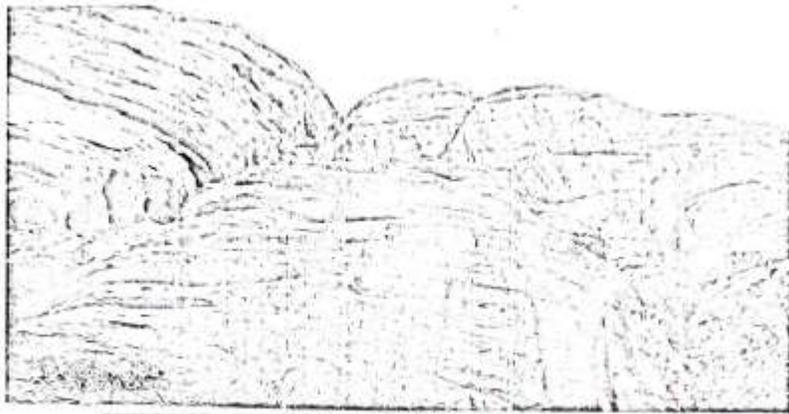
పొదవల గుట్టల వరంతో బీబ్లీ కేంద్రానికి గాం కి.మీ. సులభంగా వరంత
 దరకల- మహానాటికప్పులో తనానాటిస్తే వాసాన ముసలం అలాలు రికలవలక్కా
 ఈ పొదవల గుట్టలన్నాయి. అల్ప సాగితే కంపి నీల శీర్షం కంపి. కంపి ఎవరు
 సోకకుండానే ఈ పొదవలగుట్టల సూచక దిబ్బానా. సూర్యో సూర్యం సెట్టి
 అవిధ ఆకృతిల్లూ. గుండుచులా. ముసలలలా సర్కుంకాయి. ఈ గుట్టల
 ఎకాన మట్టుకు సుమలలంట్కానా, సెట్టిను. ఈ సెట్టిల్లా పొదల పొదలగా
 ఒకనాన మినానా సాగితలలం అనేక కిల్యుతులు ఆకృతిలు. మనం గుట్టలకు
 వెళ్తుంటే అలాగలునూ అల్పసరికే విధంనం ఎకాన కుంకల దిబ్బానాయి.



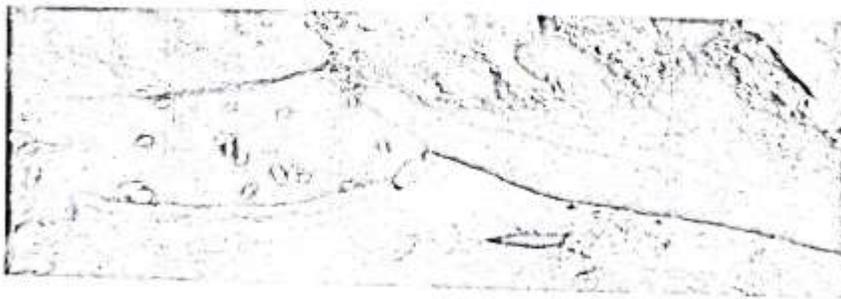
పొదవల గుట్టల







San Juan Canyon 1008



Borwa 5

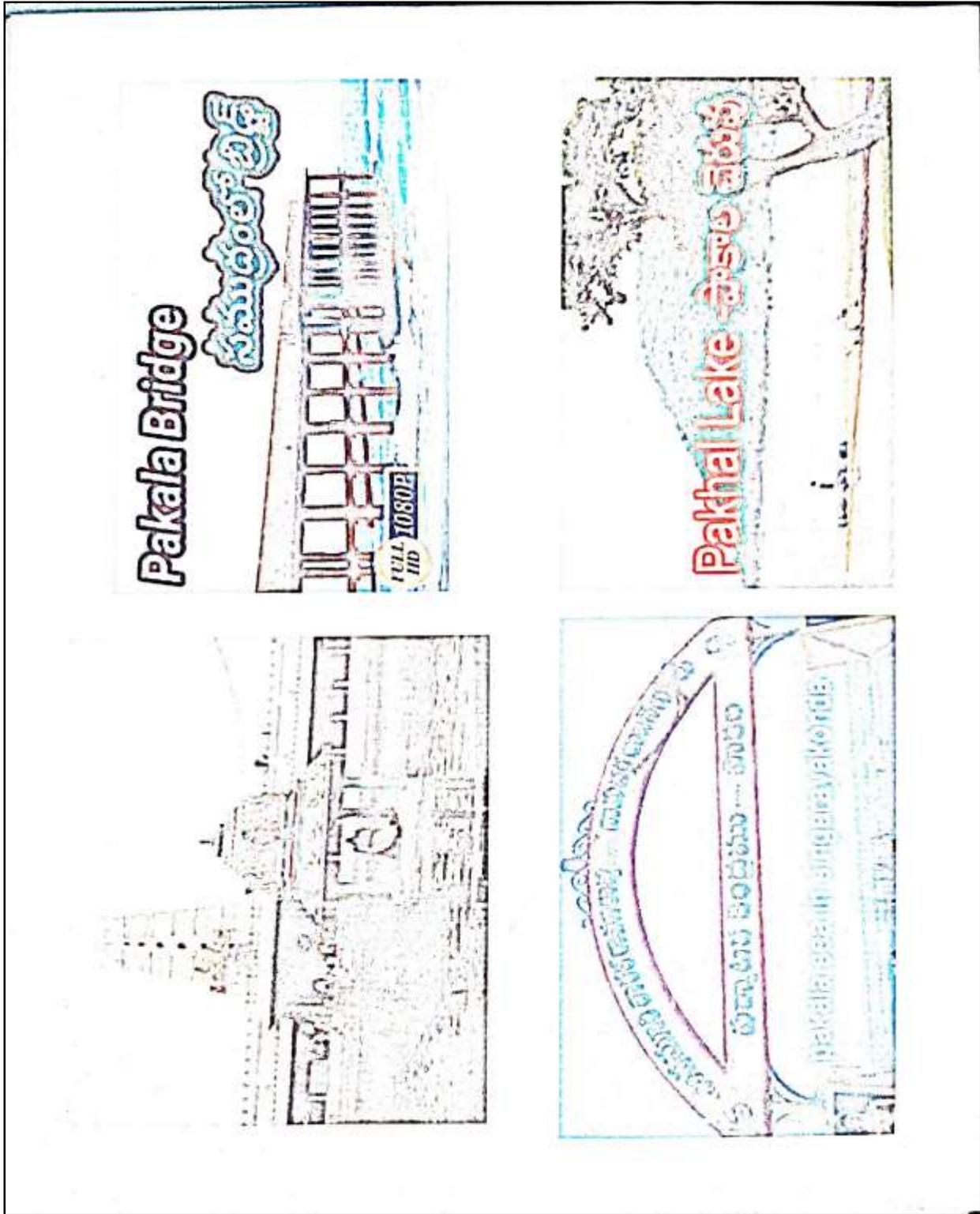
STUDENT STUDY PROJECT WORK
ON
HISTORY OF PAKALA LAKE

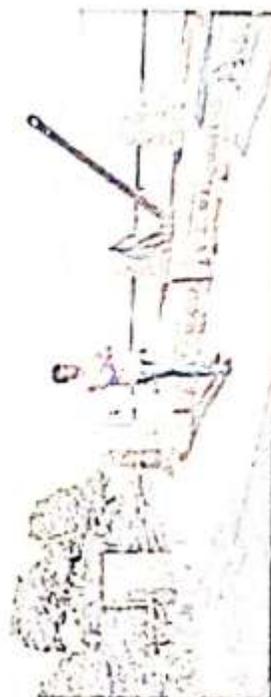


SUBMITTED TO
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J. Srikanth
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R. Sravani
R. Vishnu Prakash
S. Radhika
S. Dinesh
T. Ramya
V. Ravali
Y. Narsimha Rao
V. Geetha
M. Shalini
P. Pramod
M. Srilatha





పాకాల సరస్సు:-

- * మానవ నిర్మితమైన 30 చదరపు కి.మీల ఈ సరస్సు క్రీ.శ. 1213 లో కాకతీయ రాజు గణపతి వేపుడి కాలంలో నిర్మణం చేయబడింది.
- * ప్రస్తుతం వరంగల్ గ్రామీణ బేల్లా . నర్సంపేట సమీపంలో పాకాల సరస్సు ఉంది.
- * మానవ నిర్మితమైన ఈ చెరువు వరంగల్ బేల్లాలోకి ఖియాపుర్ మండలంలో ఉన్నది.
- * చెరువు చుట్టూ ఉన్న ద్రాక్ష, వాతావరణం ప్యాకీకులను ఆకట్టుకుంటాయి.
- * చెరువు మధ్యలో కొండ ఉంది.
- * కాకతీయ గణపతిదేవుని కాలంలో క్రీ.శ. 1213 లో ఈ చెరువు తీర్చిదిద్దబడింది.
- * చెరువు వైశాల్యం సుమారు 30 చదరపు కిలోమీటర్లు.
- * పాకాల సరస్సు చుట్టూ పాకాల వనప్రదేశాల ఆభరణంగా ఉంది.
- * వివిధ రకాల వృక్షజాలం మరియు సుమారు 10000 ఎకరాల చూడవచ్చు.

STUDENT STUDY PROJECT WORK

ON

HISTORY OF EKAVEERA DEVAALAYAM TEMPLE



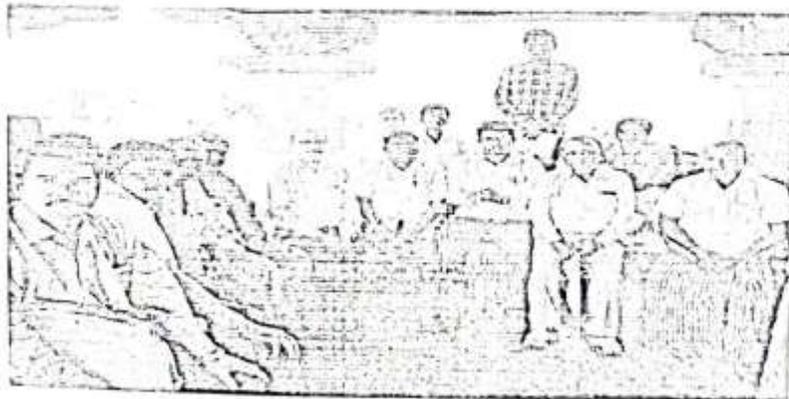
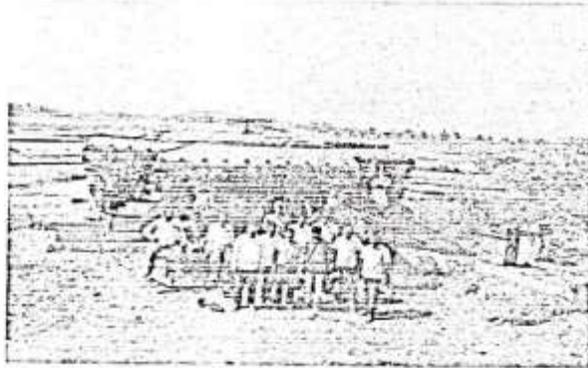
SUBMITTED TO

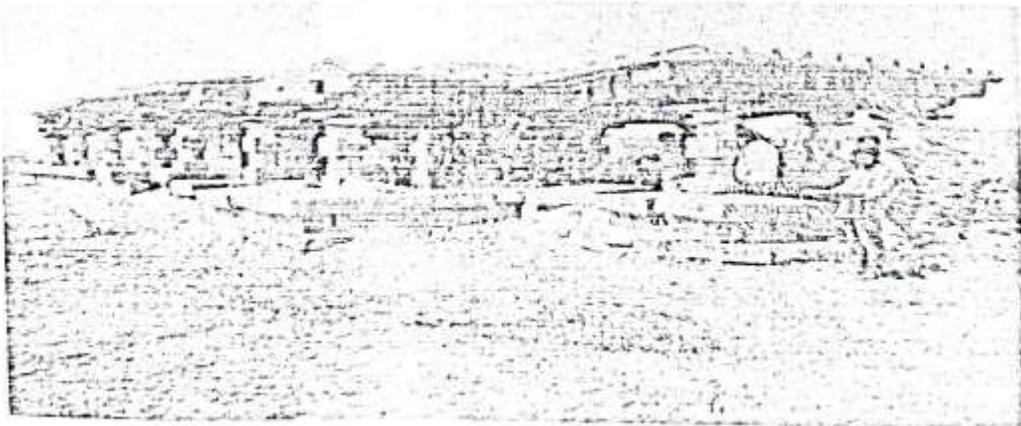
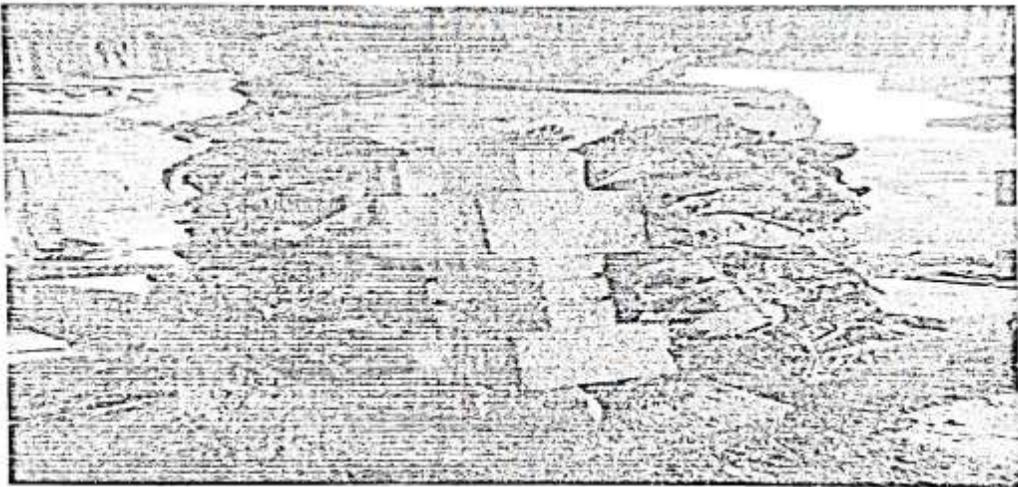
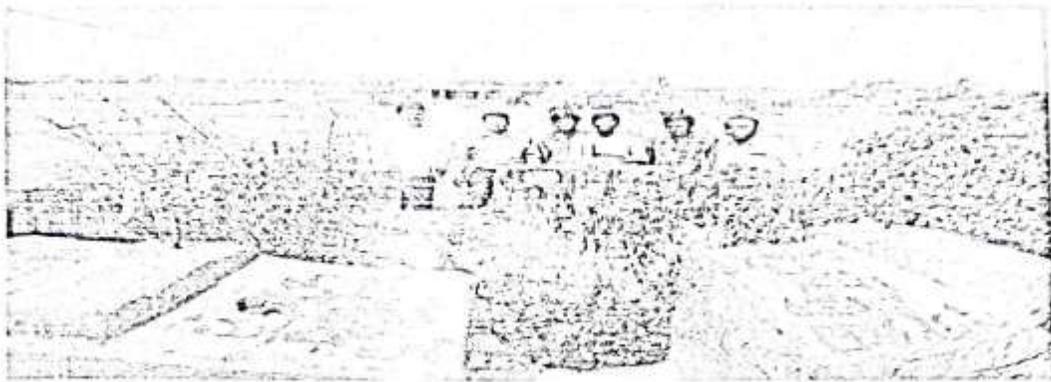
DEPARTMENT OF HISTORY

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BANOTH MAHENDAR
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BANOTHU NARESH
BANOTHU SUNITHA
BHUKYA MANJULA
BONTHA NARESH
CHEDUPAKA MADHU
CHELUKALA SRINU
CHERUKU SINDHUJA
CHIDAM SAIKIRAN
ERRA VISHNUVARDHAN
GADDAM BHARATH
GAJULA KALPANA
GANGARAPU BHAGATH
GANTA MAHESH
GODUGU SAMBARAJU





‘కాకతీయుల కాలంనాటి ఏకవీర దేవాలయం (మొగిలిచర్ల)

ఒక చారిత్రక పరిశీలన

ఆంధ్ర దేశాన్ని పాలించిన రాజ వంశీయులలో శాతవాహనుల తర్వాత అంతటి ప్రాశస్త్యాన్ని పొందినవారు కాకతీయులు. శాతవాహనులు కేవలం ఆంధ్రదేశాన్ని మాత్రమే కాదు కర్ణాటక దక్కను ప్రాంతాలను కూడా పాలించారు. కాకతీయులు మాత్రం కేవలం తెలుగు వారి కోసం ఒక రాజ్యం కావాలనే ఆశయంతో కృషి చేసి ఆంధ్రుల సాంస్కృతిక వికాసానికెంతో పాటుపడ్డారు ఈ విధంగా చూస్తే మొట్టమొదటిసారిగా తెలుగు మాట్లాడే ప్రజలందరినీ ఏకం చేసి పాలించిన ఘనత కాకతీయులకు దక్కుతుంది. తెలుగుమాట ఎక్కడ వినబడితే అక్కడి ప్రాంతాలను జయించి దక్షిణాన కంచి నుండి ఉత్తరాన చత్తీస్‌ఘడ్‌లోని బస్తర్ జిల్లా వరకు, పడమర వాడి-బీదర్‌ల నుండి తూర్పున సముద్రతీరం వరకు ఈశాన్యాన గంజాం జిల్లా వరకు రాజ్యాన్ని విస్తరింపజేసి తెలుగువారిలో జాతీయభావాన్ని రేకెత్తించారు. వారి రాజధాని ఓరుగల్లు మహాంధ్రనగరిగా పిలువబడింది. వీరు సుమారు క్రీ.శ. 1000 నుండి 1157 వరకు పశ్చిమ చాళుక్యులకు సామంతులుగాను క్రీ.శ. 1158 నుండి 1323 వరకు స్వతంత్రులుగాను పాలించారు. శాసనాధారాలను బట్టి కాకర్వ గుండ్యన ఈ పంశమూల పురుషుడు “కాకతీయ” అనే పదానికి సంస్కృతీకరణమే “కాకర్వ”.

విద్యానాథుని ప్రణాపరుశ్రీయంలో కాకతీయుల కులదేవత ‘కాకతి’ అనీ, మొదట వారు కాకతి ఆరాధకులు కాబట్టి కాకతీయులయ్యారని, ఆ తర్వాత స్వయంభూదేవుని ఆరాధ కులయ్యారనీ సమాచారం ఉంది. కాకతీయ దుర్గరాజు కాజీపేట శాసనంలో కాకతీయులు మూలపురుషుడు గుమ్మడితీగకు పుట్టాడని ఉంది. కాకతీయులు మొదట జైనులనే విషయం సుస్పష్టం, కూష్మాండిని జైనదేవత. కూష్మాండిని అంటే తెలుగులో గుమ్మడమ్మ అని అర్థం. ఈశాసనాన్ని బట్టి వీరు గుమ్మడమ్మ సాంప్రదాయానికి(తీగకు) చెందినవారని గ్రహించవచ్చు.

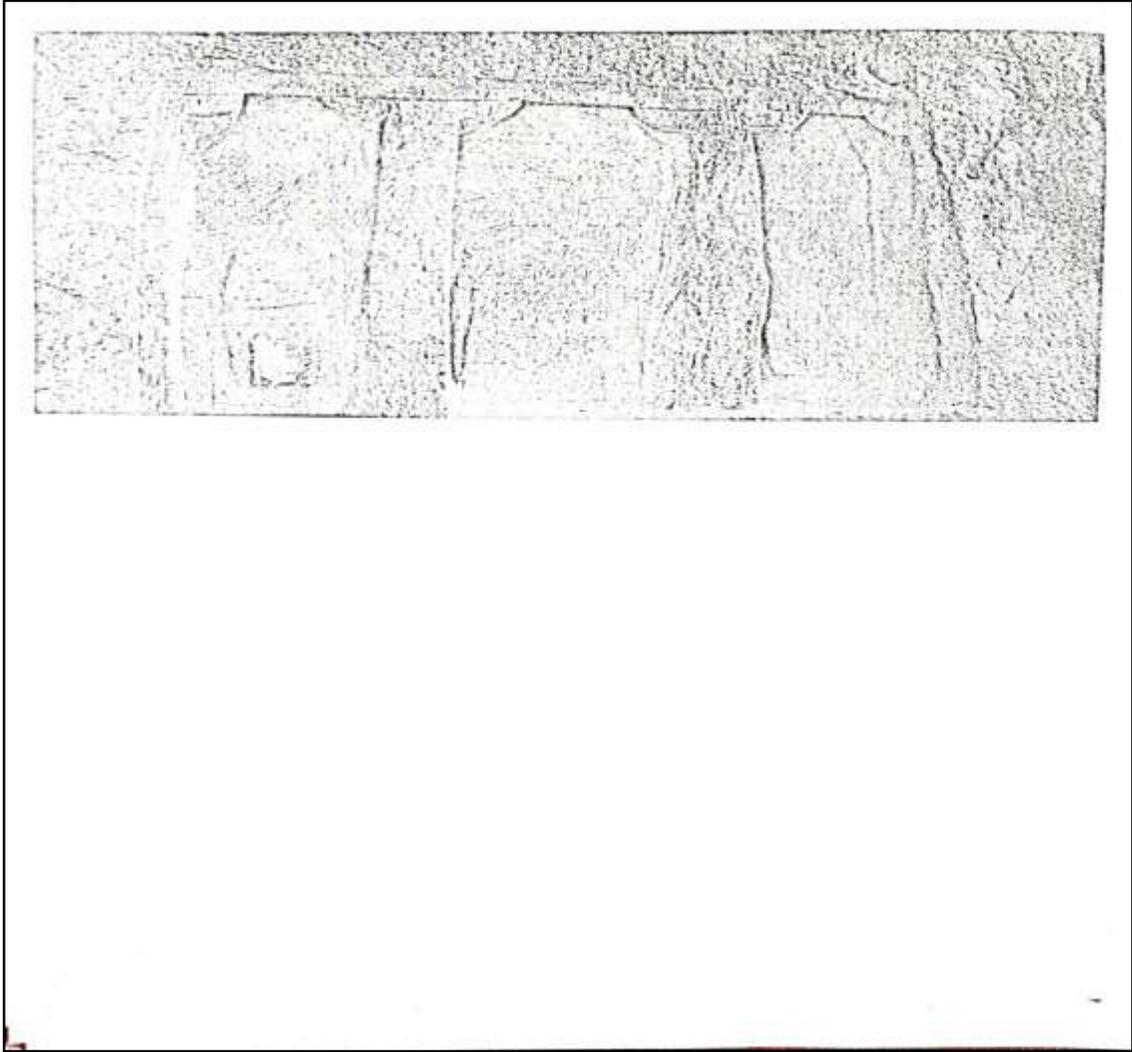
STUDENT STUDY PROJECT WORK
ON
HISTORY OF AGGALAYYAGUTTA

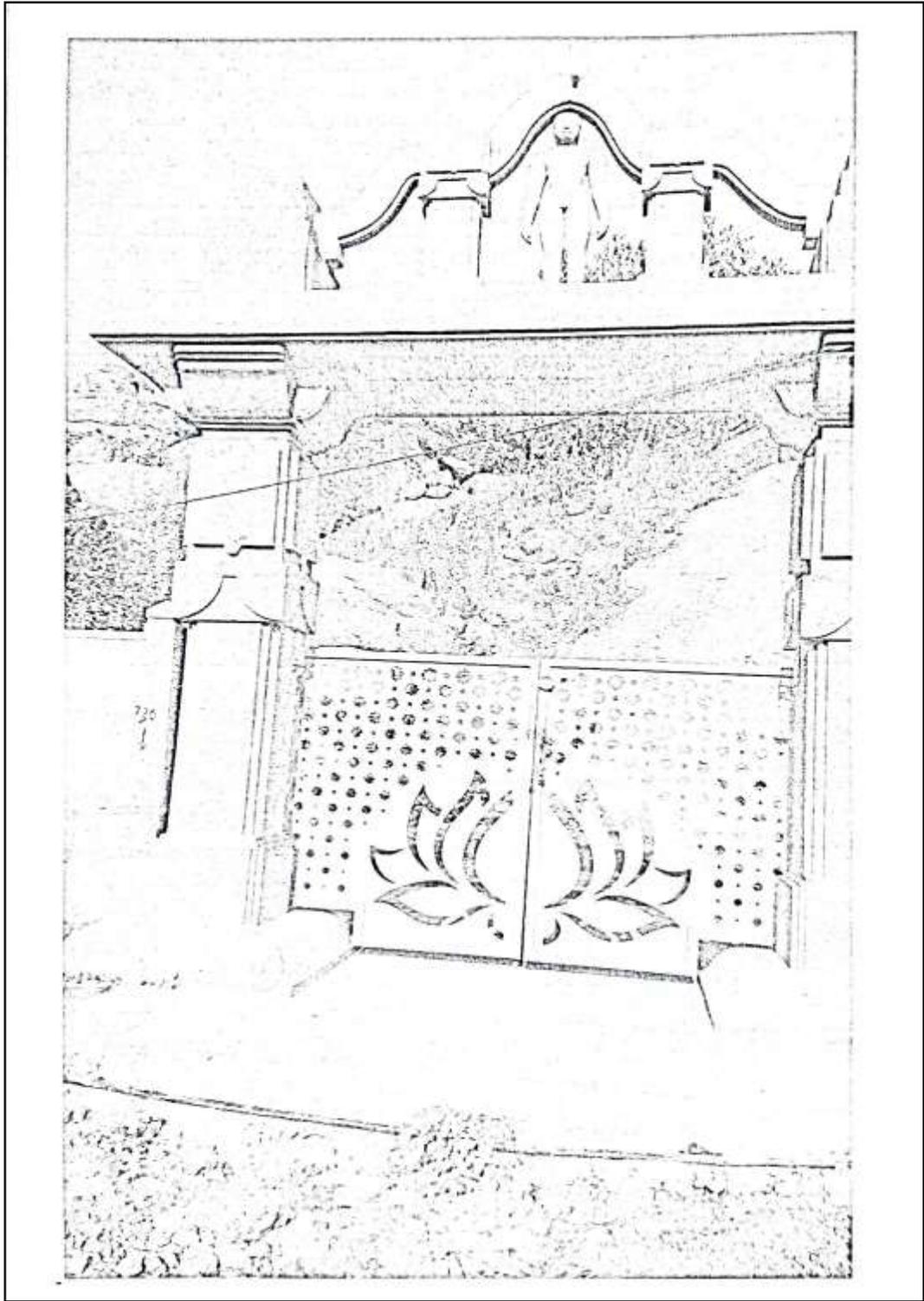


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KUNSOTHU NARESH
MANDHA PAVAN
MEDIPALLY DEVARAJU
PALLEVENA VANDANA
PATHA PAVANKALYAN
PORANDLA DHANRAJ MAHESHWAR
PRAKASH ESAM
PULI SRIKANTH
PUNEM NAVYA
RONTALA NAGARAJU
SANDRA RANJITH KUMAR
SINGARAPU RAMYA
SK YAKUB PASHA
TEJAVATH PRAVEEN
THADURI ARCHANA
THATHA BHAGYASRI
THOTA UJWALA





STUDENT STUDY PROJECT WORK

ON

**HISTORY OF KAKATIYULA KAALAMNAATI KAMBAALAPALLY
SHIVAALAYAM**



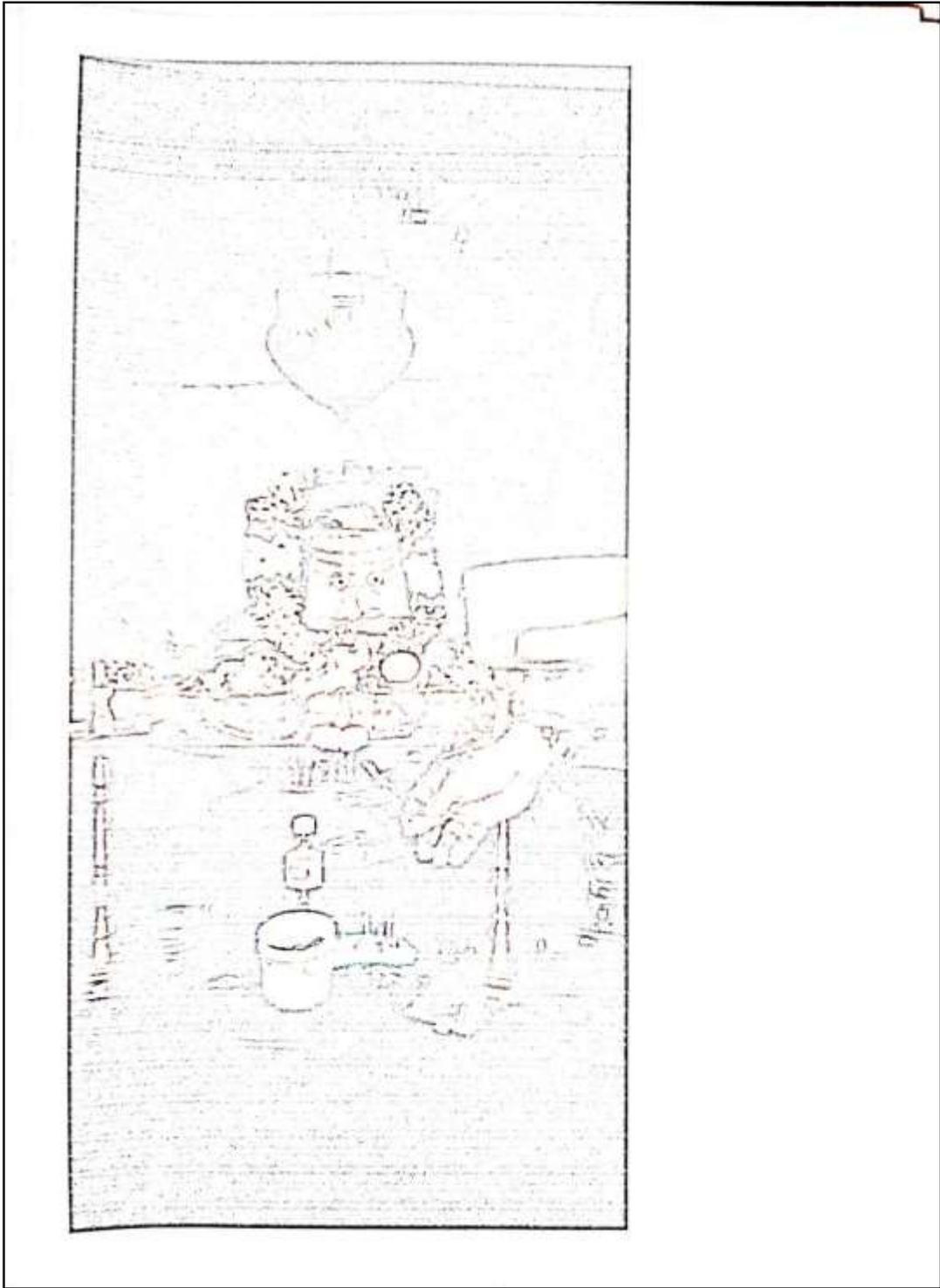
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VEERAMUSHTI RAJU
NAKKA PRAVEEN
PULI SAI SURYA
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ADLA PRIYANKA
ADLA SUSMITHA
AKULAPALLY KUSUMALATHA
BAIRUMALLA SAHITHYA
BANOTH ANIL
BANOTH RAJU
BANOTHU ANITHA
BARIGELA RAKESH
BETHU PAVAN
BHUKYA KALYANI
BOORA VINAY
EERLA GANESH
ESTABOINA KRANTHIKUMAR
GANEPAKA PRASAD
GOLLENA SHANKAR



పెరిచమం :- నా పేరు మాతంగి.మనోర్. మా కీబు కంభాలపల్లె
 మండలం మరియు జిల్లాగా ప్రస్తుతం 'మహాబాబాబాద్'గా
 పేరువదితున్న హైదరాబాద్ చాతవేసు కలగినటువంటి ప్రాంతం
 - అది ప్రస్తుతం మానూకోట్ గా పేరువదితుంది.

మా గ్రామం కంభాలపల్లె, మాకు జిల్లాగా ప్రస్తుతం పరిగ
 - లింపదితున్న మహాబాబాబాద్ కి 10 కిలోమీటర్లు దూరం
 ఉంది.

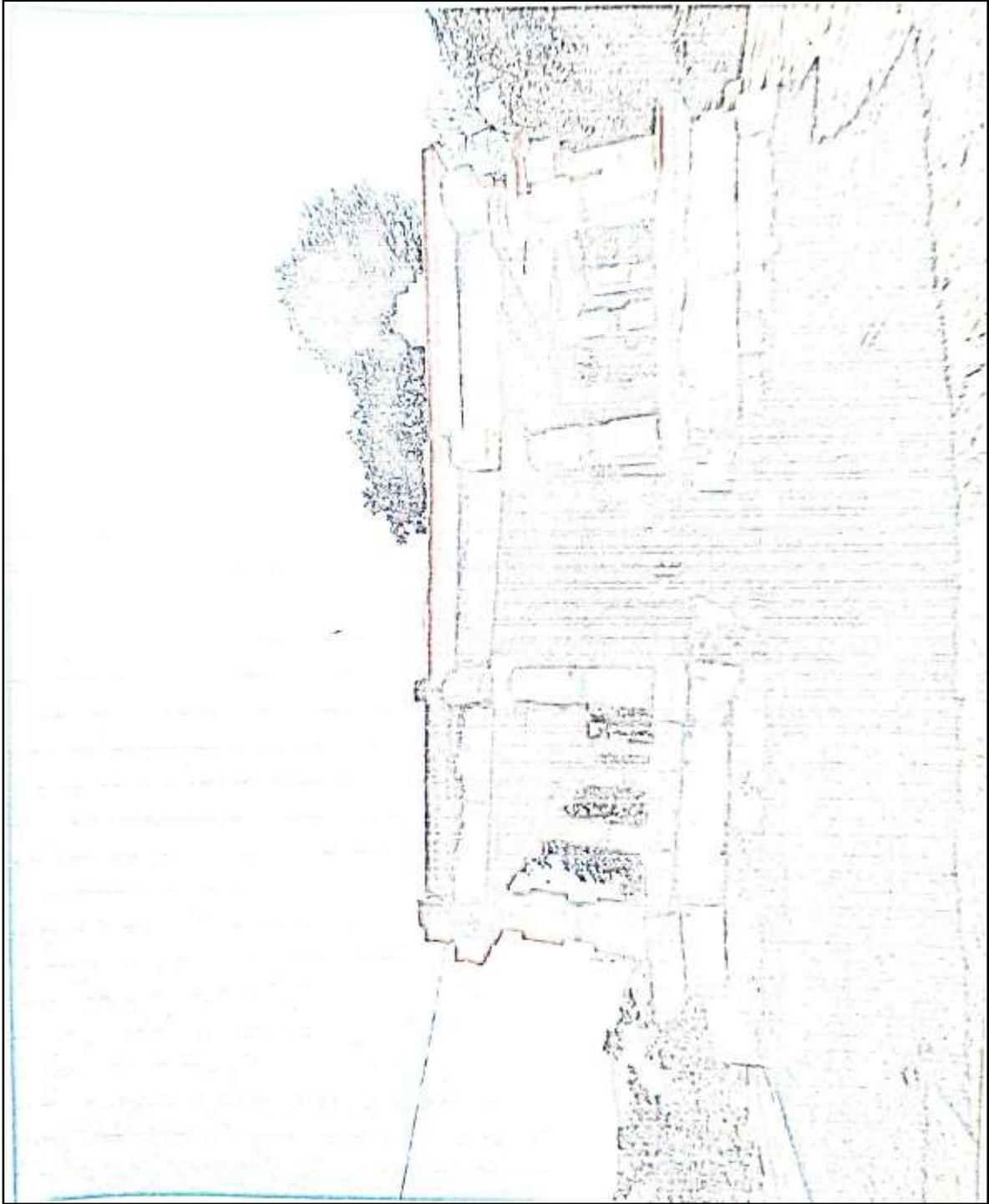
ప్రామాణ్యం (మహాబాబాబాద్)

నా జిల్లా ప్రామాణ్యం పచ్చటి - అడవులతో పెనవేసుకొని
 మరియు అల్లకొని దానంతట - అది ఏర్పరచుకున్న హై
 వారికి వర్షాకృతి తోట.

ప్రామాణ్యం - రివగా - తెట్టె - అది - అర్థం . ఆ అధికారాని తెట్టె
 - తో ఏర్పరచుకున్న హై "ప్రామాణ్యం" తోటగా ఉంటుంది.
 కనుక అందుకే దాన్ని 'ప్రామాణ్యం'గా అభివర్ణించడం
 జరుగుతుంది.

మరియు ఇక్కడి సంస్కృతులు మరియు సాంప్రదాయాలు
 ప్రామాణ్యం జీవన అధికారంగా వికసిత్రేకలు చాటుకుంటుంది.





STUDENT STUDY PROJECT WORK
ON
HISTORY OF PADMAKSHAMMA TEMPLE



SUBMITTED TO
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JANNU AKHILA
KADARI SRAVAN KUMAR
KALETI MOUNIKA
KANDIKONDA SHASHIKIRAN
KANNEBOINA SRISHAILAM
KARPURAPU SRIKANTH
KAYAM BABU
KEESARI NAGARAJU
KURSAM DIVYA
LAVUDYA RAJKUMAR
MADDHELA PRABHU
MAMIDI RAVALI
MATLA KAVITHA
MUDURAKOLA MANASA



ವೆಂಕಟೇಶ್ವರ ಅಮ್ಮವಾಯ.

పదాక్షిపేదవాలయం

పేరు

సెధాన పేరు : పదాక్షిపేదవాలయం.

సెదేశమం.

దేశమం : ఛారతదేశం

రాష్ట్రం : తెలంగాణ.

జిల్లా : వరంగల్లు జిల్లా

సెదేశం : వానకొండ.

జిలయ వేవరాల

సెధాన సైవం : పదాక్షిపేద అమకవారు.

నీరాణిణ జైతి, సంస్కృతి

వాస్తవ శేల్లశైలి : వాంఛనా, శైలి.

ఇతి వేశిసం

నీరాణిణ తేజీ : క్రీ.శ. 1117

సృష్టికర్త : సెతాపరుడుడు.

కలయ విశేషాలు:-

ఇది 12 వ శతాబ్దానికి చెందిన ఒక పురాతన
శేవాలయం. ఈ ఆలయంలోని ఉధాన శైవం పదాక్షి అమలవాడు.
కాకతీయ రాజుల ఇలవేల్పు, ఆరాధ్య దైవం పదాక్షమం.
10 వ శతాబ్దం కాలంలో ఉతాప రుద్రుడు. వేయిస్తంభాల
గుడి నిర్మాణం కంటే ముందే పదాక్షి గుడిని నిర్మించారని
కొందరు చరిత్రకారుల వాదన.

కాకతీయుల రాజులు అమలవారని దర్శించి పూజలు
నిర్వహించిన అనంతరం యుద్ధము వారాలకు, శుభగడియలుగా
భావించి శుభపులపై యుద్ధం ప్రకటించి విజయం సాధించే
వారట. ఈ ఆలయం హిందూ, శైవ సంస్కారాల కలయికతో
వైవిధ్యాన్ని కనబరస్తూ చూపరులను పునఃకానికి గురి చేస్తున్న
ది. మత పరమైన ఉత్పాతికి సంబంధించిన శిల్పకళతో పర్యాట-
కులను, నగర వాసులను ఆకర్షిస్తున్నది.

కొన్ని చారిత్రక అధికారాలను బట్టి ఒకప్పుడు
ఇక్కడ " అసది " అనే శైవ మందిరం ఉండేదని చరిత్రకారు-
లు చెబుతున్నారు. గుడి ఆవరణలో ఉన్నట్టే శైవ-
తాత్పర్యాల విగ్రహాలను మనకు దర్శనమిస్తాయి. ఈ ఆలయం
క్రీ.శ 1117 లో నిర్మించబడింది. ఈ ఆలయం ఎత్తైన
గుద్ది మద ద్వారా కొండను తొలగి నిర్మించారు.



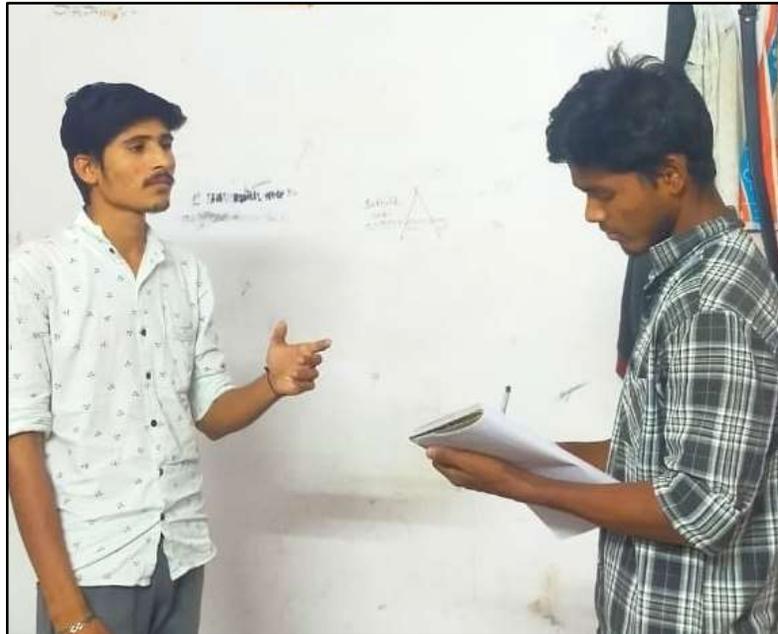
ವಾಲ್ಮೀಕಿ ಸ್ತಂಭ
ಹೇಡಿ
೨೩ ಅಕ್ಷರಗಳಿವೆ.

DEPARTMENT OF ECONOMICS

Student's involvement in Field trips and Study projects

Sl · No	Name of the Study Project	Mentor/guide	No. of Students involved	Course
1	A Study on the Effectiveness of MGNREGA in Kodakandla Village of Janagoan District	Ch. Raju	30	BA II (HEP) 2021
2	Problems and Prospects of Handloom Industry at Pochampally village in Jangoan District	Ch. Raju	30	BA II (HEP) 2021
3	Problems and Prospects of Small-Scale Industries in the Era of Globalization - A study of Warangal District	Dr. G. Shyamu	30	BA II (HEP) 2021
4	Impact of Kalyan Lakshmi Scheme on child marriages - A study in Palakurthi Village	Dr. G. Shyamu	30	BA II (HEP) 2021
5	A study of Women's Health in Bradachalam District	K. Surya Rao	30	BA III (HEP) EM 2020
6	Economic Poverty alleviation programmes A study on NREGA Programme in selected villages in Warangal Rural District	K. Surya Rao	30	BA III (HEP) TM 2020
7	The impact of advertisements on the purchasing decisions of youth- A study in Hanamkonda Town	Dr. B. Indira Nainadevi	30	BA (EPP & HEPA II) 2021
8	The Role of Self-Help Group in Rural Development - A Study in Hanamkonda mandal	Dr. B. Indira Nainadevi	30	BA I (HEP) 2021

Student's Involvement in Study Projects



Collecting information as a part of study project 'The impact of Advertisements on the purchase decisions of youth in Hanamkonda'



Krishna Chaitanya BA HEP I Year Student collecting information on the topic of 'The Role of Self-Help Group in Rural Development - A Study in Hanamkonda Mandal



STUDENT'S STUDY PROJECT 2020-21

**“THE IMPACT OF ADVERTISEMENTS ON THE PURCHASE DECISIONS OF YOUTH” A STUDY
IN HANAMKONDA TOWN”.**



Submitted by

BA II Year

EPPA & HEPA Students

Under the Supervision of

Dr. B. Indira Nainadevi

Assistant Professor of Economics

Department of Economics

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA (TS)

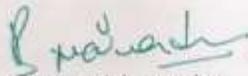


CERTIFICATE

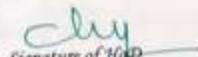
This is to certify that the study project entitled "THE IMPACT OF ADVERTISEMENTS ON THE PURCHASE DECISIONS OF YOUTH" A STUDY IN HANAMKONDA TOWN" carried out by our students of BA HEPA and EPPA II year Students under the supervision of Smt. Dr. B. Indira Nainadevi, Assistant Professor of Economics, Department of Economics, KGC Hanamkonda for JIGNASA 2020-21 Study Project.

Place: Hanamkonda,

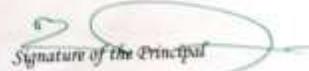
Date: 31-11-2021


Signature of the Supervisor

B. Indira Nainadevi


Signature of HOD

Ch. Raju


Signature of the Principal

Dr. K. Mallesham

PRINCIPAL
KAKATIYA GOVT. COLLEGE
Hanamkonda.

“THE IMPACT OF ADVERTISEMENTS ON THE PURCHASE DECISIONS OF YOUTH” A STUDY IN HANAMKONDA TOWN”.

Abstract

Advertisement is an important marketing communication technique for sellers. It is a communication link between the seller and the buyer or the consumer. It is a crucial factor in spreading awareness about the new products in the markets. It is therefore challenge for the managers to compete with this global challenge of attracting the consumers towards their products and services. Firms spend a large amount of money on advertising and face a major challenge in influencing the purchase behaviour of consumers favorably towards their product or service. The final goal is to influence the purchase decision of consumers as most marketers realize that purchase decision is the end result of a long process of consumer decision making. The present study focuses on the assessment of the impact of advertisement on purchase of youth with reference to consumer goods.

Key Words: Consumer, Advertisement, Decision making, Awareness

STUDENT'S STUDY PROJECT 2020-21

**THE ROLE OF SELF-HELP GROUP IN RURAL
DEVELOPMENT - A STUDY IN HANAMKONDA
MANDAL**



Submitted by

BA HEP I Year

Students

Under the Supervision of

Dr. B. Indira Nainadevi

Assistant Professor of Economics

Department of Economics

KAKATIYA GOVERNMENT COLLEGE, HANAMKONDA (TS)



CERTIFICATE

This is to certify that the study project entitled "THE ROLE OF SELF-HELP GROUP IN RURAL DEVELOPMENT - A STUDY IN HANAMKONDA MANDAL" carried out by our students of BA HEP I year Students under the supervision of Smt. Dr. B. Indira Nainadevi, Assistant Professor of Economics, Department of Economics, KGC Hanamkonda for Student's Study Project.

Place: Hanamkonda,

Date: 31-12-2021

Signature of the Supervisor

B. Indira Nainadevi

Signature of HOD

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Signature of the Principal

Dr. K. Malleshham

PRINCIPAL
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Hanamkonda.

Abstract

Self- help groups (SHGs) play a significant role in poverty eradication in rural India. A majority of SHGs in India are women groups actively engage in savings & credit, income generation activities, child care and natural resource management. Now a day's Self -help groups (mostly women groups) have become a driving force for social change. It is a method of organizing the poor and marginalized sections to fight against individual problems as well as social evils. The several government institutions have included SHGs concept in their development programmes to tackle the issues of poverty, illiteracy, gender sensitization and hygiene. Due recognition has been given for SHGs in five year plans. Thousands of the poor and the marginalized population in India are building their lives, their families and their society through Self-help groups. Hence, the present study studies the relationship between Self Help Groups and socioeconomic development of rural community in general and women in particular in India.

Key Words: Self Help groups, Poverty, Illiteracy, Gender, Rural development

DEPARTMENT OF POLITICAL SCIENCE

**Department of Political Science
Kakatiya Government College Hanamkonda**

Student Study Field Project

ON

Neo-liberal State, Pandemic and the Education of Urban Poor Children

- 1. Rajkumar**
- 2. Manjunath**
- 3. Subash**
- 4. TarunTeja**
- 5. Wahahat,**
- 6. A. Nagaraj, I year HEP**
- 7. T. Srikanth, I year HEP**
- 8. Ch.Bharath, I year EPP**
- 9. V. Aravind, I year, HPP**
- 10.A. Shivaganesh, III year HEP**

Under the supervision of

**A MadhusudhanReddy
S Kamalakar
K Madhavi**

DEPARTMENT OF PUBLIC ADMINISTRATION

**KAKATIYA GOVERNMENT COLLEGE
DEPARTMENT OF PUBLIC ADMINISTRATION**

Student Study Project on

**SOLID WASTE MANAGEMENT
IN GREATER WARANGAL MUNICIPAL CORPORATION:
A CASE STUDY**

Under the Supervision of

A. SOMANARSAIAH, *Asst. Prof. of Public Admn.*

B. MURALIDHAR, *Asst. Prof. of Public Admn.*



**DEPARTMENT OF PUBLIC ADMINISTRATION & HRM
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We are greatly indebted to our College Principal Dr. S.Ganapathi Rao for his kind permission and encouragement to allow us to come out with the findings of the Study Project with all possible help. We really thank him for his encouragement.

We place on record our heartfelt thanks to all the Heads of the Departments and the members of the faculty working therein of our college for their unconditional support. They are also there for us to listen to and advise us towards the successful completion of this study project.

We truly appreciate the student-respondents' participation in this research-based Student Study Project. We sincerely thank the student community of Kakatiya Government College, Hanamkonda for their time and help. We hope that our research is beneficial for the society. Our thanks are due to the non-teaching staff of the college.

We are humbled to thank each and every helping hand extended to us during the course of performing this project work.

----- Students of Public PUBLIC ADMINISTRATION

SOLID WASTE MANAGEMENT IN GREATER WARANGAL MUNICIPAL CORPORATION:

A CASE STUDY

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4	Review of Literature	
5	Research Methodology	
6	Analysis of Data	
7	Findings and Suggestions	
8	Conclusions	

1. INTRODUCTION:

The problem of solid waste has been notified as far back as in the days of the industrial revolution throughout the 1700's and 1800's European and American streets were clogged with waste due to rapid industrialization and urbanization coupled with growth of slums after the world war II the marketing experts set to work trying new tactics to get consumers to buy and stimulate consumption. While the marketing strategy focused to increase purchasing capacity of the consumer with the nature of product being use and throw, animal wastes, and the waste from fuel in homes and industrial furnaces, added to the existing trash. Thus, it is a by-product of the industrialization and urbanization. Solid wastes are all wastes arising from human activities which are discarded as unwanted and useless, is there by mean any garbage, refuge or sludge from a treatment plant or throw away material of a particular nature coming from community activities, especially in urban areas.

CONCEPT OF SOLID WASTE MANAGEMENT:

Solid waste management is defined to include household waste, commercial and market area waste, slaughter house waste, (e.g., from schools, community halls), horticultural waste (from parks and gardens), waste from road sweeping, silt from drainage, and treated biomedical waste. Solid waste management is one of the most essential functions of the local government authorities in India to achieve a sustainable development in the country. Nevertheless, it has also been one of the least prioritized services during the last decades. Solid waste management is major challenge in Urban areas throughout the world. Without an effective and efficient solid waste management programme, the waste generated from various human activities, both industrial and domestic can result health hazards and also have a negative impact on the environment. Understanding waste generated, the availability of resources, and the environmental conditions of a particular society or important in developing and appropriate waste management system.

2. STATEMENT OF THE PROBLEM

The nature and character of solid waste have a direct bearing on the socio-economic status of the population generating it. The huge amount of solid waste being generated in cities has become a major problem not only in developed countries but also in developing too. Current global Municipal solid waste generation levels are approximately 1.3 billion per year, and are expected to increase 2.2 billion tonnes per year by 2025.

Municipal solid waste generation rates are influenced by economic development, the degree of industrialization, public habits, and local climate. Generally, the higher the economic development and rate of urbanisation, the greater amount of solid waste produced. Income level and urbanization are highly

correlated and as disposable incomes and living standards increase, consumption of goods and services correspondingly increases, as does the amount of waste generated. Urban residents produce about twice as much waste as their rural counterparts. In South Asia, approximately 70 million tonnes of waste generated per year, with per capita values ranging from 0.12 to 5.1kg per person per day and average of 0.45kg/capita/day. In India presently, no systematic and authentic data on Municipal Solid Waste generation at National level and subsequently at State, District and at city/town level is available. It is to state that quantification of Municipal solid waste and assessing its composition is systematic study with laid down procedure as prescribed in the manual of CPHEEO, MoUD, 2000. Based on the information collected by CPCB from time to time, the reported /estimated waste generation in the country is 1,41,064 tons/day and out of which, 1,27,531 tons/day (90%) is collected and 34,752 tons/day (27%) processed. According to Central Pollution Control Board Report on February 2016 the Telangana state urban areas are generating 6,740 tonnes per day. In this waste 6,369 tonnes solid waste is collected, 3,016 tonnes waste is treated and remaining 3,353 tonnes waste is land filled. As per this report Greater Warangal Municipal Corporation is generating 500 tonnes per day. The lack of proper mechanism and the lack of will on the part of municipal authorities to collect all the waste and dispose of properly are major concern today. Therefore in public interest there should be a universal approach and agreement amongst the government of all the nations for the proper disposal of solid waste **the betterment for of human society**. This study focuses on how the solid waste is being disposed of and to suggest the measures for more effective disposal of solid waste in general and in Warangal Municipal Corporation in particular.

SOLID WASTE MANAGEMENT POLICY IN INDIA

The SWM policy in India specifies the duties and responsibilities for Hygienic waste management for towns and cities in India. This policy was framed in September, 2000 based on March 1999 Report of the committee for SWM in class 1 cities of India to the supreme court. Then after manual or sum proposed by CPHEEO, Ministry of Urban Development, 2000. After that honourable National Green Tribunal CPCB drafted an indicative National Action Plan waste on MSW rules, 2000 and posted in website for reference of drawing state action plans. MSW rules, 2000 have been revamped and modified the SWM rules, 2016. The National action plan is also re drafted accordingly the SWM rule, 2016.

STATE WISE GENERATION, COLLECTION AND TREATMENT

(February, 2016)

S. No.	States	Generated (TPD)	Collected (TPD)	Treated (TPD)	Landfilled (TPD)
1	Andaman&Nicobar	70	70	05	
2	Andhra Pradesh	4760	4287	3402	
3	Arunachal Pradesh	116	70.5	0	
4	Assam	650	350	0	
5	Bihar	1670	-	-	
6	Chandigarh	370	360	250	
7	Daman Diu & Dadra	85	85	Nil	
8	Delhi	8370	8300	3240	
9	Goa	450	400	182	
10	Gujarat	9988	9882	2644	
11	Haryana	3103	3103	188	
12	Himachal Pradesh	276	207	125	150
13	Jammu & Kashmir	1792	1322	320	375
14	Jharkhand	3570	3570	65	
15	Karnataka	8697	7288	3000	
16	Kerala	1339	655	390	
17	Lakshadweep	21	-	-	
18	Madhya pradesh	6678	4351	-	
19	Maharashtra	22,570	22,570	5,927	
20	Manipur	176	125	-	
21	Meghalaya	208	175	55	122
22	Mizoram	552	276	Nil	
23	Nagaland	344	193	-	
24	Orissa	2374	2167	30	
25	Puducherry	495	485	Nil	
26	Punjab	4105	3853	350	
27	Rajasthan	5037	2491	490	
28	Sikkim	49	49	0.3	
29	Tamilnadu	14,500	14,234	1607	
30	Tripura	415	368	250	
31	Telangana	6740	6369	3016	3353
32	Uttar Pradesh	19180	19180	5197	
33	Uttarakhand	918	918	Nil	
34	West Bengal	9500	8075	851	515
35	Chattisgarh	1896	1704	168	
	Total	1,41,064	1,27,531— 90%	34,752— 27%	4,515

Data of Annual Report 2013-14 and 2014-15 by Central Pollution Control Board

CITIES GENERATING WASTES IN BETWEEN 200 – 1000 TPD

(Illustrated/ Indicative)

S. No.	Cities	Estimated Waste Generation (T/D)
1	Vishakapatnam	350
2	Patna	450
3	Vadodara	1150
4	Hubli-Dharwar	300
5	Kochi	360
6	Thiruvananthapuram	360
7	Indore	850
8	Bhuvaneshwar	600
9	Ludhiana	850
10	Coimbatore	850
11	Madurai	450
12	Allahabad	450
13	Varanasi	500
14	Guntur	250
15	Elluru	200
16	Kakinada	200
17	Kurnool	220
18	Nellore	250
19	Nizamabad	200
20	Rajamandry	300
21	Vijayawada	550
22	Warangal	500
23	Gowhathi	600
24	Dhanbad	180
25	Jamshedpur	300
26	Ranchi	150
27	Bhavanagar	300
28	Jamnagar	320
29	Rajkot	450
30	Faridabad	400
31	Behalgam	200
32	Mysore	350
33	Kunnore	350
34	Kozikode	250
35	Durgh	300

3. OBJECTIVES OF THE STUDY:

1. To analyse the Solid Waste Management Policies 2000 and 2016 in India.
2. To analyse and study the Solid Waste practices in Indian Municipal Corporations in general and Greater Warangal Municipal Corporation - Warangal in particular.
3. To study organisational and management practices to ensure the protection of the environment and to protect the health and well society of people.
4. To study the opportunities for facilitating the effective people participation in Solid Waste Management.
5. To ensure the protection of the environment through effective waste management measure
Grow the contribution of the waste sector to GDP
6. Increase number of jobs within waste services, recycling and recovery sectors.
7. Private sector capacity mobilized to support waste service delivery and community based
Collection models.
8. To implement systematic monitory of key performance indicators by each sphere of
Government.
9. Discourage waste generation through cost reflective and volume based tariffs.
10. Promote waste minimization and recycling through education system .
11. To ensure the protection of the environment through effective municipal solid waste management
measures.
12. To develop national and local awareness companies on the social importance of waste
Management.
13. Increase reuse and recycling rates of products and reduce the percentage of recyclable material
to landfill
14. Ensure separation at source in all types municipalities and metropolitan cities
15. Encourage waste to energy options and support the diversion of high calorific waste from landfill to
recovery options
16. Promote the regionalisation of waste management services in all municipalities'

RIVIEW OF LITERATURE:

According to United Nations Development Programme (1997), the uncollected waste in the urban areas is **the second most important problems** faced by the residents after unemployment. From one- to two- thirds of the solid waste is either not collected or not disposed off properly, which is lying strewn on the roads, entering into the drain, causing chocked sewer and stagnant sewer water on the roads, urban flooding during rains, breeding of insects and rodent vectors and spread of diseases. Thus, the ultimate aim of solid waste management is to include all activities that can minimize impact of solid waste on health, environment and aesthetic.

The organic and biodegradable component of municipal solid waste is important since in densely populated parts the cities, it causes adverse impact on public health and environment quality. Apart from the stray animals and rodent, insects; it also leads to foul odors and unpleasantness. These impacts are not limited and to only garbage disposal site but also garbage generation sites which suffer from accumulated waste. The other constituents of waste including hazardous chemical pollutants and sharps are sources of diseases and injuries especially among children r, rag pickers and employees among waste management sector. The domestic waste from industrial cities consist of a high content of paper plastic, glass. In developing countries the domestic waste contains a proportion of inert materials as sand, ash, dust, and stones in addition to high moisture level. In the scenario of solid waste management, most significant is the problem found at house hold level solid waste generation. In face of unavailability and inaccessibility to municipal bins and waste collection system, most of the households, shops and establishment throw their waste just outside their premises on the streets or any dumping site available nearby. Although, partial segregation of recyclables like paper, plastic glass and metals which formed around 15 to 20% of the solid waste in India is conveniently segregated at source. Another 35 to 55% of waste material is organic waste which can be converted in to compost, living only 30 to 50% as residue going in to the land fill sites.

In India waste material like paper plastic, metal, glass, rubber leather and rags are recycled through private initiative and informal workers. The more dangerous is the practise by rag pickers which collect discarded recyclables from the streets, bins and dump yards, segregate them to be sold to the dealer for a small price for sustaining themselves. These recyclables are dirty and solid with bio- chemicals, bio medical, food waste and excreta from human and animals. Thus, urban India produces 42 metric tonnes of waste annually. Out of this around 4 million metric tonnes are retrieved for recycling while another 4 million tonnes is disposed off in uncontrolled dumps. It is this part which needs special care for its health impact.

According to World Bank (2001), Statistics have shown an increase in organic component of waste with per capita rise of income level. Since in India, income levels are low, organic component of waste is much higher than industrial countries. In this connection the current practices in India for solid waste management through recycling is significant.

The nature and character of solid waste have a direct bearing on the socio-economic status of the population generating it. The huge amount of solid waste being generated in cities has become a major problem not only in developed countries but also in developing too. The inefficiency at part of municipal authorities to collect all the waste and dispose off properly is a major concern today. Therefore in public interest there should be a universal approach and agreement amongst the government of all the nations for the proper disposal of solid waste for the betterment of human society.

Greater Warangal Municipal Corporation is one of the oldest municipalities in Telangana state and declared as Municipal Corporation on August 18, 1994. The city is included in Amrut project and smart city by Central government. The city known for its heritage and in late 2014 was included in the Government of India's proposed HRIDAY (Heritage City Development and Augmentation Yojana) along with 11 other Indian cities. Warangal is the second fastest growing city in Telangana state, after Hyderabad. Warangal City is known for its beautiful lakes, temples and Wildlife. It is very rich in antiques and relics.

5. METHODOLOGY:

The methodology is based on combination of primary and secondary data collection. The structured questionnaire methods, informal discussions and participatory observation methods are to be adopted for the study of Greater Warangal Municipal Corporation area. Primary data collecting distributing questionnaire, the sample size is 200 randomly will be taken for the research. The secondary data collecting from various journals, books, government published manuals, other publications.

SOLID WASTE MANAGEMENT IN GREATER WARANGAL MUNICIPAL CORPORATION

Warangal Municipality is one of the oldest municipalities in India and after Hyderabad second largest Municipal Corporation in newly formed Telangana State (02-06-2014).It was constituted as major municipality in 1344 Fasli. The first election was held on adult franchisees in 1952 under Hyderabad Municipal Town Committee Act, 1951 and a committee was constituted. It was upgraded as Special Grade Municipality in July 1959 and into Selection Grade Municipalities in July 1960 and declared as Municipal

Corporation on August 18, 1994. On 19 March 2013, G.O.Ms.No.99 was issued and merged and inclusion of areas covered in the surrounding forty two (42) Gram Panchayats into the limits of Warangal Municipal Corporation. On 28 Jan 2015, G.O. Ms. No. 40 issued and Declared Greater Warangal Municipal Corporation (GWMC).



Fig 1: Visit to Greater Warangal Municipal Corporation

QUESTIONNAIRE

- SOLID WASTE MANAGEMENT IN GREATER WARANGAL MUNICIPAL CORPORATION
- A CASE STUDY OF THE STUDENTS FROM THE DEPARTMENT OF PUBLIC ADMINISTRATION AND HRM.

KAKATIYA GOVERNMENT COLLEGE HANAMKONDA ,WGL.

Dear Respondent,
morning sir/madam

Good

This questionnaire is designed to obtain information on the above study project research title and the questionnaire is for a purely academic purpose. You are requested to cooperate by responding to the items contained in the questionnaire. Please be assured that all information supplied shall be kept confidential . It would be our privilege to have you as on astute sample of the population on this study project to contribute something constructive for the benefit of the student community at home and abroad in this digital era. Thank you for your cooperation.

QUESTIONS

1.Age of the respondent?

A. under 20 B.20-30 C. 31-40 D. 41-50 E. 51-60 F. 61 and above

2. Gender of the respondent?

male B. Female

A.

3. Education level ?

illiterate B. Elementary school C. middle school D. High school
E .Intermediate(NO DEGREE) F. Associate degree(two year degree college)
G. Bachelors degree H. masters degree I. Doctarate degree

A.

4. Have you received any information regarding the environment during your education year (ex: pollution, global warming, water sanitation, solid and wet waste etc...)?

A. YES B.NO

5. Marital status?

Single B. married C. divorce D. Widowed

A.

6. How many people living in your household ?

B.3-4 C.5-6 D. more than 6

A. 1-2

7. Are you a resident of greater Warangal city ?

B. No

A. Yes

8. What percentage of waste producing in your house ?

Less than 30% B. 30%-50% c. More than 50%

A.

9. How often do you take out the waste ?

A. Once in a day B. Once in two days C. Once in three days D. Once in five days.

10. Monthly income? A.
 5000-10,000 B.11,000-20,000 C.21,000-30,000 D.31,000-40,000
E. 41,000-50,000 F.51,000-1 Lakh G. More than one lakh
11. Where do you take the waste ? A.
 Personal containers outside the house B. Muncpal containers within short walking distance C.
 Dump it in fields D. Burn it
12. How often is your waste collected in your street ? A.
 Everyday B. Once in two days C. once in three days D. Once in weekly
- 13.who collects the waste from home /shop/both? A.
 Local municipal government B. Negighbourhood group c. Private group D.NGOs
14. What is your opinion or the service that you are receiving for collection of waste from your household ?
 A. satisfied B. Reasonably satisfied C.Not satisfied at all D. Do not know
15. Do you pay for the collection of waste from your home /shop? A. Yes
 B. No (if yes how much amount you are paying?)
- 16.How do you discard the waste that is no value to your household? A.
 Burn it B. Leave it on the street C. Throw it in the river /water
 D. Discard it in the communal containers E. Bring it to the dump site
 F. Leave it to be collected from the house G. Do not know
- 17.How many times per week is your solid waste collected from your house? A.
 Daily B. Twice a week C. Once a week D. Now and then
 E. There is no collection F. Do not know
18. Who is handling your solid waste?
 A. Father B. Mother C. Children D. Other relatives
19. What is your opinion about the current situation of the disposal of solid waste in your neighbourhood?
 A. I am doing it because everyone else is doing it B. There will be problems in the end
 C. Nothing is wrong with what / am doing now D. No opinion /don't know
- 20.What do you consider the most urgent problem related to the disposal of solid waste in your neighbourhood? A.
 Personal health B. Pollution of living area and playgrounds for children
 C. Littering of solid waste in the neighbourhood D. It will endanger the fish catch
 E. Nothing is wrong F. no opinion /any other
21. What is your opinion about the current green communal containers in your neighbourhood?
 A. They are too far a way from the house B. They are too small to contain all solid waste
 C. They produce un pleasant odours D. They size is sufficient
 E. Noting is wrong with the communal container F. No opinion

22. What is your opinion about the present size where you dispose your waste? A.
 Any one can throw his waste there B. Anything can be thrown there
 PC. The site producers foul odours D. Nothing is wrong with the site
 E. No opinion / don't know

23. Would you be willing to separate compostable goods?
 A. Yes B. No

24. Do you think that the quality of a society is based on the quality of its solid waste management? A.
 Yes B. No

25. Do you think that the public's approach towards rag pickers are not cordial? A. Yes
 B.No

6. ANALYSIS OF DATA :

Solid Waste Management

Municipal Solid Waste refers to solid waste from houses, streets, and public places, shops, offices, and hospitals. Management of these types of waste is most often the responsibility of municipal or other governmental authorities. Although solid waste from industrial processes is generally not considered municipal waste, it nevertheless needs to be taken into account when dealing with solid waste because it often ends up in MSW stream.

SL. NO		Unit	GWMC
1	Service area	Sq.km	471.7
2	Population served(2001)	Number	688614
3	Population served(2010)	Number	957000
4	Households served(2001)	Number	147073
5	Households served(2010)	Number	191000
6	Waste generated	Tons/Day	403.8
7	Waste collected	Tons/ Day	320
8	Collection efficiency	Percentage	81.2

9	Door to door coverage	Percentage	48.4
10	Extent of Segregation	%	0

Waste Generation:

The waste generated in Greater Warangal Municipal Corporation is estimated to be 360 tons per day (See table 40), which includes the waste from households, street sweeping, hotels and restaurants, markets, commercial establishments and horticulture debris. Typically the domestic waste generation in Indian cities ranges between 0.3-0.6 kg and for Warangal it works out to 480 grams per capita per day. In surrounding 42 villages the total estimated waste generated is 43.8 tons/day, calculated based on the empirical formula for per capita waste generation i.e., waste generated = population * 0.21 kg. per capita per day. Therefore Greater Warangal generates a waste of 403.8 MT every day at 400 grams per capita per day. Based on the data available from some of the similar Indian cities, the density of waste in Warangal is assumed to be 0.3 Kg In terms of the composition of waste, it is assumed that 40 percent of the waste generated is bio-degradable and the remaining 60 percent is bio-degradable.

1	Waste Generation –GWMC		Tons /day
2	Waste Generation Households	180	Tons /day
3	Waste Generation by street sweeping	170	Tons /day
4	Waste Generation by hotels and restaurants	1	Tons /day
5	Waste Generation markets	0.9	Tons /day

6	Waste Generation commercial establishments(institutions)	5	Tons /day
7	By other sources (eg, debris, horticulture waste..etc)	3	Tons /day
8	Total Waste Generation in WMC	360	Tons /day

Primary collection

Primary collection is the most essential component of SWM service and in Warangal it comprises door to door collection, street sweeping, collection from bins and open dumping, drain silt etc. While the objective of primary collection of municipal solid waste is to prevent littering and to facilitate compliance with MSW 2000 rules, organized collection of MSW at household level is being undertaken through door-to-door, house-to-house or community bin service, at regular pre-informed schedules.

Street Sweeping:

The WMC carries out street sweeping on a daily basis. WMC is divided into 20 sanitary circles, for administrative purposes, there are 16 sanitary inspectors and 33 sanitary maistries/safai karmacharis, who are primarily responsible for regular monitoring of sanitation in their respective circles. The Sanitary Inspectors report to Municipal Health Officer, who heads the SWM service in WMC. In addition, 465 workers are deployed by WMC to undertake street sweeping activities and door to door garbage collection.



Fig 2: Door to Door collection of Dry and Wet Garbage in Municipal vehicles

Door to Door Coverage:

The total number of households residing within municipal limits of WMC is estimated to be 150000 (2010) and the number of establishments as per municipal records is 11546. Of these, 96000 households and 485 commercial establishments are estimated to be covered by Door to Door Collection every alternate day. The household level coverage of SWM service is only 59.7 percent in WMC. In case of surrounding 42 villages, it is estimated that only 3484 households out of the total 41000 households have door step collection, which is about 7.7 percent. Therefore, the coverage of Door to Door collection in the CDP area (Greater Warangal) is only 48.4 percent.

Collection Vehicles and Transportation of waste:

The garbage from household is collected through tricycles/handcarts and then transferred to community bins/dumper bins. The garbage from community bins/dumper bins across all the wards is collected through tractors/dumper placers and dumped at the dumping yard. Currently, the garbage is being dumped at two designated sites, one at R eddypuram and other at Ammavaripet. The Corporation has one JCB, 16

dumper placers, 26 tractor trailers, 277 tricycles and 3 tippers. The table 41 gives the details of the vehicle capacities and the number of trips made by these collection vehicles each day.

Sl.No	Type of vehicles	No. of vehicles	Capacity	No. of trips
1	Dumper placers	16	3MT	3
2	Tricycles	277	50KG	-
3	Tippers	3	5MT	3
4	Tractors trailers	26	3MT	3
5	Mini tippers	4	1MT	3

Table: Collection vehicles used for transportation of waste in GWMC



A common practice observed in Warangal is that both the household and commercial waste are often dumped in nearby open spaces, which is later collected by tricycles. Even in surrounding 42 villages, the waste is collected through vehicles such as bullock carts, hand driven carts, tractors etc. The hand driven carts are mostly used to collect the waste dumped in open places and gather them at one place. The bullock carts are used to collect the waste from open spaces and dumper bins (about 221 in surrounding 42 villages)

and dispose the waste outside the village which is done once in 15-30 days. The tractors (private) are only used in rainy seasons or when the waste is over bundled.

Efficiency of Collection of Municipal Solid Waste:

Of the total waste of 360 MT generated each day, about 320 MT (91 percent) is being collected and transported to disposal facilities with the help of various solid waste collection vehicles mentioned above. The collection efficiency of solid waste in surrounding villages is understood to be very less as there is no formal mechanism for daily waste collection. A reconnaissance survey undertaken across 10 surrounding villages reveals that waste is commonly dumped at open places and burnt, which is an unacceptable SWM practice prevalent in the surrounding villages of Warangal city.

Segregation of waste:

Waste segregation practice is not being followed in WMC. The municipal solid waste, which is collected on a daily basis by WMC workers, is being dumped at Rampur open dump yard cum disposal site and also in the low lying areas, and similar is the case with surrounding 42 villages. The waste is neither segregated at source nor at the disposal sites.

Scientific Disposal:

The waste collected at household level and from community bins is transported and dumped at Shahimpet disposal site, of area 23 acres and three kilometers from city limits. There is no scientific land fill site constructed and the waste is not disposed in scientific manner.

Hospital Waste Disposal:

The Auto Clavable waste is stabilized (1.2Kg/Sq.cm) and is sold to ssssthe private party, authorized by Andhra Pradesh Pollution Control Board, once in a year. The incinerable waste is burnt in two chambers with 50 degree celcius and 100 degree celcius respectively. The left out waste from Autoclavable and Inceinerable waste is disposed scientifically at Sy.No.240, Ammavaripeta Thimmapur , Kothapalli, Warangal.

Complaint Redressal:

There is a grievance cell (Written Complaints), Call center and online facilities available for customers to register their complaint. All the complaints are documented and are reported daily to Medical and Health Officer, who orders the respective ward sanitary inspectors who are responsible to attend the complaints and solve the problem. It takes about 3 to 4 days to attend each complaint and rectify it. After the problem is set right signature is taken from the respective HH and people who registered complaints through call centers are given a message. There is no proper maintenance of the number of complaints readdressed in Warangal Municipal Corporation.



Cost Recovery of SWM Services:

The total annual operation and maintenance expenditure for SWM services at WMC is estimated to be Rs. 14.68/- crores. This includes, the staff costs, fuel cost for vehicles, repairs and maintenance costs, contract labour cost, chemical costs etc. There is no mechanism of cost recovery through user charges.

Revenue Generation to GWMC through Swatcha Bharath Scheme :

As a part of National Policy “Swatcha Bharath Programme” is being implemented in GWMC. But the programme has not progressed to the satisfaction citizens. Hence the students from Department of Public

Administration, KGC Wgl, decided to propagate this programme to create more awareness about it and responsibility towards it. It has to be encouraged in view of the Revenue generation capacity because an unemployed person can earn 60/- per house per month where in one has to collect garbage from 500-600 households. Under this scheme the people can get loan facility to buy vehicle for garbage collection.

Demand Assessment:

The population of greater Warangal is 9,57,000, and number of households are 1,41,000,only. In the Warangal city the average waste generates 450gm the average households waste generation is 2.4 Kgs. We need about 1900 tricycles of capacity 250 litres for entire greater Warangal as on date. The number of vehicles may further be reduced with the increase in vehicle capacity.

Norms for Sanitation Workers:

The Manual on Solid Waste Management by Ministry of Urban Development and Poverty Alleviation 2000, recommends the following norms, which are compared against the existing staff strength in WMC.

SL NO	NAME	Staff/ population	Normative Strength	Existing Strength	GAP
1	Municipal Health Officer	1:500000	1	1	0
2	Sanitary Officer	1:100000			
3	Sanitary Inspector	1:50000	15	16	
4	Sanitary Sub-Inspector	1:25000	-	-	
5	Sanitary Supervisor	1:12500	60	33	
6	Sanitary Worker(part time)	1:1000	750	465	
	Sanitary worker(street sweeping)	1:600m		-	

Working Norms for Street Sweepers:

CPHEEO estimates that a sweeper can cover 30000sft of open space per day. Sweeping norms in running meters of road are as follows:

- High density area – 300-350 meters
- Medium density area – 500-600 meters
- Low density area – 650-750 meters

Considering the variations in core city and the peri-urban areas of Warangal, an average figure of 600 metres is used to estimate the requirement for Warangal and compare with the current staff. With a total pucca road length of about 1800 km, Greater Warangal needs about 3000 street sweepers.

Secondary Storage:

A waste collector with handcart/tricycle is not expected to walk more than 250 metres and therefore waste containers for secondary storage should be available within a radius of 250m. In high density areas, one container should be placed for every 5000-10000 residents depending upon the size of the container ranging from 3 cu.m. to 7 cu.m. Greater Warangal requires either 95 vehicle containers of 7 cubic meter capacity or about 190 smaller containers of 3 cubic meter capacity.

Transfer Stations:

As it would be uneconomical to transport smaller quantities of waste to landfill sites located at longer distances, it is appropriate to transfer the waste from small vehicles/containers into larger containers trucks so that waste can be transported more effectively over long distances. With an assumption that a large container vehicle with a capacity to carry 15 MT can make five trips from transfer station to disposal site each day, 4-5 transfer stations would be required for Greater Warangal

Transportation of Waste:

If a mechanized system of lifting the containers is used, one driver and one sanitation worker per vehicle per shift should be enough to operate the waste transportation system. one worker should be able to connect the containers to the vehicles and to facilitate the unloading of the vehicle at transfer station or

disposal site. Norms prescribe that a tractor may make six to eight trips to the disposal site in one shift if the distance is less than 5km, but it may make fewer trips if the distance if the city is congested.

Treatment of Organic Waste:

Household waste contains about 40-50 percent organic waste. With an estimated 40 percent (150 MT) biodegradable waste in Greater Warangal, MSW 2000 rules mandate improved management and treatment of this fraction of waste before final disposal.

□ Composting is defined as a controlled process involving microbial decomposition of organic matter under aerobic conditions. Biodegradable waste is converted to a soil like substance (compost), which is a valuable soil amendment and fertilizer. Composting schemes vary in terms of scope, technology and management.

□ Anaerobic digestion is a process that produces bio-gas from decomposed waste. The biogas can be used to power electricity generators or to produce heat. The anaerobic digestion process reduces the volume of organic matter form the waste stream, therefore reducing the amount of waste that needs to be put in a landfill or incinerated.

Findings of Observations:

The following issues and challenges are in SWM system are observed in Warangal:

1. Primary collection is grossly inadequate with low levels of household coverage.
2. Partial or negligible segregation of recyclable waste at source.
3. In appropriate systems of secondary storage of waste.
4. Irregular transport of waste in open vehicles
5. No treatment of waste.
6. Inappropriate disposal of waste at open dumping grounds.
7. Involving local governments in system planning and development and encouraging private sector participation in waste management.
8. Institutional strengthening and human resources development.
9. Effective public participation in segregation of recyclable waste and storage of waste at source.

10. Effectiveness of awareness building or direct community involvement.
11. In sufficient staff of Maintenance.
12. Less Disciplinary action on concerned staff.
13. Inadequate vehicles for dumping and Poor Maintenance of vehicles.
14. Lack of Time, Training and Encouragement.
15. Cost benefits analysis and Inadequate Funds.
16. Corruption and lack of Control on Capital Expenditure.

Conclusion:

The problem of solid waste management is due to the rapid industrialization and urbanization. According to UNDP report 1997, the uncollected waste is the second most important problem. In India the population residing in urban areas increased from 18 percent to 31.2 percent from 1961 to 2011 respectively. Solid waste management is one of the obligatory functions of Municipal Corporations in Telangana State. The Municipal Solid Waste (Management and Handling) Rules, 2000 and 2016 lay down the steps to be taken by all the municipal authorities to ensure management of solid waste according to best practice. As per the rules, they must provide the infrastructure and services with regard to collection, storage, segregation, transport, treatment and disposal of MSW. In practice the solid waste is generating high and collecting disposal is low. It requires the ecological awareness and citizen participation to segregate waste at source, door to door collection and disposal in appropriate is imperative.

With the above finding in view, it is clear that waste, litter, garbage leads Greater Warangal Municipal Corporation urbanism line is a gloomy environmental condition. Since most of citizen in the unsanitary areas, almost all of them do not have any access to basic urban service of water supply, sanitation and waste disposal. The unhygienic, foul smell conditions make their life measurable. The study findings suggest that the Greater Warangal Municipal Corporation as a local government authority us failing to be accountable and responsive to local urban concerns.

Waste management is a crucial issue that needs governmental attention immediately, the practices used in this area to generate waste are too dangerous nations for our services but they could be disasters for children.

At present very little awareness exist amongst the stakeholders. It is crucial to educate people and commence them to adjust practices for reduce, reuse and recycle rather than generating crap. Waste generation and waste reductions reflect many careless economic and social factors. No city or town can adopt recommendations in a vaccum each must services its area wastes and the potential for extending waste reduction.

There are many possible ways to implement the general dictum that waste reduction should be the first principle of solid waste management. Humans concern for waste workers must temper the drive to street effectuating. During the period of technical change there are winners and losers and with field of materials recovery there should be attention to there who involved in this regard.

The above discussions, therefore allows to conclude that institutional limitations is a major banner to remove waste in service delivery to the people of GWMC. It demonstrates that a good intervention to create local responsiveness on the part of slum areas is essential. Building capacity of the community through raising awareness, giving training, providing incentives, involving all citizens for the services provision in the GWMC could be instrumental.



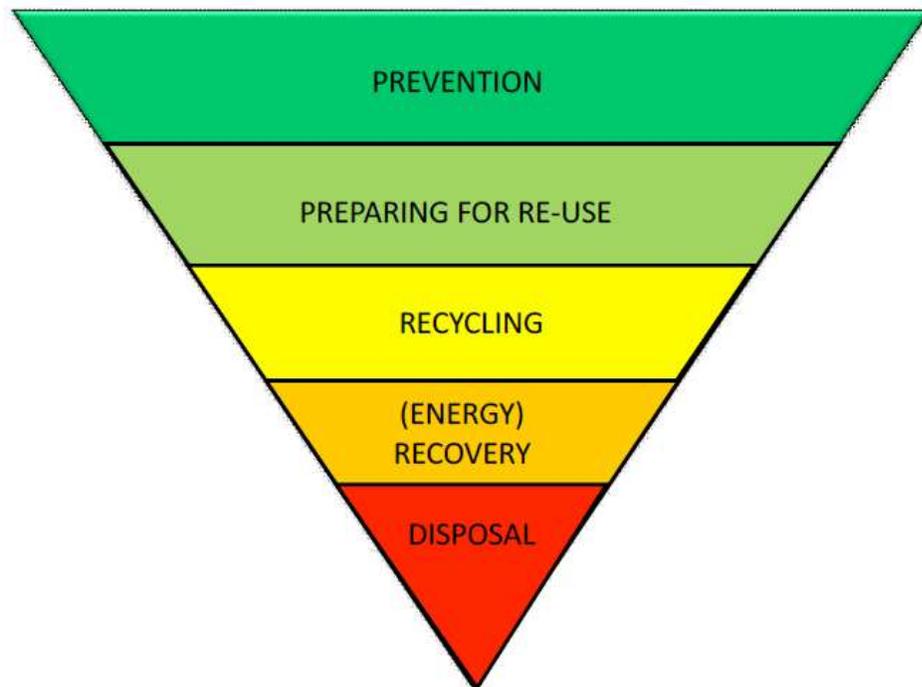
S.Tulasi,V.mounika, B.Kaveri, Gulam Sarwar Ali Ansari,

L.Saikumar B.Rakesh

SUGGESTIONS :

1. Information, Education and Communication (IEC) and Public awareness on waste management is an extremely important component for any successful SWM programme in addition proper legislation, technical support and funding. This has also been a key strategy under the Swachh Bharath Mission of Govt of India. This targets the “ Behavioural change communication ”, to ensure the waste management is mainstreamed with general public at large.
2. Identification and orientation of residents welfare committee.
3. Identification and Mobilisation of NGOs or social welfare groups.
4. Orientation of key personalities, social activists and policy makers involvement of professional communicators.
5. Conduct sanitation campaigns.
6. Media campaigning and environmental awareness
 - Information Hotline
 - Use of cable TVs and cable channels
 - Use of Hoardings or Banners
 - Advertisements in news papers
 - Issue of Hand Bills
7. Success stories Communication / Radio /Web based Public grievance system in GWMC

Figure 3 – Waste hierarchy



Source: [European Commission](#).

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PUBLIC ADMINISTRATION

Project

(MISSION BHAGIRATHA)

Collge Name: Kakatiya government Degree College.

MISSION BHAGIRATHA PROJECT (2020-21)

DEPARTMENT OF PUBLIC ADMINISTRATION

KAKATIYA GOVERNMENT DEGREE COLLEGE, HANAMKONDA.

SUPERVISED BY :SRI.SOMANARSAIAH SIR.

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**An Example is given below the topic being discussed here is
“Mission Bhagiratha”**

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Meaning of Mission Bhagiratha:

Bhagiratha is a project for safe drinking water for every village and city household in Telangana State, with a budget of ₹43,791 crores. The project is a brainchild of Telangana Chief Minister, K. Chandrashekar Rao, that aims to provide piped water to 2.32 crore people in 20 lakh households in urban and 60 lakhs in rural areas of Telangana. The ambitious project will supply clean drinking water to all households in the state through water sourced from River Godavari (53.68 TMC) and River Krishna (32.43 TMC).



The inspiration for the project was drawn as few of the habitations relied on contaminated groundwater. In Nalgonda district that is drought-prone, 973 villages with high fluoride content that leads to dreadful disease, fluorosis.

A similar project, Maneru Manchineella Pathakam, was conceived and completed by K.C.R, when he was the MLA for Siddipet Assembly Constituency in 1996-97, at a cost of ₹100 crores. The water was sourced from Lower Manair Dam and supplied to all households in 180 villages across Siddipeta constituency. The Chief Minister vowed on the floor of the assembly in 2016 that he will not seek votes in 2019 if the water project is not completed by 2018. The project has been completed successfully and is functional now. It has received accolades from the Central Jal Shakti Minister Gajendra Singh Shekhawat in Rajya Sabha that Telangana is the only state in India providing piped water for every household in the state.

Explanation of the mission Bhagiratha scheme:

The entire project is divided into 26 segments, comprising 25,000 habitations, at an estimated cost of ₹42,853 crores. The Krishna and Godavari rivers and existing reservoirs will be interlinked to collect, reserve and supply treated drinking water in the state, to every household in over 25,000 villages and 65 towns. The target is to provide 100 liters drinking water per person in rural areas, and 150 liters per person in urban areas. Around 4 TMC is planned for industrial use. The project had to take 13,000 permissions from various departments like railways, defense, national highways, forest, irrigation, panchayat raj, roads & buildings, etc.

Telangana Drinking Water Supply Corporation (TDWSCL) was established by the government to implement Mission Bhagiratha.[6] There are 59 overhead and ground-level tanks. 40 TMC water is sourced from tanks and reservoirs, the area range from 100 acres to 10,000 acres.

The piping system runs through 1.697 lakh kilometers.[7] The electricity required is 182 megawatts.

Sourcing water from major rivers or reservoirs fed by these rivers Purify the raw water in near by Water Treatment Plant Pump treated water to the major OHSRs and Sumps at the highest points Transmit from the highest point through secondary pipeline network to all the habitations by gravity (98%) Distribute to each house hold through a modern, rationalised intra village network by providing tap connections to each household.



Mission Bhagiratha, a flagship programme of the Telangana government, is aimed at providing safe drinking water to every household. “We have achieved 100 per cent target of providing drinking water connections to all households in the state. It was acknowledged by Union minister for Jal Sakthi GajendraSingh Shekhawat last week,” Mission Bhagiratha engineer-in-chief G Krupakar Reddy said.

Development and stages of mission bhagiratha:

Project Geographical Area : 1.11 lakh sqkm

➤ Coverage

Rural Habitations : 23,968 (Outside ORR)ULBs
 : 120 (66 Old + 54 New)

➤ Population in lakhs : 272.36 (2011)

Rural : 206.58
 Urban : 65.78

➤ Sources : Krishna & Godavari rivers and their tributaries and reservoirs.

➤ Water requirement - 2018 : 59.94 TMC

WORK IN PROGRESS	 Estimated cost of the project Rs. 42,000 cr.	Plans to cover over 25,000 rural, over 100 urban habitations	Efforts on to tie up the remaining funding with more banks and financial institutions	The project plans to source water from reservoirs based on Krishna, Godavari rivers, their tributaries
	A balancing reservoir constructed as part of Mission Bhagheeratha project at Komatibanda near Gajwel in Siddipet district.— FILE PHOTO	 Funding tied up with financial institutions such as HUDCO, NABARD and banks - Rs. 29,000 crore , including margin money of Rs. 6,000 crore from State government	Plan to utilise 34 tmc ft water from Godavari and 21.5 tmc ft from Krishna-based sources	The project divided into 26 segments with 19 huge intake wells, 63 sumps
		 Trunk pipelines to run for about 5,000 km , secondary pipelines for 50,000 km	 Village-level pipeline network to be about 75,000 km taking the total network length to about 1.3 lakh km	
	Plan to cover 6,100 habitations by 2016-end, 15,829 by 2017-end and remaining by 2018-end			

➤ Water requirement - 2048

: 86.11 TMC Krishna

Basin : 32.43 TMC

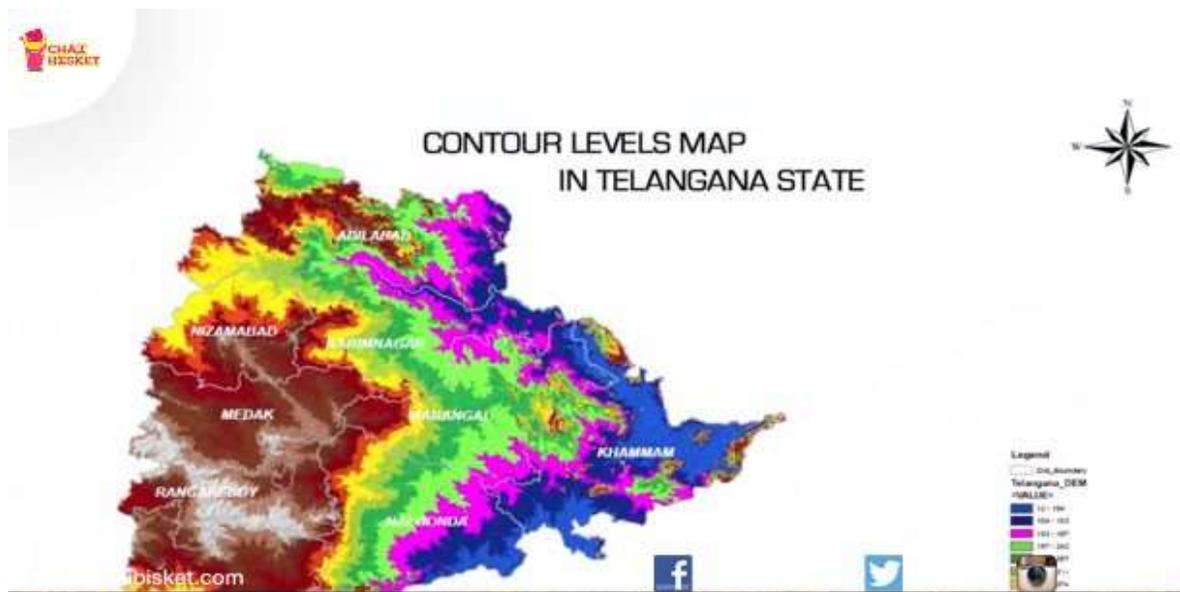
Godavari Basin : 53.68 TMC

➤ Project Outlay : Rs 46,123.36.

- It is an end-to-end design solution, planned to meet all requirements up to 2048.
- It relies on treating surface water from major rivers, Godavari (53 tmc) and Krishna (32 tmc).

For all the surface water bodies a reserve is maintained for drinking water purpose, by fixing MINIMUM DRAW DOWN LEVELS (MDDL) and monitored regularly.

- The fundamental principle inbuilt into its design, is that water is to be conveyed by gravity (98%),



Implementation of mission bhagiratha scheme:

Main stages involved are:

- Sourcing water, through Intake Wells, from major rivers or reservoirs fed by these rivers.
- Purifying the raw water in nearby Water Treatment Plant (WTP).
- Pump treated water to Over Head Balancing Reservoirs (OHBRs) at the highest points.
- Transmit from highest point through secondary pipeline network to all the OHSRs located in habitations by gravity .
- Distribute to each household through a modern, rationalized intra village network by providing tapconnection to each household.
- House Connections are provided for each and every household.
- Flow control valves are being installed with a design flow of 5 LPM at household connection point. Flow control valve also is able drawing excess water through pumps by the individuals.
- The required capacity of OHSRs, i.e 50% of the demand, also being constructed duly integrating the existing OHSRs which are in good condition.
- All the estimates are prepared based on Standard Schedule of Rates(SSR) approved by the State Government.



State benefits from mission bagiratha:

Left-wing extremism, widely prevalent across Telangana till a decade ago, is helping Mission Bhageeratha, the Telangana State Drinking Water Project, in ways that one could not have fathomed!

For one, it is thanks to the concessions allowed by the Central Government to the districts affected by Left-wing extremism, that the Telangana government is able to pitch its proposals for diversion of forest lands for the project with relative ease.

Secondly, the concession has also helped the government to get round the norms of compulsory compensatory afforestation.

If not for the concessions, rules framed for implementation of Forest Conservation Act do not allow diversion of more than a hectare of forest land in any single instance for creation of critical public utility infrastructure, without compensatory afforestation.



The Centre has, from time to time, identified a total of 82 districts as affected by the Left-wing extremism, in which the upper limit for diversion of forest land has been raised to five hectares for implementation of Integrated Action Plan.

Starting with Khammam and Adilabad in 2011, eight districts in Telangana, except Hyderabad and Ranga Reddy, have been identified over years by the Planning Commission and the Ministry of Home Affairs, as the affected ones. The State Government has thus got additional leeway of four hectares per instance of forest diversion in the eight districts.

Panchayat Raj department, which is entrusted with the work of Mission Bhageeratha, has made the most of this opportunity, by ensuring that very few instances of forest land diversion exceeded the extent of five hectares.

PUBLIC ADMINISTRATION

Project

(ISSUES OF STREET VENDORS IN
TELANGANA)

College: Kakatiya Government Degree College

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Definition and Meaning of Street Vendors:

In general terms the word Street vendors can be defined as A person who sells something in the street, either from a stall or van or with their goods laid out on the sidewalk. Street Vendors means individual merchants who offer products for sale in stands, booths or other non-permanent structures usually located on the sidewalk and designed to attract passing pedestrians. Street Vendors means a person engaged in vending of articles, goods, wares, food items or merchandise of everyday use or offering services to the general public, in a street, lane, sidewalk, footpath, pavement, public park or any other public place or private area, from a temporary built up structure or by moving from place to place and includes hawker, peddler, squatter and all other synonymous terms which may be local or region specific; and the words "street vending" with their grammatical variations and cognate expressions, shall be construed accordingly.



Street Vendors means persons selling or giving away goods, food or ice from their person and not from a temporary or permanent structure accessible to a street or sidewalk.

Issues and Challenges of the Street vendors in Telangana:

Informal sector is playing a significant role because 93 per cent of the employment workforce is from the informal sector and only 7 per cent of employment is from the formal sector or organised sector. The Hawkers and street vendors, one of the important parts of the urban informal sectors, accounted for two thirds of the city's employment in India. The street vendors are not recognised and regulated by the state, and therefore, they do not get any support from the government to operate their activity. They face several problems like harassment and pressure by police departments, municipality authorities, local leaders and market contractors or rent seekers.



Street vending is one of the most visible and important sustainable occupations in the urban informal sector in Telangana. Majority of street vendors are migrants from rural areas where poverty as well as lack of opportunities for gainful employment has pushed them to look for better opportunities in the cities. Street vendors are playing a Vital role in the urban informal economy of Telangana by providing employment and income goods and services to the urban poor and marginal working class.

Several sectors and types of labourers are linked with the street vendors. Street vendors support urban reach as well as urban poor.

GENDER EMPOWERMENT:

- Street vending activity is dominated by male rather than females and children.
- 82.5% of vendors are male and 17.5% of vendors are females.
- Female vendors are dealing with commodities like vegetables, sweets and fancy items.



AGE GROUP OF VENDORS:

- There are no vendors working independently below 15 years of age who only assist their family members.
- 51.67% Vendors belongs to the age group of 15 to 39.
- This age group is comparatively more capable of vending than the other age groups.
- The number of above 60 was very less because they were unable to carry out the operation activity that needed some effort.

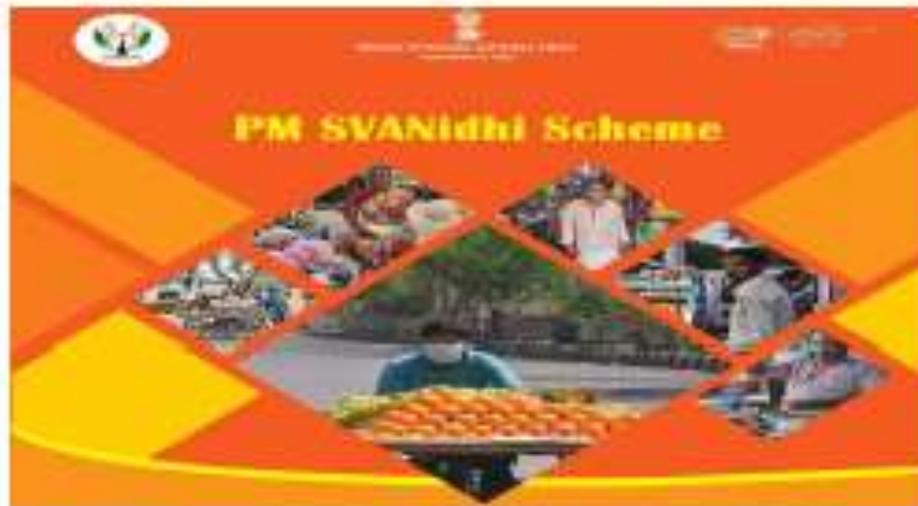
LITERACY LEVEL:

- Literacy rate of street vendors and performance of street vending activity or having great significance.
- low level of literacy indicates a low skills and capabilities and lack of awareness.

- 40% of street vendors are illiterate.
- 6.6% studied intermediate and 3% of vendors have a studied degree.
- Vendors are not capable of educate the children due to Insufficient income.

PM SVANidhi: GHMC leads in helping street vendors:

With a total of 31,250 loans sanctioned under the PM SVANidhi, the Greater Hyderabad Municipal Corporation (GHMC) figures at the top amongst the corporations which are implementing the scheme throughout the country. According to official sources, by January 20 the number of applications sent to the banks by the corporation was 58,996. This remained high when compared to other top 4 Cities including Lucknow (46,726), Varanasi (40,270), Indore (36,619) and Warangal (35796). While the number of applications sanctioned remained below 30,000 for all cities.



In recent days, the GHMC has also sped up the process in disbursing loans to the street vendors under the PM SAVNidhi loan scheme though Hyderabad took this initiative in the recent days, when compared with other cities. With fast disposal, the officials are hopeful of covering most of the street vendors and small businessmen with Rs 10,000 loan.

It may be mentioned here that in the city, the GHMC has also launched the campaign under the initiative 'Main Bhi Digital' on January 4, which concluded on January 22. This helped the street vendors, as GHMC sanctioned and disbursed the loan amount easily. Also, on the digital platform the street vendors used the technology in their daily transactions, making the payment simpler through training them regarding digital transactions. "Under GHMC, 1,45,090 street vendors were surveyed and 1,34,384 were issued smart ID cards, and the corporation also formed the town vending committee with 30 members for this campaign," informed an official.



With 31,250 applications sanctioned for the loan, a total of 52.97% of the targeted street vendors were covered till now and for 22,568 applicants amount was disbursed. "To support street vendors and help them grow their business in e-commerce platforms, several schemes have been launched. One such scheme is PM SVANidhi, which creates a supportive environment to the street vendors and also helps build the credit profile of the street vendors to facilitate formal credit for their future needs," the official informed. At the beginning of the month the Municipal commissioners of all the ULB's coordinated with the bank officials and organised bank-wise camps and

ensured the sanction of loans and onboarding of digital transactions. The officials worked as per the schedule and helped the recognized street vendors in giving the training and the officials coordinated with them, he added.

Telangana lags behind in on-boarding of street vendors

The process of digital on-boarding of street vendors in 24 Urban Local Bodies (ULBs) in Telangana is going at tardy pace, so much so that the Centre has expressed its displeasure. As against the 1,89,562 identified street vendors in these two dozen ULBs - including Greater Hyderabad Municipal Corporation (GHMC), Greater Warangal Municipal Corporation, Karimnagar and Nizamabad Municipal Corporations - only 43,454 have been digitally on-boarded and the remaining 1,46,108 are yet to be covered.

28 TOWN VENDING COMMITTEES NOTIFIED BY GOVT

<ul style="list-style-type: none">▶ Corporations to start identifying hawkers soon▶ Hawkers to be given vending certificates to prevent any harassment against them▶ Government mulling to give them kiosks	<ul style="list-style-type: none">with garbage disposal and solar light system▶ Hawkers displaced in last few years can also apply for space for shops▶ 5% of city's pollution is estimated to be caused by street vendors	
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Digital on-boarding of the street vendors and training is an integral component of the PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) Scheme. In GHMC limits, of the total assigned 46,965 street vendors, 12,940 have been on-boarded till date and 34,025 remain.

In Nizamabad, of the 15,677 street vendors, only 2,434 have been on-boarded, while in Khammam only 2,046 of the 11,369 have been covered. In Ramagundam, of the 10,095 street vendors, 5,748 have been on-boarded while in Karimnagar, 2,504 of the 8,050 have been covered.

MAUD officials said that Commissioners of the municipal corporations and municipalities should mobilise 250 street vendors per day in two shifts (at the rate of 125 per shift), make logistics arrangements like chairs, tables, WiFi connection, banners, drinking water etc as well as educate them for timely repayment of loans in order to be eligible for interest subsidy and for the next higher tranche of loan.

PUBLIC ADMINISTRATION

Project

(SMART CITY MISSION IN INDIA
A CASE STUDY OF GWMC)

College: Kakatiya Government Degree College

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BHUKYA MOHAN
BHUKYA PRASHANTH
DARAVATH HARI KRISHNA
DASARI NAGESH
Dubasi Snehitha
GONDI PRABHASH
GONE SAI KUMAR
GUPTA SAKSHI
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KOLA AKHILA
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KOMARAM PRADEEP
KOYYADA VIDYASAGAR

Students visited Greater Warangal Municipal Corporation

