STC Scholars Vision

Annual Journal of Multidisciplinary/Interdisciplinary Studies and Research

PUBLICATION DIVISION RESEARCH WING
Ch.S.D. St. Theresa's (Autonomous) College for Women,
College of Excellence
Accredited By NAAC A+ (3.56 CGPA) Fourth Cycle
Eluru - 534003, West Godavari Dist. Andhra Pradesh.
Affiliated To Adikavi Nannaya University,
Rajamahandravaram.
www.chsd-theresacollege.net
STC Scholars Vision

Annual Journal of
Multidisciplinary/Interdisciplinary Studies and Research

PUBLICATION DIVISION RESEARCH WING
Ch.S.D. St. Theresa's (Autonomous) College for Women
College of Excellence
Accredited By NAAC A+ (3.56 CGPA) Fourth Cycle
Eluru - 534003, West Godavari Dist. Andhra Pradesh.
Affiliated To Adikavi Nannaya University,
Rajamahandravaram.
www.chsd-theresacollege.net
Editorial Board

*Chief Patron*
Dr. Sr. Mercy, Principal

*Executive Editor*
Sr. Sunila Rani, Controller of Examinations

*Finance Manager*
Sr. Inyasamma, Administrative Officer

*Consultant Editors*

Prof. G. Ganesan  
Head, Dept. of Mathematics,  
Adikavi Nannaya University, Rajahmundry.

Dr. M.V. Prasad, Principal Scientist,  
Directorate of Oil Palm Research, Pedavegi, W.G.Dist.

Dr. K. Suresh, Principal Scientist,  
Directorate of Oil Palm Research, Pedavegi, W.G.Dist.

Sr. Showrilu  
Vice Principal.

Dr. Mrs. R. Madhavi  
Reader, Dept. of English.

Dr. Mrs. M. Padmaja  
Faculty, Dept. of Applied Sciences.

*Editor-in-Chief*
Dr. Mrs. I. Annapurna  
Reader, P.G. Dept. of Economics.

*Associate Editor*
Dr. Mrs. C. A. Jyothirmayee  
Reader, P.G. Dept. of Chemistry.

*Reserves the right to edit and/or amend articles*
### STC Scholars Vision

*Annual Journal of Multidisciplinary/Interdisciplinary Studies and Research*

**Vol. 7, Issue No. 1, Jan - Dec '18, ISSN 2321 - 6425, Impact Factor: 4.31(AE Global Index)**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Contents</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The Role of Handicrafts in Andhra Pradesh Tourism -&lt;br&gt;1 Mr. S. Somasekhar, 2Dr. K.S.V. Ranga Rao</td>
<td>1</td>
</tr>
<tr>
<td>2.</td>
<td>The Role of Youth and the Value of Vote in Indian Political System -&lt;br&gt;1Mr. K.U.B.N. Prasad, 2Dr. Ch. Kanaka Rao</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>Quality of Education In Child Labour and Child Protection&lt;br&gt;1D. C. Mohan Kumar, 2Dr. K. Madhu Babu</td>
<td>12</td>
</tr>
<tr>
<td>4.</td>
<td>Emerging Laws in India - Protection of Interests of Married Muslim Women - Hari Manasa Mudunuri</td>
<td>18</td>
</tr>
<tr>
<td>5.</td>
<td>Adjustment – Its Implications in our Daily Life - Dr. Sr. Marietta D'mello</td>
<td>20</td>
</tr>
<tr>
<td>6.</td>
<td>Communication Skills - 1V. Vijayanand, 2Ch. Sampath Kumar</td>
<td>28</td>
</tr>
<tr>
<td>7.</td>
<td>Variations of Total Aerosol Mass Concentration and Black Carbon Aerosol Mass Concentration over Urban region of Hyderabad - Dr. A. Nirmala Jyothsna</td>
<td>31</td>
</tr>
<tr>
<td>8.</td>
<td>FMCGs-PDS (Village Malls) Rural Markets in Andhra Pradesh.&lt;br&gt;K. Kishore Kumar</td>
<td>52</td>
</tr>
<tr>
<td>9.</td>
<td>An Overview of Cement Industry in India&lt;br&gt;K. Narasimha Swamy</td>
<td>59</td>
</tr>
<tr>
<td>10.</td>
<td>Aquaculture Boom in Andhra Pradesh&lt;br&gt;Y. Surya Sowjanya</td>
<td>65</td>
</tr>
<tr>
<td>11.</td>
<td>A Study on Environmental Hygiene In Selected Slums ofEluru Municipal Corporation for Swachh Survekshan - An Institutional Social Responsibility&lt;br&gt;1Dr. R. Indira, 2Dr. K.S.V.K.S Madhavi Rani, 3N. Lakshmi Prasanna, 4G. Suneetha</td>
<td>80</td>
</tr>
<tr>
<td>12.</td>
<td>Diabetes on a rising trend in India - Dr. V. Shobha M.B.B.S., D.G.O.</td>
<td>90</td>
</tr>
<tr>
<td>13.</td>
<td>Consumer Awareness on Saris and Dress Materials - Dr. Kanikicherla Rani</td>
<td>93</td>
</tr>
<tr>
<td>14.</td>
<td>Agricultural Biodiversity and Sustainable Food Systems - Dr. M. Padmaja</td>
<td>100</td>
</tr>
<tr>
<td>15.</td>
<td>Essential oil composition of Ocimum Sanctum(Green)in different seasons -&lt;br&gt;1Dr. M. Rama, 2Prof. B. Syama Sundar</td>
<td>105</td>
</tr>
<tr>
<td>16.</td>
<td>Professional Ethics to inculcate the culture of Personal and Social Responsibility&lt;br&gt;1Dr C A Jyothirmayee &amp; 2Dr K Sreelatha</td>
<td>112</td>
</tr>
<tr>
<td>17.</td>
<td>Prospects &amp; Problems of Rural Marketing In Andhra Pradesh&lt;br&gt;Dr. Mrs. I. Annapurna</td>
<td>116</td>
</tr>
</tbody>
</table>
EDITORIAL

In this edition we are re-revising the Indian traditional life style regarding professionalism which is promoting employment through centuries to the Indian population through generations. Though the Europeans nick named Indian method of medicine as crude, but today the World is accepting the Ayurvedic, the superiority of native Herbal and other forms of methods of Indian therapeutic science. Daily necessities of the density and largest population are quenched through Cottage Industries but not the Corporate heavy machine industries. With this method India has achieved struggle free employment, health and economy without disparities i.e. creating the richest and poor through modern Corporate System. On the whole attained a tranquilize society more or less with uniform income, life style and interdependency also struggle free prosperity.

Crafts are an integral part in the life of an Indian, despite the rapid social and technological changes that are taking place. In the Western world, special artists create craft objects and they are considered as luxury items. But in India like many other developing countries it is the main source of employment for vast majority of the population, next to agriculture. India is a land rich with art, tradition and culture. Handicrafts can be defined simply as objects made by the skill of the hand and which carry a part of the creator as well as countries of evolutionary tradition. It can range from the simple — lamps to the diamond — studded jewellery items. Handicrafts consists of objects created by skilled people for religious rituals. Handicrafts bring a great sense of grace to every home be it the poor but for the opulent star hotel. There is a timeless quality in these craft objects, for they have evolved over centuries and continue to be made even today with the same sentiment.

This Issue of our Journal of Multidisciplinary/ Interdisciplinary Studies and Research aim to promote and encourage the research scholars gives you the analytical research articles on, "Role of Youth and the Value of Vote in Civil Society and Indian Political System, Need of education for Child Labour and Child Protection, Adjustment — Its Implications in our Daily Life, Communication Skills, Legal Rights and burning issue on passing Triple Talaq Bill in the Parliament for the Protection of Interests of Married Muslim Women, A research Study on Environmental Hygiene In Selected Slums of Eluru Municipal Corporation for Swachh Survekshan, Cautioning people of different age groups regarding Diabetes on a rising trend in India, Consumer Awareness on Indian traditional dress code and material, To save and protect the Agricultural farming a study on Agricultural Biodiversity and Sustainable Food Systems and also a detail study on Essential oil composition of Ocimum Sanctum(Green) in different seasons, A special analysis on the expansion and modernization of Agricultural Marketing and significance of Fast moving consumer goods refer to consumer non-durable goods required for daily or frequent use and directly used by the customers. Also transformation of agricultural farmers not only depending on traditional food crops but also aquaculture which is now a leading profit maximization farm sector and this edition also highlighted a Scientific research article on Variations of Total Aerosol Mass Concentration and Black Carbon Aerosol Mass Concentration over Urban region of Hyderabad.

Dr. I. Annapurna
Editor
The Role of Handicrafts in Andhra Pradesh Tourism

1Mr. S. Somasekhar
2Dr. K.S.V. Ranga Rao

Abstract:
Indian handicrafts have attained outstanding World fame and have always recognized with its remarkable feature of art and crafts. Andhra Pradesh had some unique handicrafts which are famous worldwide. This article deals with the beauty, families designed handicrafts and hand work being one of the major sources of income earnings of rural areas Andhra Pradesh some of which are already achieved internationally famous. Myriad craft traditions and living craft skills are, generally acknowledged as living links to the past and as a means of preserving traditional and historical cultural meaning into the future. Andhra Pradesh is the treasure of fascinating Handicrafts; each regional handicraft is unique in their style, concept, form and expression, which have made a name for themselves the world over. Since ancient times the region of Andhra Pradesh is rich in handicrafts of various types that have been produced by different artisans of various regions of the state who have shown their excellence in these family adopted works through the traditional method of creation depending on availability of natural resources. Many handicrafts of the state are so artistic that they are not only adored by the people of India but also are much liked by the people across the world. Here is detailed information on the various handicrafts of Andhra Pradesh. The evolution of design, colour and form embodied in handicrafts is a story of experiment and evolution through centuries, the estimated number of artisans in Andhra Pradesh is 2.08 Lakhs and the annual production capacity is 570 crores.

Keywords: Outstanding, Unique Handicrafts, Artisans, Myriad Craft, Traditional, Natural Resources

Introduction

Andhra Pradesh myriad craft traditions and living craft skills are, generally acknowledged as living links to the past and as a means of preserving cultural meaning into the future. Andhra Pradesh is the treasure of fascinating Handicrafts, each unique in their style, concept, form and expression, that has made a name for themselves the world over.1

Andhra Pradesh is the treasure of fascinating Handicrafts, each unique in their style, concept, form and expression, that has made a name for themselves the world over. The artisans still make these extraordinary handicrafts with dexterity. Right from earlier ages, craftsman of the state have earned name and fame for their exceptional skill in various areas of craft making, and the magic of hands have been passed onto the present generations from their forefathers. When the skills were transferred down the ladder, with era, new styles and designs got imbibed in the making of these craft items and due to this, not only do we get the contemporary items, but one can still see the age old works in one form or the other.2
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Name of the Craft</th>
<th>Sl. No.</th>
<th>Name of the Craft</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bidri</td>
<td>17.</td>
<td>Musical instrument</td>
</tr>
<tr>
<td>2.</td>
<td>Cane &amp; Bamboo</td>
<td>18.</td>
<td>Pottery and clay objects</td>
</tr>
<tr>
<td>5.</td>
<td>Doll &amp; Toys</td>
<td>21.</td>
<td>Stone (inlay)</td>
</tr>
<tr>
<td>6.</td>
<td>Filigree &amp; Silverware</td>
<td>22.</td>
<td>Terracotta</td>
</tr>
<tr>
<td>7.</td>
<td>Folk Painting</td>
<td>23.</td>
<td>Theatre, Costumes &amp; Puppet</td>
</tr>
<tr>
<td>8.</td>
<td>Furniture</td>
<td>24.</td>
<td>Textile (handloom)</td>
</tr>
<tr>
<td>9.</td>
<td>Grass, leaf, read &amp; fiber</td>
<td>25.</td>
<td>Textile (Hand embroidery)</td>
</tr>
<tr>
<td>11.</td>
<td>Jewellery</td>
<td>27.</td>
<td>Wood (carving)</td>
</tr>
<tr>
<td>12.</td>
<td>Leather (footwear)</td>
<td>28.</td>
<td>Wood (inlay)</td>
</tr>
<tr>
<td>13.</td>
<td>Leather (other articles)</td>
<td>29.</td>
<td>Wood (turning and lacquer ware)</td>
</tr>
<tr>
<td>14.</td>
<td>Metal ware</td>
<td>30.</td>
<td>Zari</td>
</tr>
<tr>
<td>15.</td>
<td>Metal images (classical)</td>
<td>31.</td>
<td>Coir twisting</td>
</tr>
<tr>
<td>16.</td>
<td>Metal images (folk)</td>
<td>32.</td>
<td>Miscellaneous crafts and Paintings</td>
</tr>
</tbody>
</table>

**Kalamkari: Ancient to Modern**

Kalamkari is an ancient Indian art that originated about 3000 year’s ago. But it continued up to Medieval and Modern periods. In ancient times, groups of singers, musicians and painters, called chitrakattis, moved village to village to tell the village dwellers, the great stories of Hindu mythology. Progressively, during the course of history, they illustrated their accounts using large bolts of canvas painted on the spot with rudimentary means and dyes extracted from plants.

This rare art of printing on fabric is exclusive to only to two areas in Andhra Pradesh. There are two distinctive styles of Kalamkari art in India - one, the Srikalahasti style and the other, the Machilipatnam style of art. The Srikalahasti style of Kalamkari, wherein the “kalam” or pen is used for free hand drawing of the subject and filling in the colors, is entirely hand worked. This style花样ed around temples and their patronage and so had an almost religious identity - scrolls, temple hangings, chariot banners and the like, depicted deities and scenes taken from the great Hindu epics – Ramayana, Mahabharata, Puranas and the mythological classics. This style owes its present status to Smt. Kamaladevi Chattopadhayay who popularized the art as the first Chairperson of the All India Handicrafts Board. Only natural dyes are used in Kalamkari and it involves seventeen painstaking steps.

**Puppetry: Ancient to Modern**

Majority of the scholars agreed that the birth place of the puppets has been India. However, some believe that the puppetry began in China. The evidence discovered from Sita Benga Cave of 2nd century B.C. of Madhya Pradesh support that the puppetry has been of
Indian origion. Thiveli and Girnar inscriptions of Asoka, also outline that the puppet tradition was used to propagate the Dhamma along with entertainment and knowledge.

**Stone Carving: Ancient to Modern**

The Stone Carving traditional in Andhra Pradesh dates back to the 2nd century BC when Amravati was an important Buddhist centre under the Satavahanas. Buddhists, Hindu and Islamic architecture in the region stand testimony to this craft. The state has a huge resource of stone; famous among them are the Cuddapah slate and Durgi stone.

**Kondapalli toys: Medieval to Modern**

The small village of Kondapalli located at a distance of just about 25 km from Vijayawada, one of the major commercial centers of Andhra Pradesh would have faded to oblivion but for two reasons. One of them is definitely the skills displayed by the craftsmen of this village in the production of Kondapalli Toys and the other is the beautiful fort that is located within it. Kondapalli toys stand apart since the craftsmen specialize in regional themes taken from their immediate surroundings and the toys are made into sets of various sizes.

**Narsapur lace Makers: Post Medieval to Modern**

The existence of Narsapur dates back to 1173 A.D. Dutch people landed in Narsapur in 1626. Narsapur used as a port by the Dutch and ships and boats were built here. It was noted for its ship building activity and some of the Europeans also were customers at this place. Even, though big ships are not built, the craft is still kept up here by building small boats. In 16th century, Portuguese established their own factory which remained as a trading centre for few years. In the 18th century, Narsapur became an important trading port. From this port, the forest production like teak was exported to other regions.

**Eluru Carpets: Post Medieval to Modern**

It was around 1550 A.D. that a brunch of Iranian weavers came to India and settled at Masulipatnam, a bustling port town on the east coast. It is said that three families of these Iranian weavers wandered further and decided to make Eluru their home. It was here that they began weaving gorgeous pile carpets with stunning Parisian designs, a craft they were well versed in.

**Ponduru Khadi: Modern**

Historical data indicates that it has acquired popularity during our Independence struggle a century ago. But the art must have been in existence much earlier since the human skill could not have been acquired within a short time during pre – Independence days. Ponduru village and the Khadi cloth attained its popularity during the pre- independence struggle wherein Mahatma Gandhiji gave a call for ban on all foreign goods, including cloth.
Ratnam Pens of Rajahmundry: Modern

Ratnam Pens made of Ebonite (hard rubber made by prolonged vulcanizing of rubber, which then looks much like ebony), it is just 3.5 cm long and 1.7 gm in weight, with a 14 carat gold nib with a pen point, a clip and ring band. Mr. Murthy is hoping to secure a place for it in the Guinness Book of World Records.11

Veenas of Bobbili: Modern

During the 19th century Sarvasidhi Achyutha Narayana one of the craftsman and grandson of Sarvasidhi Acchanna, told that they belonged to the Viswa Brahmin community, invented the Bobbili Veena during the reign of Raja Ravu Venkata Kumar Krishna Ranga Rao. The 12th king of the kingdom of Bobbili in Vizianagaram district of Andhra Pradesh. The Bobbili kings used to import veenas from Thanjavur in Karnataka for music concerts in their court. One fine day, the king told to my grandfather to make a veena in Bobbili itself.12

Conclusion

The academic community can play their part by promoting the craft sector in course curricula. Schools of visual arts and design can support practical training in the development of marketable product for a demanding market that requires continuous innovation. Business schools can help develop business plans and models that are responsive to handcraft opportunities. Technical institutes can develop new technologies that increase efficiency and reduce costs. The direct link between handcrafts and tourism cannot be denied. A national tourism strategy, without a parallel craft strategy is a missed opportunity and could mean millions even billions of dollars of loss to a national economy. Tourism contributes to the creation of employment, economic growth and poverty alleviation, while also enhancing the quality of life for artisans and their families. The craft value chain also involves suppliers of raw materials, distributors, transporters and sales people who will all benefit from the growth of the tourism industry.

References

5. Ibid, p.948.

-----------------

¹Head, Department of History, ²Lecturer in Political Science, Sri. Y.N. College, Narsapur, W.G. District.
The Role of Youth and the Value of Vote in Indian Political System

1Mr. K.U.B.N. Prasad

2Dr. Ch. Kanaka Rao

Abstract

The present young generation symbolizes energy, and politics is about right, representation, justice, and change. Thus the synthesis of youth and politics is about hope, revolutionary ideas, transformations and a brighter future. The idea that a large percentage of youth in the population will lead to a greater role for youth in politics is based on the assumption that they constitute a distinct political constituency- a section of population with distinct political preferences, attitudes and voting patterns. Youth is hope of the future of the country, however only youths of Good Code of Conduct, Character with Ethics and Moral Responsibility, Truth, Honesty, Discipline, Integrity, Accountability, Intelligence, Self Sacrifices and Obedience can shape the destiny of any nation. Youth devoid of energy, suffering from inertia, pessimism and ignorance, without mental vigor and courage are bound to lead their nation nowhere. Mass voter participation is the need of the hour because it will add value to democracy and change the nature of ‘conversation’ between the voter and the voted. Voting is the first critical and concrete step towards youth empowerment using which the youth influence decisions on who should run their Country, their State, their Municipality, their Panchayats and Villages and how they should do it, Proactive, Participative Youth Groups in the larger Civil Society was the base wherein Productive Forces and Societal Values influence the superstructure of a Political Society. They could act as the gears to the engine of democracy to promote and protect national value like Secularism and Pluralism in their country, even one vote of one young person matters and it may be his/her vote that makes the difference in the outcome of an elections.

Keywords: Synthesis, Revolutionary Ideas, Transformations, Conduct, Character, Integrity, Accountability, Conversation, Proactive, Secularism, Pluralism.

***************

Introduction

“Youth is a more fluid category then a fixed age-group. “Youth is often indicated as a person between the age where he/she leaves compulsory education, and the age at which he/she finds his/ her first employment by different countries/ agencies and by some agency indifferent contexts.”1

Youth is hope of the future of the country, however only youths of character, intelligence, ‘self sacrifices’ and obedience can shape the destiny of the nation. Youth devoid of energy, suffering from inertia and dullness, without mental vigor and courage are bound to lead us nowhere. Youth meekly constituted in mind and body breeds only the generation of cripples. For this reason sometimes a great despair and despondency comes in the minds of those who rest the hope of future upon the shoulders of the young. Young and educated people form the backbone of a growing nation.

Since they are young, their minds are fresh and innovative. They are more prone to take risk and accept challenges. They are less vulnerable to corruption. Therefore their work is
inevitable for the growth of a nation. Their courage can contribute to the development of the society. Youth politicians, young journalists, young students and leaders of the national polity must work as a role model for general public and revolutionize the whole system and fulfill Kalam’s vision- 2020.2

Role of youth in Indian politics is not a new phenomenon. They are actively participating in country’s progress from a very long time. In the pre-independence era in old times, young Kings like Ashoka and Chatrapati Shivaji presented an example of ideal kingdoms after showcasing their potential and ability to run the political institutions and bodies with the edge of perfection. History proves that whenever people needed to throw off the shackles of oppression and tyranny, they have turned to the youth. And when the young people have done their job, the older generation has stepped in to govern and form policies.

So for revolution, it’s the youth in India. It has often been seen that a section of the youth have decided to start their own political parties instead of just being members of “youth wings” of the bigger ones. However, these parties have hardly ever managed to go the distance and this gives rise to the question whether there’s space in the Indian political system for such political parties to coexist with the biggies. With Rahul Gandhi promoting the participation of youth in politics, and politicians down South stressing on the power of youngsters, youth groups and elections initiatives have enveloped the political scenario but its extent and sustainability is questionable.

Youth comprise around 46 percent of the population of India, world’s largest democracy. and because of the age, youth is full of energy and enthusiasm. Youth can do wonders. The power of Indian youth is well acknowledged by sociologists, political analysts, commentators, economists etc.; across the social and political spectrum. Every young individual should be conscious politically. Youth people should take active participation in our nation’s politics at every level, especially grassroots.

The basic idea of political leadership by the young and their proposition, that young political candidates make a difference in attitudes, perceptions and participation of the voters in elections. More so amongst the young voters is credible. There is a preference for the young candidates compared to the older age group among voters. Over all young respondents evaluate the young candidates more positively compared to the older candidates in terms of taking care of votes in their constituency while all are in principle against dynasty politics. When it is between choosing young non dynastic leader over an old dynastic one, young leader seem to be a unanimous choice. However very few admit to the idea that young age of a candidate can be a sole attribute or most important one for electing a candidate.
The list of youth wings of political parties is long, there’s the National Student Union of India, the All India Democratic Youth Organization, Bhartiya Janta Yuva Morcha and many others but while it has been noticed that students unions are highly politicized in terms of agenda and action, experts highlight the dangers of the youth entering politics with the sole motive of accessing power and money. Students entering politics is a phenomenon that’s been in the society ever since 1950’s. However, post 1955, the groups began politicizing their agenda and college campuses were being treated as parliament sessions, which is not ideal. From the greed for power to the thirst for money, young minds are more inclined towards the ‘political’ aspects rather the betterment of society.

Youngsters, who are out there to create a change in the system, must make full use of this opportunity. However the problem is that the existing political parties don’t allow the independent candidate to grow much. Political participation is also conceived broadly to encompass policy making areas directly concerned with local government, educational and community welfare matter. Influence in policy making is conceived as a function of political participation through election. In citizen’s activity in political parties or in voluntary associations, youth constitute the concrete manifestations of political beliefs.

For the government, young people have always been a valuable resource in the grand project of nation building. The ministry of Youth Affairs implements a host of national youth service programs that pursue the twin objectives of character building and nation building. “Among these are the flagship programs of Nehru Yuva Kendra Sangathan (NYKS) and the National Service Scheme (NSS), in addition to the Bharat Scouts and Guides, the Rashtriya Sadbhavana Yojana, the National Integration Scheme.”

Youth leaders, representing different socio-economic groups, are selected through a talent search and then attend a training course that covers a range of issues including responsibilities of office bearers, dealing with media and campaigning for the party. Election to the Indian Youth Congress (IYC) has also ensured that young people get elected as office bearers based on their own merit instead of kinship or influence. But there has been a lot of scope for improvement. While many young people in the politics take a stand and have a political identity, today’s politics has been professionalized and produces politicians who are wary of taking a stand on controversial issues.

Youth Wings of Political Parties in India:- Some prominent ones are –

- Indian Youth Congress
- Bhartiya Janta Yuva Morcha
- Asom Yuva Parishad
- All India Trinamool Youth Congress
More Indian youth interested in politics

The percentage of youth (the 18-24 age group) ‘very’ or ‘rather’ interested in politics in India rose from around 35 per cent in 1990 to around 50 per cent in 2000, the study notes, after analyzing data from a World Values Survey. Pratap Bhanu Mehta, president, Centre for Policy Research, finds parallels with voting behaviour within India; voter turnout increases as one goes down the income ladder. That, he says, could be because voting could be the only avenue of participation in political life for the poor.

Participation levels of India’s youth, however, were close to half of China’s, where the increase in interest was more muted than India’s perhaps because of already high interest levels. It isn’t only because of the ubiquitous presence of the Communist Party of China. Mehta notes that for a lot of functions affecting citizens, there is a lot more genuine decentralisation in China. Participation levels also vary with age, with interest levels declining as age increases in the lower income countries. While 46.3 per cent of people in the 18-29 age group in India were interested in politics, the percentage declines to 40.5 per cent in the 65+ age group. It’s just the reverse in the higher income countries.4

Mechanisms of affective influence on voting

The differential effect of several specific emotions has been studied on voting behavior:

**Surprise** – Recent research suggests that the emotion of surprise may magnify the effect of emotions on voting. In assessing the effect of home-team sports victories on voting, Healy et al. showed that surprising victories provided close to twice the benefit to the incumbent party compared to victories overall.

**Anger** – In a separate laboratory study, subjects primed with the anger emotion were significantly less likely to seek information about a candidate and spent less time reviewing a candidate’s policy positions on the web.

**Anxiety** – Affective intelligence theory identifies anxiety as an emotion that increases political attentiveness while decreasing reliance on party identification when deciding between candidates, thus improving decision-making capabilities. Voters who report anxiety regarding an election are more likely to vote for candidates whose policies they prefer, and party members who report feeling anxious regarding a candidate are twice as likely to defect and
vote for the opposition candidate. Others have denied that anxiety's indirect influence on voting behavior has been proven to the exclusion of alternative explanations, such as the possibility that less preferred candidates produce feelings of anxiety, as opposed to the reverse.

**Fear** – Studies in psychology has shown that people experiencing fear rely on more detailed processing when making choices. One study found that subjects primed with fear spent more time seeking information on the web before a hypothetical voting exercise than those primed with anger.

**Pride** – Appeals to pride were also found to be effective in motivating voter turnout among high-propensity voters, though the effect was not as strong as appeals to shame.

**Conclusion**

As the world has gotten into the next millennium, India is poised for her next history tryst with destiny. The 21st century means new hopes and fresh aspiration amongst young people everywhere. For India, the 20th century was of momentous significance. The promises and commitment that India made to her people over 72 years ago remain unfulfilled and there are incomplete and urgent tasks that we have to finish soon. While young people played a significant role in helping secure our freedom, youth participation in politics and governance has steadily declined since then, and this is only one of the indicators of the declining ownership of young people for common spaces.

Apart from a brief resurgence in the sixties and long-term change, there has not been a great level of youth involvement in social affairs. We are on the brink of another significant opportunity to draw young people into co-creating common spaces. As we looked at the various traditions of the sociology of youth, there are some significant take a ways for those of us wishing to work with this group. First comes from the theory that looks at youth as a stage of transition to adulthood and this has implications on how we engage with young people so as to develop appropriate leadership and life skill to smoothen this transition.

In the context of defining youth on the basis of developmental stages of young people, what is of relevance to us is that youth is the time of first impressions and, therefore, learning strategies that can be tailored to take advantage of this will have a huge impact on young people. If we define youth lifestyle choice and subculture, then modernity, consumption experience, and connection into global subcultures will need to be included in our future strategies of youth development. Finally as we look at contextual / generational influences on youth, we believe in young people to participate actively in civil society and politics.
References

2. Alamgeer, M, Political Dimension of Youth Empowerment, New Delhi, 2011.

1HOD, Department of Political Science, Sri. Y.N. College, Narsapur, W.G. District.
2Lecturer in Electronics, Sri. Y.N. College, Narsapur, W.G. District.

- Swami Vivekananda about Youth

A brave, frank, clean-hearted, courageous and aspiring youth is the only foundation on which the future nation can be built.

"The five essential entrepreneurial skills for success are concentration, discrimination, organization, innovation and communication." - Michael Faraday
Quality of Education In Child Labour and Child Protection

*D. C. Mohan Kumar
**Dr. K. Madhu Babu

Abstract

Children are the greatest gift to humanity. Childhood is an important and impressionable stage of human development as it holds the potential to the future development of the society. Children, who brought up in an environment, which is conducive to their intellectual, physical and social health, grow up to be responsible and productive members of society. One of the most wonder why child labour is so rampant claims for proper protection of child rights. It is because of the inferior quality of education that the poverty and community does not feel attracted to send their children to school? Or it is because of insensitive / non responsible nature of social protection system that is fingered upon in Andhra Pradesh. One of the disconcerting aspects of child labor is that children are sent to work at the expense of education. Child labor restricts the right of children to access and benefit from education and denies the fundamental opportunity to attend school. Or because of parents and communities ignorance that the children are allowed for labour either in agriculture land or in hotels or in industries. Under extreme economic distress, children are forced to forego educational opportunities and take up jobs which are mostly exploitative as they are usually underpaid and engaged in hazardous conditions... Child labor, thus, prejudices children’s education and adversely affects their health and safety. 

Objectives: 1. To eradicates the child labour, about profit in the Education. 2. To prevent child from slave in rural/ urban areas.

Keywords: Humanity, Conducive, Social health, Rampant Claims, Economic Distress,

Introduction

Children are the greatest gift to humanity. Childhood is an important and impressionable stage of human development as it holds the potential to the future development of the society. Child labor restricts the right of children to access and benefit from education and denies the fundamental opportunity to attend school. The recent studies on the status of child rights in India are adequate proof of the fact that despite an ever-growing emphasis by the national and international agencies, there is a paucity of new insights and ideas on the part of the state and society to contextualize an ever-encouraging scenario regarding the issues of child rights. The phenomenon ‘child rights, it seems in itself is presently in a stage of theoretical discourse in India.

The general objectives of the study are:

a. Privilege parental attitudes, perception and motivation for quality of education for children of 6-14 years of age;

b. Child protection structures in place addressing child rights and quality education as well as the child labour in the study area;

c. Aspects of access to service providers and quality education for vulnerable families;
d. Determining the magnitude of problems relating to the dropouts and children out-of-schools and;

e. Status and profile of functioning of schools, their governing and promotional structures, work strategies and ethics;

f. To examine the child labor development programs and acts to improve the Child labour.

g. Identify key education strategies that can inform policy and action to address child labour in India.

The part also seeks to highlight the key dimensions relating to the prevailing knowledge and attitudes of the families and communities with respect to the protective measures, against violence, exploitation and abuse of children. The last part has critically analyzed the status of the child rights in the area under study in the light of the data described in the various sections of the paper.

**Methodology of the study**

For the study, we have selected a total of seven blocks in three different districts with the help of a purposive sample method. A priority in selection was given to those that were predominantly inhabited by SCs, STs and other Backward Classes (OBCs). A sample of 20 villages was identified within these blocks by selecting 5 percent of the total number of villages from each of the selected development block with purposive sampling method. In this selection too, the focus remained on the village populated by marginalized section. Finally, 20 households were selected for intensive study in each of the selected villages through systematic circular random sampling.

**Magnitude of Child Labor in India**

The magnitude of child labor in India has been witnessing enormous decline in the last two decades, both in terms of magnitude and workforce participation rates. Evidence drawn from the National Sample Survey data suggest that India’s child workforce during 2004-05 was estimated at little over nine million (9.07 million) as against twenty-one and half million (21.55 million) in 1983. During this period, the number of child employment has declined sharply by million. There is considerable fall in child workforce is observed among boys than girls. The corresponding fall in boys and girls workforce during 1983 to 2004 - 05 is observed to have decreased from 12.06 to 4.76 million, and 9.49 to 4.31 million, respectively. In effect, the gender difference that existed between boys and girls (adverse against boys) during the early 1980s has almost dissipated in recent years, the difference being slowed down from 2.57 million to roughly 0.45 million. However, in absolute numbers, the problem is large. As per the Census 2001, there are 1.26 crores economically active children in the age-group of 5-14 years. It was 1.13 crores in the 1991 Census.
**Socio-Economic Profile of Respondents:** The analysis of socio-economic profile of respondents point out a somewhat gloomy picture, which may not be very encouraging from the perspective of promotion and protection of child rights. The data on respondent’s occupational status, income, land holding and type of house, literacy, etc., are the trendsetters on this issue. For example, out of the study sample of 140 respondents, spreading into three project districts, a large number of them have to fall back only on the wage income with 37.41 percent of Krishna, 45.48 percent of West Godavari and 50 percent of East Godavari respondents coming from labour background of occupational status. Further, the traditional occupation low-level factor is also intrinsically involved in the case of artisan groups among the study sample.

**Status of Quality Education:** The paper presents the status of different committees and associations promoting quality education in the three districts under study. It examines the awareness level of people on these committees and associations. Besides, it also gives the status of transition rates of boys and girls from primary to upper primary level and to secondary level education.

**Village Education Committee:** Universalisation of elementary education has been identified as one the most important determinants of development in India. The fact that Indian population shows disparity on socio-economic front makes it imperative to chalk out measures that ensure equal access to education for all children. It is well identified that 100 percent coverage of children by any educational scheme is not possible without the zeal and active involvement of parents and communities.

**Parent – Teacher Association (PTA):** With the objective of ensuring community participation in school management, PTA includes government has specially devised a formal institutional body where all the teachers and parents of all the children will jointly hold the responsibility of various aspects of quality education. Parents of all the enrolled children and all the teachers are members of this association. One seat among President or Vice President is reserved for SC/ST or OBC community and especially for women candidate also.

<table>
<thead>
<tr>
<th>Awareness on actives of PTA</th>
<th>Krishna District</th>
<th>East Godavari District</th>
<th>West Godavari District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PTA formed in the village</strong></td>
<td>14(2.59)</td>
<td>26(7.22)</td>
<td>31(6.20)</td>
</tr>
<tr>
<td><strong>PTA not formed in the village</strong></td>
<td>156(28.89)</td>
<td>62(17.22)</td>
<td>64(12.80)</td>
</tr>
<tr>
<td>People are not aware about PTA</td>
<td>370(68.52)</td>
<td>272(75.56)</td>
<td>405(81.00)</td>
</tr>
<tr>
<td>No. of respondents as members in PTA</td>
<td>8(1.48)</td>
<td>7(1.94)</td>
<td>6(1.2)</td>
</tr>
<tr>
<td>Total</td>
<td>504(100)</td>
<td>360(100)</td>
<td>500(100)</td>
</tr>
</tbody>
</table>
Enrolment and Attendance

In our study, we came across around 70 percent households collectively from the three districts of Krishna, East and West Godavari that have children falling in the age group of 6-14 years. District wise data reveal that Krishna has 77.72 percent, East Godavari has 66.94 percent and West Godavari has 64.6 percent children in the above mentioned age group. This implies that if Right to Education is properly implemented in letter and spirit, then a substantial population will be benefited by it.

Further, we have found how many of these households have actually enrolled their children in school. The study says that 93.48 per cent households collectively from the three districts have enrolled their children in school; district-wise data break-up show that 95.92 percent in Krishna, 92.12 percent in East Godavari and 91.33 percent in West Godavari have got their 6-14 years old children enrolled in school.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Krishna District</th>
<th>East Godavari District</th>
<th>West Godavari District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents having children (6-14years)</td>
<td>417(77.22)</td>
<td>241(66.94)</td>
<td>323(64.60)</td>
</tr>
<tr>
<td>Respondents not having children (6-14years)</td>
<td>123(22.88)</td>
<td>119(33.06)</td>
<td>177(35.40)</td>
</tr>
<tr>
<td>Total</td>
<td>540(100)</td>
<td>360(100)</td>
<td>500(100)</td>
</tr>
<tr>
<td>Respondents enroll their children (6-14years) in schools</td>
<td>400(95.92)</td>
<td>222(92.12)</td>
<td>295(91.33)</td>
</tr>
<tr>
<td>Respondents not enroll their children (6-14years) in schools</td>
<td>17(4.08)</td>
<td>19(7.86)</td>
<td>28(8.77)</td>
</tr>
<tr>
<td>Total</td>
<td>417(100)</td>
<td>241(100)</td>
<td>323(100)</td>
</tr>
</tbody>
</table>

Right to Quality Education

Within the Right to Education, there is a need to focus on ‘quality’ education that is currently missing. We have a right to enrollment in India but not a right to education because no one is looking at teacher availability, actual transfer of information, and actual learning. Reduced budget allocations in the service sector, especially ICDS, midday meals, and food security is already an existing area of concern.

It is important to understand how we are defining quality education as it means different things to different people and we must not reduce it to merely ‘joyful learning’, particularly in the context of marginalized children as they are most vulnerable to child labour. In order for education to be quality education, it is important that we see how education is empowering children, how it is being able to cultivate the voices and experiences of children in school as children’s experiences are often neglected and not given any dignity. Children must be given
spaces and opportunities to construct knowledge and bring out their creativity so that their potential is demonstrated to their parents and in turn, parents make the choice to support and promote their child’s schooling. This is equally important to help teachers to better understand the different perspectives and contexts that the students come from.

We must question if we really believe that quality education can tackle child labour. It will only solve the problem if it leads to a change in income levels, as we can see when we talk about the last quintile. Using such a broad approach, we may end up discussing the same situation a few years down the line. Participants of today’s consultation are not looking at education only for the sake of it, it is for the purpose of strengthening the lives of child labourers and their families and we must ensure that happens. People attitude towards the problem of child labour plays important role in reducing its level.

Conclusion

Child rights cover the whole series of actives that ensure a respectful and dignified life to them. Children from well to do families enjoy all determination of standard life where as those from marginalized, vulnerable section of society often fall prey to one or the other form of exploitation and abuse. In this nature of study and the time –bounded field level survey a deeper of exploitation towards a profound understanding of the nexus between the classes and children’s right at the micro level. Each child should undergo compulsory education up to 14 years and prevent child labour.

References:

5. Magnitude of Child Labour in India Table 12, Section 8.12, Government of India
6. Copyright Child line India Foundation
10. Age Structure And Marital Status India Census 2001

---------------------

*Research Scholar, Department of Economics, Acharya Nagarjuna University, Guntur, A.P. E-Mail: dcmohankumar1@gmail.com Mobile: 9866796267
**Asst Professor, Head, Department of Economics, Acharya Nagarjuna University, Guntur, A.P.

"Kailash Satyarthi has been at the forefront of a worldwide movement for justice, global education and a better life for millions of children trapped in exploitative child labour. He has been a regular presence at the United Nations, and his leadership, commitment and personal sacrifice over many decades have helped raise public awareness, mobilize opinion leaders, and galvanize society."

UN Secretary-General Ban Ki-moon on the awarding of the 2014 Nobel Prize for Peace to Malala Yousafzai and Kailash Satyarthi

#nobelprize2014
Emerging Laws in India - Protection of Interests of Married Muslim Women

Hari Manasa Mudunuri

The Indian society and the legal system have evolved and adapted themselves to ensure better position for women by not just striving to ensure equality in all walks of life but also to condense the disparity in the antiquated customs, traditions and laws that plague the society and by and large act as a hindrance to women. India, being a nation of numerous faiths, has had a plethora of customs and personal law, which dictated the very being of the people. The personal laws and customs were the basis on which people had to live life and personal laws dominated the adjudication of justice. In India, the personal laws pertaining to marriage, divorce, property, succession, guardianship, etc differ based on religion, sub-sects of religion and region.

Those who belong to the Islamic faith are governed by the customs and traditions, i.e., the Shariat laws. Inspite of the laws upholding the rights of a married Muslim Women to opt out of a marriage, the personal laws prevalent in India place heavy restrictions on Muslim Women making them and their better interests relations, wealth, property inheritance, guardianship, etc secondary to that of the men. In India, Islamic personal laws are not codified and are based on customs and traditions, which will further be governed by the sub-sects and classes. With the advent of democracy and equality in India since Independence, the Legislature has enacted numerous legislations to protect the interests of the Muslim Women.

In India, the issue of divorce through various forms of Talaq has been much debated, with the primary focus around the concept of Triple Talaq which allows a Muslim Man to divorce his wife instantly and irrevocably that has garnered wide spread attention with the pronouncement of the recent Supreme Court Judgment in Shayara Banovs Union of India dated
22.08.2017 which has declared *Triple Talaq* to be illegal to the passing of the Muslim Women (Protection of Rights on Marriage) Bill, 2018 which was passed in the Lower house of the Parliament on 27.12.2018. The Country has been recognizing the need for protecting the rights and interests of married Muslim women in India, and has passed various legislations in these aspects, while striving to maintain a balance between the customary laws and the codified legislations. Muslim Women in India have a right to judicial and extra-judicial divorce, i.e. as per the personal laws.

-----------------------
Advocate, Niranjan & Associates, Hyderabad, Telangana
ADJUSTMENT – Its Implications in our Daily Life

Dr. Sr. Marietta D'mello

Abstract

"There's a common misconception that adjustment disorders aren't all that serious because they tend to be a short-term condition," says Lombardo. If you can't figure out how to adjust in our daily life, you won't last long in International Aid and Development Work. If, however, you lean in and treat everything as a learning experience you’ll be setting yourself up for the most amazing career on the planet. If you’re mindful and proactive about the way you work through the adjustment period, you’re going to be rewarded with some things that you’ll carry with you your entire career:

- Improved communication skills
- Greater ability to think outside of the box
- Increased flexibility in your mindset and emotions in the face of challenges
- Heightened empathy and perspective when navigating tricky interactions
- Increased self confidence

Simply understanding the typical phases of cultural acclamation will prepare you to navigate the process with wisdom and grit. Some things you’ll likely notice during adjustment stage includes:

- A more positive outlook overall
- You have more emotional reserves to respond to everyday frustrations
- Enjoyment of the other culture, possibly even appreciating things you once considered strange (mid-day naps, anyone?)
- Greater confidence in your ability to relate cross-culturally
- Increased ability to see the world from multipleperspectives

During this period you may find yourself picking up certain habits from your host culture that you enjoy or that fit your day today lifestyle.

Keywords: Misconception, Adjustment Disorders, Amazing Career, Cultural Acclamation, Wisdom, Grit.

Introduction:

Every person who comes into this world begins her/his life in making adjustment. When we look at a new born begins his/her life with tremendous adjustment for survival. And this process of making adjustment is a lifelong process. The term adjustment implies a process by which a person changes his behaviour in order to obtain and to maintain a harmonious relationship between himself/herself level and his/her environment.

Gates, Jerslid and others define adjustment as “ Adjustment is a continual process by which a person varies his behaviour to produce a more harmonious relationship between himself and his environment”. This definition implies that one has to fit oneself in the prevailing circumstances. This means in some way other we are changing and making accommodation, in order to meet the demands of our environment.
A well adjustment person is one who has come to terms with his environment that is, he has attained harmonious relationship with his environment.

Adjustment is relative and temporary and not static. In life every individual faces problems and finds ways and means to meet them. His needs and environment keep changing, hence he is always on the more to make adjustment.

Schneider writes: “Adjustment by itself neither good nor bad; it is simply an organism’s individual, peculiar way of reacting to inner demands or external situations. In some instances this reaction is “efficient”, “wholesome” “satisfying” and so on, and we say that it is good adjustment. In others, the reaction is disabling, ineffective, or pathological and we say that adjustment is bad…. Since adjustment in itself I neither good nor bad, we may define it more simply as a process, involving both mental and behavioural responses, by which an individual strives to cope successfully with inner needs, tensions, frustrations, and conflicts and to effect a degree of harmony between these inner demands and those imposed on him by the objective world in which he lives”.

A. **Needs and Goals in Adjustment:**

When there is a need in an individual's it creates tension and in turn this will direct his behaviour to relieve tension. So also goal is an activity which satisfies the need. There are various needs.

They are:

A. Organic needs like Food, Water, Air, etc.
B. Personality needs: it is a need for affection and affinity.
C. Achievement needs: to achieve something satisfying.
D. Need for independence
E. Social approval

B. **Areas of adjustment:**

Every individual has to make adjustment all through his life. It’s a lifelong process. When his needs and goals are clear to him he will make adjustment accordingly. The main areas of adjustment as an follows.

1. **Health adjustment**: One is said to be adjusted with regard to one’s health and physical development. If a child’s physical development and abilities are in conformity with those of his age mates and he does not feel any difficulty in his progress due to some defects or incapability's in his physical organs he enjoys full opportunity of being adjusted.

2. **Emotional adjustment**: Emotions play a leading role in one’s adjustment to self and his environment. An individual is said to be emotionally adjusted if he is able to express his
emotions in a proper way at a proper time. It requires one’s balanced emotional development and proper training in the outlet of emotions.

3. **Social adjustment**: How far one is adjusted can be ascertained by one’s social development and adaptability to the social environment. Social adjustment requires the development of social qualities and virtues in an individual. It also requires that one should be social enough to live in harmony with one’s social beings and feel responsibility and obligation towards one’s fellow beings, society and country.

4. **Home adjustment**: Home is the source of greatest satisfaction and security to its members. The relationships among the family members and their ways of behaviour play leading role in the adjustments of a child. All problematic and delinquent behaviour is the result of that adjustment and maladjustment, to a great extent is the product of faulty bearing and uncongenial atmosphere at home.

5. **School or Occupational Adjustment**: Whereas in the adjustment of adults, their occupation plays a great role, the school environment casts its influence over the adjustment of the children and the adolescent. How far a child is satisfied with his school building, its discipline, time – table, co – curricular activities, methods of teaching, class and school – mates, teachers and head of the institution, is completely in the pattern of this total adjustment. Similarly, the occupational world of adults dominates their mode of adjustment. Degree of the satisfaction with the choice of occupation, working conditions, relationship with colleagues and boss, financial satisfaction and chances for promotion decide one’s adjustment to occupation and contributes significantly towards one’s overall adjustment.

C. **The Faces of Adjustment**:

The ancient peoples, difficulties in adjustment were brought about by the presence of evil spirits in the body. To purge those uninvited inhabitants, an operation known as “trephining” was performed. A hole was made in the skull with a sharpened stone instrument, thereby allowing the spirits to float out of the head.

Hippocrates, the famous Greek physician, had his own thoughts about the causes of adjustment difficulties. He felt that the body contained “humors,” or fluids, that influenced people’s behavior.

Later Psychologists have developed three major models – the psychodynamic model, the humanistic model, and the behavioral model – that are used to explain and understand human behaviour and our own unique personality, the set of distinctive and stable characteristics that differentiates us from others and which provides consistency in our behaviour across different situations.
1. Conceptual models, systems of interrelated ideas and concepts, provide a framework that can guide our understanding and investigations into the factors that affect behavior.

2. The psychodynamic model is based on the belief that behavior is brought about by unconscious inner forces over which we have little control.

3. Freud’s psychoanalytic theory suggests that personality has three separate, although interacting, parts: the id, the ego, and the superego. His theory of psychosexual development suggests that people move through a series of stages in which the focus of pleasure shifts to different parts of the body. The stages are the oral, anal, phallic, latency, and genital periods.

4. The behavioral model focuses on the person’s overt behavior and the environment, deemphasizing the importance of internal events that are not directly observable.

5. Among the major approaches that make up the behavioral model are classical conditioning, operant conditioning, and observational learning.

6. The humanistic model emphasizes our uniqueness as individuals and our natural tendency to strive for higher levels of functioning.

7. According to the major humanistic theory, proposed by Carl Rogers, people attempt to become self–fulfilled, although this may conflict with their need for positive regard.

D. **Mechanisms for Adjustment:**

If in his attempts to satisfy his needs the responses of an individual are adequate, effective and socially acceptable, there is said to be adjustment. But if they are neither adequate nor socially acceptable he seeks other means of satisfying them and achieving acceptance by society. Such a person employs various mechanisms or devices to overcome his defects and difficulties. They are called adjustment mechanisms or defense mechanisms because they defend the person from threats to his recognition, prestige and acceptance.

A mechanism for adjustment is a learned response or a pattern of responses which reduces a drive. The number of mechanisms used for personal adjustment is not indefinitely large, so that the common mechanisms can be designated by names and described in terms of their adjustive functions. Because everyone has to adjust, and no one’s behavior is perfectly integrated in all respects, adjustment mechanisms are shown by all persons from the most normal to the most severely disturbed. Furthermore, an important psychological discovery is that same mechanisms are used by ordinary people in everyday life and by psychotic persons in hospitals. Almost everyone is likely to relieve the anxiety caused by a sense of failure by making excuses or blaming other people. These are forms of “rationalization,” a very common mechanism.
**Nature and Characteristics of Defense Mechanisms:**

**Definition:** Every day we come across threats to our self – esteem: an initiative going wrong, a poor show, a humiliation, etc. All this makes us feel weak, uncertain, and unloved. Our ego suffers and we hasten to medicate the narcissistic wound. Like the psyche, the body too protects itself from excessive stimulation, closing the eyes looking sideways, looking in an unfocussed way, growing indifferent to noise: all these are actions that protect us from annoying stimuli. Self – defense is the oldest law of nature.

**Defense mechanisms accomplish some purposes:**

a) Maintaining the equilibrium of the ego on difficult situations: how does one heal the sorrow of losing a loved one? How can one have self – esteem seven after a failure? How is one to be pleased with oneself despite the prohibitions and regulations of society,

b) Protecting or restoring self – esteem threatened by drive forces: I have made a choice of life, yet I continue feeling contrary emotions; I am available to others, but there is also a rancor that disturbs me; I like to see myself as strong, but every now and then I experience a fear that does not confirm the beautiful image I have formed of myself......

c) Neutralizing conflicts with persons or parts of reality, felt otherwise as unsolvable: if reality does not confirm my opinions, what am I to do? When I am discovered in my mistakes how do I get out of that embarrassment? If any colleague is a rival to me how do I him over without risking an open struggle?.....

**Unconscious but recognizable:** all defense mechanisms have three common characteristics:

a) They deny, falsify and deform the internal and external reality

b) They are automatic, not deliberate acts.

c) They operate in the unconscious and the person is not aware of what is happening.

It is clear that noticing the existence of such mechanisms does not involve any moral evaluation of the subject who uses it. We have to always distinguish between psychological explanation and value judgment, between clarification and evaluation.

Precisely because these mechanisms are unconscious, they are not always directly observable, but only realized from their effects. In fact, they produce systematic distortions, they give place to defensive styles and they can be symbolized in corporal traits like fixation and rigidity, stereotype smile, spiteful and ironic behaviour and arrogance. Rather than being exact entities these defenses are processes: they produce defensive styles. A style means a mode of constant functioning of the individual, identifiable through a series of specific acts: away of thinking, perceiving, feeling, being with others, reacting to situations, etc. Defenses are manifested in a “hardened” style, made up of modes of automatic, respective and chronic
reactions. Defenses change the perception of internal and external reality: they cover up unacceptable impulses with alternative coverings, at times antithetical to the original.

E. Characteristics Of A Well Adjusted Person

A well adjusted person is supposed to possess the following characteristics;

1. Awareness of one’s own strengths and limitations: A well – adjusted person knows his strength and weaknesses. He tries to make capital out of his assets in some areas by accepting limitations in the other.

2. Respecting one’s self and the others: Dislikes of one’s self is a typical symptom of maladjustment. An adjusted individual has respects for one’s self as well as for others.

3. An adequate level of aspiration: His level of aspiration is neither too low nor too high in comparison to his own strengths and abilities. He does not try to reach for stars and also not repent by selecting an easier course for his advancement.

4. Satisfaction of the basic needs: His basic needs like organic, emotional and social needs are fully satisfied or in the process of being satisfied. He does not suffer from emotional craving and social isolation. He feels reasonably secure and maintains his self – esteem.

5. Does not possess critical or fault finding attitude: He knows how to appreciate the goodness in the objects, persons or activities. He does not try to search for the weakness and faults. His observation is a scientific one rather than critical or punitive. He likes the people admire their qualities and wins their affection.

6. Flexibility of his behaviour: He is not rigid in his attitude or way of living. He can easily accommodate or adapt himself in the changed circumstances by making necessary changes in his behaviour.

7. Capable of struggling with odd circumstances: He is not easily overwhelmed by the odd circumstances. He has sufficient will and courage to resist and fight against odds. He has an inherent drive to master his environment rather that passively accept it.

8. A realistic perception of the world: He holds a realistic vision and does not fly unnecessarily in the world of ideas and imagination. He always plans, thinks and acts on the real footing.

9. Feeling at home with his surroundings: A well adjusted individual feels satisfied with his surroundings. He fits well at his home, family, neighborhood and other social places. As a student he likes his school, school – mates, teachers and feels satisfied with his daily routine. When he enters a profession, he has a love for it and he maintains his zeal and enthusiasm in his profession despite heavy odds.

10. An adequate philosophy of life: A well adjusted person has his own philosophy of life which he tries to observe while keeping in view the demand of the changed situation and
circumstances. He weaves his philosophy round the demand of his society, culture and his own self so that he may not come in clash with his environment on the one hand and his self on the other.

F. **Living a More Balanced life:**

When we experience conflict, our thinking often becomes distorted and muddled. Our heart rate tends to increase and our breathing becomes more shallow, as we prepare to “fight or take flight”. Inner peace instantly disappears as anxiety and tension barge in. while most of us do not seek conflict, it is part of life, it is part of being an imperfect person who lives with, works with, and simply shares this planet with other imperfect people.

We let go of the unattainable ideal and accept what is real: we have a limited amount of time and energy to spend each day. And as we make creative choices, we reclaim our personal power and regain our balance.

G. **Conclusion**

No one achieves a complete adjustment, at least not for long. Eventually one needs or another arises, physiology or psychological, and the individual must find ways of satisfying it. Adjustment is continuous, and it also exists on a continuum. At one end there is the so – called well adjusted person, who in many respects is ever changing and ever – adapting. This person is able to adapt as new needs arise. At the altar other is the poorly adjusted person, who may show signs of anxiety, aggression, or disordered thinking. Usually this person is less adaptive, responding in much the same way regardless of the circumstances with the result that his or her behaviour is often inappropriate.

*Ability is what you’re capable of doing. Attitude determines how well you do it.*

— Raymond Chandler

References:


-----------------------------

Head, Department of Psychology, Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. A.P.
Communication Skills

1V. Vijayanand,
2Ch. Sampath Kumar

Introduction

Listening, speaking, reading and writing or do we have to reflect on the process of acquisition of these skills, to develop communicative competence in English. Long ago Francis Bacon said:

“Reading maketh or full man,
Conference a ready man and
Writing an exact man”

In the second half of the 20th century and in the present times a lot of discussion centres on imparting skills of communication in a teacher – learner situation as one of the most synergic pedagogical processes, to gear up quality instruction in English to clear to the demanding needs of our fast developing society in areas of multimedia, information technology, mass – communications and business.

The importance of communicative approach as a pedagogical perspective can test be understood if one is aware of a broad backdrop of a significant conflict of views between, among others, the psycholinguists, B. Skinner and Noam Chomsky.

A method of teaching called audio – lingualism was evolved on the basic tenets of bloom fieldian linguistics and Skinnerian model of learning. According to this school syllabus, materials and class room teaching were all structured carefully on the basis of frequency counts of words and structures. This was also known structural approach of teaching English. The view held is Language is behaviour and behaviour is a matter of habit. Language learning is a mechanical skill and no intellectual process is involved in it. In teaching or language teacher should follow the stimulus – response – reinforcement pattern; in language teaching there should be controlled, spaced repetition.

Noam Chomsky in place of structural model installed a transformational generative model. This thought demolishing Skinnerian view profoundly affected English language teaching. According to Chomsky, Human being’s have innate capacity to acquire language; language acquisition is a cognitive process of rule – formation, not a mechanical process of imitation and memorization but or process of imitation and memorization but or process of creative construction.

The outcome of this conflict and the prevailed view of Chomsky made it possible to
look upon what were considered negative points in second language learning as gainful advantages.

1. Chomsky’s theory of linguistic universals served to show how the learners experience in one language can be exploited for the learning of another. It shows thereby, bilingualism is not a problem but an exploitable facility.

2. Errors committed in the process of learning are creative and those are to be considered signs of hypothesis formation and should be utilized to form other sound or hypothesis.

3. The language, the learners’ spoke with errors – in built has been termed as “interlanguage” – a middle stage between the first language and second language.

4. Use of mother, regarded once as heretical, is how given allowance but in a judicious manner.

The concept of ‘communicative competence’ introduced by Dell Hymes brought a significant shift in a language pedagogy from the foal of language instruction to building up of learner’s communicative competence. It is claimed that communicative approach will increase learner’s motivation if they feel they are working on communication skills. The focus of learners needs to be not on language but on learning to communicative by interacting with teachers and fellow students. The learner is progressively motivated to negotiate the relationship between text and author; text and culture, eventually to arrive at a point of ability to express ideas. An appropriate frame of test offers itself to be a further motivating factor and in it. The learner’s ability to use language in negotiating the meaning of text, is tested, unlike in surface tests, where for questions, answers are readily available in tests.

While the advantages of communicative approach in Pedagogy are thus accounted, a new wave of linguistic thinking is on the rise. It says language teaching must take place as an integrated process and not in terms of segregated skills like LSRW. Without listening there is no speaking and without reading there is no writing and all these will have to take place, based on the principle of ‘cooperation’ interacting with each other.

The teaching methodologies have been, however formulated by teachers who achieved excellence. Irrespective of the features of methodology, what spells success in a teacher – learner situation in class room is the attitude, expertise, personality, involvement of the teacher in teaching activity and his rich resourcefulness, capable of exploring innovative ways of generating tasks. Adopting a perspective of eclecticism, integrating different approaches, a well – equipped teacher can be a perfect class – manager to impact a learner in a lively ambience.

The ambience can be created through teacher’s use of electronic audio – video gadgets, film strips, CD’s, Language games, Cross words, Puzzles and a well organized language laboratory.
Let us remember the imperishable instructive value of what Alexander said, referring to his teacher Aristotle “I am grateful to my father for living and to my teacher for living well”.

Unless the teacher is an effective communicator, whatever be the pedagogical strategy he seeks to implement, the class – room encounter has a tendency to be disastrous, and the learner, a victim of linguistic diffidence . A situation comes when one should say, Teacher Teach Thyself.

------------------------

References:

------------------------

1Lecturer in English, Sri YN College(A), Narsapur-534275
2Research Scholar (Ph.D), Andhra University, Visakhapatnam

The biggest communication problem is we do not listen to understand.
We listen to reply.
Concentration over Urban region of Hyderabad

Dr. A. Nirmala Jyothsna

Abstract

Variation of Carbonaceous aerosols and total aerosol mass concentration over Hyderabad is discussed. Aethalometer and Quartz Crystal Microbalance (QCM) Impactor were used to measure black carbon aerosol mass concentration and total aerosol mass concentration respectively. Diurnal and seasonal variations of black carbon aerosols and total aerosol mass concentration over Hyderabad were discussed in detail. Total aerosol mass concentration and black carbon aerosol mass concentration for the period 2003 to 2006 were described. Variations in BC and its relation with traffic density were discussed. Day to day, monthly, and annual variations of coarse mode, accumulation mode, and nucleation mode particles during 2005 and 2006 were studied over Hyderabad. Further, monthly variation of BC mass fraction and total aerosol mass concentration were also studied and discussed.

Keywords: Carbonaceous Aerosols, Quartz Crystal Microbalance, Diurnal and Seasonal Variations, Coarse Mode, Accumulation Mode, Nucleation Mode

Introduction

The scientific community considers aerosol optical properties as one of the important global geophysical variable of paramount importance. Physical and chemical composition of aerosols is gaining importance in the studies related to global change. Studies at different locations spatially across the globe are important. Mega cities are significant sources for aerosols and it is critical to understand the key chemical and physical process controlling the concentrations of such species in such regions. It is only by making measurements near the sources that we shall be able to relate the source emissions and regional scale air quality and climate impacts. This would lead to more accurate numerical model predictions of future changes in air quality and radiative forcing in urban centres and surrounding regions.

Black Carbon aerosol is the major anthropogenic component of the atmospheric aerosol system. These effects are likely to influence regional aerosol radiative forcing. BC emissions particularly from heavy duty diesel engines of trucks increases with increase in ambient air temperatures and this would also be important during dry months. The average atmospheric rest time of BC is high during dry periods compared to wet periods.

In the submicron range particles, black carbon is the main constituent of ambient particulate matter emitted into the atmosphere as a by-product of all combustion processes (vegetation burning, industrial effluents and motor vehicle exhausts) (Novakov, 1984). Its
main atmospheric sink is wet deposition (Ogren et al., 1984). BC particles may accumulate in the tropospheric reservoir when rain is sparse and disturb atmospheric radiation and also chemical balances (Chang et al., 1981; Lary et al., 1997). BC concentrations in the urban areas may cause deleterious health effects (Thomson et al., 1985; Gibson, 1986; Summerhayes, 1991; Oberdorster and Yu, 1990) and soiling of surfaces (Hamilton and Mansfield, 1991). As BC is the dominant light-absorbing component of atmospheric aerosols, the radiative effects of BC cannot be neglected.

The crucial parameters describing the interaction between the aerosol and the incoming radiation are its scattering and absorption coefficients, which in turn depends on the particles size distribution, refractive index and the way of absorbing, and non-absorbing particles are mixed (internally or externally). Accurate information on BC is essential for predictions of the radiative forcing caused by BC containing aerosols. Relatively small changes in the BC input data can change the radiative forcing from positive to negative (Haywood and Shine, 1995). Several studies have shown that BC has typical lifetimes ranging from 1 week to 10 days in the absence of precipitation (Reddy and Venkataraman, 2000; Babu and Moorthy, 2001).

**Methodology**

**Data Analysis from QCM measurements**

In the present study measurements on mass-size distribution of aerosols were carried out using QCM Impactor model PC-2 of California Measurements Inc., USA) at Hyderabad. The instrument sucks ambient air and segregates aerosols in accordance with the aerodynamic diameter into one of its ten size bins. The instrument measured change in frequency of Quartz crystal for estimating concentration of particulate matter in each size range. The sampling period is taken such that a minimum frequency shift of 5 Hz is registered by the stage having lowest mass concentration that leads to a 20% error in estimated mass concentration in that stage. However, at other stages which register higher values of $\Delta f$, (going to as high as 30-40 Hz in the stage with highest mass concentration), the error reduces proportionally to as low as 2 or 3%. Converting these into actual mass concentrations, it works out that $m_c$ estimates below $\sim$10 $\mu$g m$^{-3}$ are generally more uncertain (by $\sim$15-20%, which in absolute terms work out to be $\approx$ 1 $\mu$g m$^{-3}$), while the errors are quite small at higher values of the mass concentrations.

Ambient RH and its variation are important in aerosol mass size distribution due to the affinity of moisture quartz crystal. QCM measurements require rather stable RH levels during the sampling period. QCM has yielded reliable information on mass concentration and size distribution even on cruises (for e. g., during the INDOEX cruises of 1998 and 1999) and coastal station (Jayaraman, 1999; Pillai and Moorthy, 2001). During the period of January to
December, 2005 and 2006 a total of ~ 800 independent observations of mass concentration were used to study the number size distribution over the study area. Aerosol mass size samples were collected every hour from 9.00 to 16.00 hrs on Lw. Measurements have been made 4 – 5 days in every month at weekly intervals from January to December during 2005, and from January to May during 2006. QCM provides mass concentration of particles collected in each stage ($m_{ci}$) as a function of particle. QCM provides total mass concentration ($M_t$) as well as the size segregated mass concentration for each size bin, for each measurement. Data from QCM has been used to derive physically meaningful parameters describing the aerosols. The aerodynamic diameter ($D_a$) and particle diameter ($D_p$) for spherical particles with a density $\rho$ are related through $D_p = \sqrt[3]{\frac{D_a}{\rho}}$

(d_i) of ten size bins of QCM have been given in Table 1.

Table 1. Size bins and mean diameters for the QCM

<table>
<thead>
<tr>
<th>Size bin number</th>
<th>Particle diameter ($\mu$m)</th>
<th>At 50% cut-off</th>
<th>Geometric mean d_i</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>12.5</td>
<td>17.58</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6.4</td>
<td>8.94</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3.2</td>
<td>4.53</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1.6</td>
<td>2.26</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.8</td>
<td>1.13</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>0.4</td>
<td>0.566</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>0.2</td>
<td>0.283</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.1</td>
<td>0.141</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.05</td>
<td>0.071</td>
<td></td>
</tr>
</tbody>
</table>

QCM has been used for estimating mass concentration and size distribution during the INDOEX cruises of 1998 and 1999 and at coastal regions (Pillai and Moorthy, 2001). Raw data from QCM provided the total mass concentration ($M_t$) as well as the size segregated mass concentration ($m_{ci}$ for the i_th size bin) for each size bin, for each measurement. Besides yielding characteristic information by themselves, they can also be used to derive physically meaningful parameters describing the aerosols. From direct considerations,

$$M_t = \sum_{i=1}^{10} m_{ci}$$

(3)

The volume concentration of aerosols in the i_th size bin is estimated as

$$V = \frac{m_{ci}}{\rho}$$

(2)

where $\rho$ is taken as 2g cm$^{-3}$, dividing $V_{ci}$ by the mean particle radius ($r_i$) of the i_th size bin, we get an estimate of the area of the aerosols ($a_{ci}$) in the i_th size bin,
The volume and area estimates are used to estimate the effective radius of aerosols $R_{eff}$

$$a_{ci} = \frac{V_{ci}}{r_{ci}^2}, \quad r_{i} = \frac{d_{i}}{2}.$$  \hspace{1cm} (4)

The volume and area estimates are used to estimate the effective radius of aerosols $R_{eff}$

$$R_{eff} = \frac{\sum_{i=2}^{10} V_{ci}}{\sum_{i=2}^{10} a_{ci}}.$$  \hspace{1cm} (5)

In estimating $R_{eff}$, Eq (5), the summation is made only over stages 2-10. Stage 1 is not considered because it collects all particles with size exceeding 25 $\mu$m and hence that stage cannot be assigned a meaningful mean radius, and the mass weighted mean radius is estimated as where $d_{pi}$ is the geometric diameter of each stage.

$$R_m = \sum_{i=2}^{10} \frac{m_{ci}}{d_{pi} \rho}.$$  \hspace{1cm} (6)

The study of the accumulation mode aerosols is important because of their longer residence times and also because of more contribution to the scattering and indirect radiative forcing through clouds (Toon, 2000), whereas the concentration and size spectrum of continental aerosols strongly depend on the wind speed (Lovett, 1978; Exton et al., 1985). As such, we have separated total mass concentration ($M_t$) into $M_a$, $M_c$ and $M_n$, where $M_a$ is the mass concentration in the accumulation (submicron) mode range, $M_c$ that in the coarse mode (supermicron) range, and $M_n$ in the nucleation mode range such that,

$$M_t=M_a+M_c+M_n.$$ \hspace{1cm} (7)

For the configuration of the QCM, we took the cut-off diameter as 0.8 $\mu$m to demarcate the two regimes and thus,

$$M_i = \sum_{i=2}^{5} m_{ci}, \quad M_s = \sum_{i=6}^{8} m_{ci}, \quad \text{and} \quad M_n = \sum_{i=9}^{10} m_{ci}.$$  \hspace{1cm} (8)

where $i$ is the stage number of the QCM and $m_{ci}$ is the measured mass concentration in that stage. The concentration in terms of number of particles per cubic meter can be calculated as where $\rho$ is mass density of particles and $D$ is particle diameter.

$$N = \frac{C}{\Pi \rho D^3}.$$  \hspace{1cm} (9)

The overall uncertainty in $m_{ci}$ in each measurement of QCM varies between 5% to 20%, with higher errors for lower $m_{ci}$. In absolute terms the errors are typically 1 $\mu$g m$^{-3}$ for stages where $m_{ci} \leq 10 \mu$gm$^{-3}$(Pillai and Moorthy,2001). The PM$10$ concentration is,
\[ PM_{10} = \sum_{i=3}^{10} m_{ci} \]

and \( PM_{2.5} \) concentration as

\[ PM_{2.5} = \sum_{i=5}^{10} m_{ci} \]

Thus each of the samples for QCM provided \( PM_{1.0} \), \( PM_{10} \) and \( PM_{2.5} \) concentration at ambient conditions and these are then examined for features. The number density size distributions of sub-micron aerosols have been deduced for each QCM measurements and have been averaged over each month. The aerosol size index \( n \) has been obtained from the distribution by fitting a Junge Power law of the form where \( C \) is a constant depending on the total number of particles. For a power law size form for \( n_c(r) \), the Angstrom wavelength exponent \( \alpha \) and aerosol size index \( \nu \) are related as \( \nu = \alpha + 2 \).

**Results and Discussion**

(a) **Diurnal and Seasonal variations of Black Carbon aerosols**

Continuous measurements of aerosol black carbon were carried out using an Aethalometer model AE-21, of Magee Scientific, U.S.A. The Figure 1 shows the diurnal variation of black carbon aerosols at Hyderabad during January – December during the years 2003, 2004, 2005 and 2006 except that data of April and May for the year 2005 is not available. There is a gradual build up of BC – concentration in the morning hours from 6:00 to 9:00 local time. The BC concentration has a broad nocturnal peak between 18:00 to 22:00 hrs. Diurnal minimum is attained in the afternoon (14:00 – 16:00 hrs). The diurnal variation of BC followed the same trend during the years 2003, 2004, 2005 and 2006.

The morning peaks in BC is due to (i) fumigation effect in the boundary layer due to which aerosols are brought from nocturnal residual layer after sunrise (ii) increasing effect of local anthropogenic activities in urban area. Low values of BC during afternoon hours can be due to aerosol dispersion, which is caused by rise of boundary layer height and also due to low traffic density. In the evening, boundary layer mixing again decreases due to inversion and as a result BC gets trapped near the surface and attains maximum value around 19:00–21:00 LT. As the night progresses, the anthropogenic activities and the industrial emission get reduced, as a result BC concentration decreases. Earlier observations of BC in urban and near city locations
are given in Table. 2 for comparison purpose. BC in Hyderabad shows much higher values (factor of two to five) than other urban or near city locations of Europe, USA and Asia (Korea). BC in Hyderabad is higher than that in Trivandrum (coastal), and Bangalore (urban), in Southern India and Kanpur in Northern India. (Tripathi S. N. et al., 2005). Table. 2: BC in Urban Locations

<table>
<thead>
<tr>
<th>Location (References)</th>
<th>Period</th>
<th>Mb (mg m⁻³)</th>
<th>M₀ (mg m⁻³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban, Europe</td>
<td>DJF</td>
<td>3.5–4.2</td>
<td></td>
</tr>
<tr>
<td>Near city, Europe</td>
<td>Annual</td>
<td>1–2.5</td>
<td></td>
</tr>
<tr>
<td>Road canyon, Europe</td>
<td>Annual</td>
<td>6–9.0</td>
<td></td>
</tr>
<tr>
<td>Bologna, Europe (Urban Background)</td>
<td>Oct</td>
<td>1.5–2.0</td>
<td></td>
</tr>
<tr>
<td>Uniontown, USA (semi-urban)</td>
<td>Summer</td>
<td>0.27–3</td>
<td></td>
</tr>
<tr>
<td>Maryland, USA (Suburban)</td>
<td>Annual</td>
<td>0.25–3</td>
<td></td>
</tr>
<tr>
<td>Chongju, Korea</td>
<td></td>
<td>4–6</td>
<td></td>
</tr>
<tr>
<td>Trivandrum, India</td>
<td>Dec</td>
<td>4–8</td>
<td></td>
</tr>
<tr>
<td>Hyderabad, India</td>
<td>Jan–Jul</td>
<td>0.5–68</td>
<td></td>
</tr>
<tr>
<td>Mumbai, India</td>
<td>Jan–Mar</td>
<td>7.5–17.5</td>
<td></td>
</tr>
<tr>
<td>Bangalore, India</td>
<td>Nov</td>
<td>0.4–10.2</td>
<td></td>
</tr>
<tr>
<td>Kanpur (present study)</td>
<td>Dec</td>
<td>6–20</td>
<td></td>
</tr>
</tbody>
</table>

Table. 2 shows monthly variations of BC aerosol loading over the months January – December during the years 2004, 2005 and 2006 over the study area. Seasonal variations suggest large concentrations of BC (during dry months (November – May) with BC concentration of (~18µg/m³) in November & December and BC concentration (~10µg/m³) from January – May. Low BC concentration (between 8 & 10 µg/m³) during monsoon months (June and July). These observations have been found to be higher than the urban sites in literature (Allen et al., 1999, Chen et al., 2001, Bhugwant et al., 2001 Leon, 2001; Babu et al., 2002). Over the study area, November–April is generally under the influence of a continental air mass while during May–September the air mass changes to clean marine associated with the monsoon. The observed seasonal changes are associated with synoptic meteorology and long-range transport in addition to local sources as the study area is purely urban and industrialized. Higher BC values during summer months of March and April have been attributed to the transport of air mass from continental regions in addition for power generation purposes. Further BC emissions particularly from heavy duty diesel engines of trucks increase with increase in ambient air temperature (Chen et al., 2001) and this would also be important during dry months (Latha et al., 2004) Figures .2 indicate BC wash out during the monsoon months June and July.

Day to day variations of BC during the years 2003, 2004, 2005 and 2006 is shown in Figure.3. It is observed that the BC concentrations are increasing year by year in steps of nearly 10µg/m³. The maximum values of BC reached up to 21µg/m³, 38µg/m³, 39µg/m³, 43µg/m³ during the years 2003, 2004, 2005 and 2006 respectively. Day to day variation of BC during the three years 2003, 2004, 2005 is shown in figure.4 from which it is observed that
the BC concentrations were high during summer and low during monsoon days for all the three years. The annual mean values during 2003, 2004, 2005 and 2006 were 7.05 μg/m^3, 7.67 μg/m^3, 10.15 μg/m^3 and 18.77 μg/m^3 (Fig.5).

The increase in the BC aerosol concentration year by year shows the rapid rate at which the pollution level is increasing in the fast growing urban city of Hyderabad. Month to month variation of BC during 2003, 2004, 2005 is shown in Fig.6 from which variations of BC concentration profiles can be obtained during dry season, rainy season and winter season. BC concentration was found to be in the range of 4 μg/m^3 to 10 μg/m^3 during dry season whereas during rainy season it ranges from 4 to 7 μg/m^3. BC concentrations are observed to be high over the study area compared to other studies reported in literature. In India, at Trivandrum, diurnal concentrations of BC have been observed to be in the range of ~0.3 μg/m^3 to 6 μg/m^3 (Babu et al., 2002) and over Southern Indian Ocean, it ranges from 0.08–2.8 μg/m^3 (Bhugwant et al., 2001).

Figure 7 (a-c) shows the day-to-day variation of BC over the months April, August, September, October and November during the years 2003, 2004 and 2005. The BC concentration is maximum around 20 μg/m^3 in the month of April for all the three years and the value decreased to 11 μg/m^3 in the month of August, and then there is a gradual increase during the months September, October reaching the highest during November with the value around 30 μg/m^3.
Figure 1: Diurnal variation of Black Carbon (BC) aerosol mass concentration over urban area of Hyderabad during 2003-2006.

(a) 2004

(b) 2005
Figure 2(a, b, c): Monthly variation of Black Carbon (BC) aerosol mass concentration over urban area of Hyderabad during 2004-2006.

Fig. 3(a, b) Julian day variations of Black Carbon (BC) aerosol mass concentration during 2003 and 2004
Figure 3 (c,d) Julian day variations of Black Carbon (BC) aerosol mass concentration during 2005 and 2006

Figure 4: Day to day variations of Black Carbon (BC) aerosol mass
**Figure 5:** Annual mean value of Black Carbon (BC) over the study site

**Figure 6:** Monthly average Black Carbon (BC) aerosol mass concentration 2005 variations with standard deviation during 2003

**Figure 7(a)** Day-to-day variation of Black Carbon (BC) aerosol mass concentration for the month of April
Figure 7(b, c): Day-to-day variation of Black Carbon (BC) aerosol mass concentration for the months of August & September.

Figure 7(d, e): Day-to-day variation of Black Carbon (BC) aerosol mass concentration for the months October and November during the years 2003, 2004, and 2005.
Mass fraction of BC

Measurements of total aerosol mass concentration were made by QCM once in a week at hourly intervals for the years 2003, 2004, 2005 and 2006 during January to May with sampling duration of 400 sec. While the total aerosol mass concentration was measured using QCM, the corresponding Black carbon aerosol mass concentration were measured using Aethalometer, operated at a flow rate of 3 litre/minute with an average time of 5 min. Even though BC contributes to only a few percent in the total aerosol mass, it can produce significant radiative effects. Jacobson (2001) mentioned that magnitude of direct radiative forcing due to BC could exceed that due to methane, thereby making it an important species contributing to global warming. Apportionment of BC is thus very important in modeling aerosol radiative properties (Latha and Badarinath., 2004). Such estimates are virtually limited over Indian region. The total aerosol mass loading \( M_t \) obtained using the QCM particle analyzer was used in conjunction with BC measurements during 2003 to 2006 to understand the BC concentration in total aerosol mass concentration over the study area. The fraction of BC aerosol mass concentration to total aerosol mass concentration for various months during 2003, 2004, 2005 and 2006 were shown in figure 8 (a-d). The figures suggest that the mass fraction of BC ranged between 10% (Jan) to 75% (Dec) in 2003, 10% (Jan) to 55% (April) in 2004, 5% (February) to 75% (June) in 2005, 15% (Jan) to 28% (May). The mean values of mass fraction from January to April for the years 2003, 2004, 2005 and 2006 were calculated and the variations are shown in Fig. 9. The mass fraction of BC were 9.92%, 26%, 12.1%, and 16.9% during different years. Such a large share of BC can have serious implications on surface and atmospheric radiative forcing. A mere 6% of soot contributes 11% to AOD (Sateesh et al., 2002) a 35% reduction in total solar radiation over the ocean surface and an increase of ~50% in atmospheric heating (Podgorny et al., 2000).
Figure 8(a-d) Mass fraction of Black Carbon (BC) aerosol mass concentration during 2003-2006.

Figure 9 Average Mass fraction of Black Carbon (BC) aerosol mass concentration with standard deviation for the month of January - April during 2003-2006.
Impact of Vehicular emissions on Black Carbon mass concentration

Hyderabad has a fairly large influx of trucks transporting commercial goods from different states. The trucks traffic is estimated to be on an average ~19% of the total vehicular density of the Hyderabad (RTA report). The emissions from all these automobiles would add significantly to the total BC concentration of the ambient. Further, BC emissions (particularly from heavy-duty diesel engines of trucks) increase with increase in ambient air temperature and this would also be important during the dry months (Chen et al., 2001). In the study area the influence of open agricultural fires are negligible at all seasons and pollution from domestic fuels is quite non-existent as people use natural gas for cooking. The study site is close to the center of the city and two highways pass through east and north of the sampling site at a distance of about 500m. Hence, at the sampling site BC concentrations are expected to primarily reflect the impact of vehicular sources.

In addition to the BC measurements we have conducted experiments on traffic density with respect to the type of vehicles on different days for completeness of the study. The details of different types of vehicles at weekend (Sunday, 2nd April, 2006) and on a weekday (Monday, 3rd April 2006) are shown in Table.3. Figure.10 shows the vehicular density for a weekday and weekend in the study area and the data were segregated into two wheelers, three wheelers, four wheelers and trucks. The vehicular density for different days suggests 33% increase in vehicular density during the weekdays compared to weekends (Sundays). During weekends, two wheelers density decreases whereas heavy vehicle density almost remains constant. Trucks operating with diesel fuel are known to be stronger sources of BC than petrol vehicles.

Studies conducted earlier on automobile exhaust have shown that diesel trucks/heavy vehicles have much higher BC emission potential than lighter petrol engines (Chen et al., 2001). In the present study area buses, vans and heavy-duty vehicles as well as great number of cars have diesel-fuelled engines. Diurnal variations of BC at weekend (Sunday) and on weekday (Monday) are shown in Figure.11 from which it is observed that BC concentration is much lower at weekend with an average value of 11,250 ng/m³ whereas the average BC value on a weekday was 13,529 ng/m³ and the peak values of BC were 40,000 ng/m³ and 60000 ng/m³ at the weekend and on a weekday respectively. It also suggests that BC concentrations increased by a factor of ~2 during morning (6:00 to 9:00hrs) and evening hours (19:00 to 23:00hrs) compared to afternoon hours during both weekend and weekday. During early morning hours high values of BC have been attributed to the turbulence set in by the solar heating which breaks the nighttime stable layer and aerosols in the nocturnal residual layer are
mixed up with those near the surface. Low values of BC during afternoon hours have been attributed to the dispersion of aerosols due to increase in boundary layer height in addition to the low traffic density.

BC peaks during morning and evening has been attributed to the increase in traffic density during these hours. BC measurements during weekends (Saturday & Sunday) correspond to less human activities compared to working days. Interestingly, significant reduction in BC values has been observed during weekends compared to weekdays for both dry and rainy seasons. The decreased BC values on weekends have been attributed to decreased traffic density due to holiday for offices, schools and colleges. The comparison of BC diurnal variations with the traffic density suggests that the BC concentrations in the city are clearly related with the traffic density (Liousse et al, 1992). The decreased BC values on weekends have been attributed to decreased traffic density due to holiday for offices, schools and colleges.

The comparison of BC diurnal variations with the traffic density suggests that the BC concentrations in the city are clearly related with the traffic density (Liousse et al, 1992). Both dry and rainy seasons showed similar diurnal pattern on the influence of vehicular exhausts on BC concentrations. In order to study the seasonal change in the weekday pattern, the weekday variations of BC has been plotted for dry season and rainy season (Figure.12). The weekday profiles showed interesting similarities and differences. Firstly, it may be noted that the two profiles are remarkably comparable in shape.

During dry season, weekday variations of BC suggest that the concentrations increase gradually from Monday to Thursday and gradually decreased from Friday to Sunday. During June, which is typical rainy season, rainfall has occurred during Thursday to Saturday due to which scavenging of BC has taken place and can be noticed in Figures (Figure.12). We have also made an attempt to investigate the possible relation of BC to the meteorological parameters although there is a clear “source” effect on BC concentrations in the city.

Figure.13 (a-d) shows four hours average values for BC mass concentration and wind speed, wind direction and air temperature. Black carbon concentrations showed inverse relation with air temperature. Although there is a tendency of high BC concentrations associated with high wind speed, this association may be coincidental (as during daytime both higher wind speed and more traffic density may occur) and more over high BC concentrations are not visible during all occurrences of high wind speed. Similarly high shifts of mean wind speed values did not produce significant comparable shifts in BC concentrations. In addition to the wind speed, we have made a comparative study between BC with wind direction and
relative humidity. Wind direction in the study area shows seasonal trends. Wind direction variation effect is not reflected in the BC concentrations. Similar observations have been made in other studies in literature (Bhugwant et al., 2001).

![Figure 10](image)

**Figure 10** Vehicular density pattern on weekend and weekday over the measurement site.

**Table 3** Vehicular number density on weekend and weekday over the measurement site.

<table>
<thead>
<tr>
<th>Type of vehicle</th>
<th>No: of vehicles at weekend</th>
<th>No: of vehicles on weekday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buses</td>
<td>293</td>
<td>372</td>
</tr>
<tr>
<td>Two wheelers</td>
<td>321</td>
<td>443</td>
</tr>
<tr>
<td>Three wheelers</td>
<td>222</td>
<td>340</td>
</tr>
<tr>
<td>Four wheelers</td>
<td>291</td>
<td>343</td>
</tr>
<tr>
<td>Lorry trucks</td>
<td>42</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>1169</td>
<td>1549</td>
</tr>
</tbody>
</table>

% of variation 33

(a)

![Graph 02 April, 2006(Weekend)](image)

(b)

![Graph 03 April, 2006(Weekday)](image)
**Figure 11(a, b)** Diurnal variation of Black Carbon (BC) aerosol mass concentration on weekend and weekday over the measurement site

![Weekday variation of BC during May 2006](image)

**Figure 12** Weekday variation of Black Carbon (BC) aerosol mass concentration during dry season and rainy season over the measurement site

(a)

![Weekday variation of BC vs Windspeed (May,2006)](image)

(b)

![Weekday variation of BC vs Relative humidity (May,2006)](image)
Figure: 13 (a-d) Weekday variation of Black Carbon (BC) aerosol mass concentration with meteorological parameters (e.g. Wind Speed, Wind Direction, Temp., and RH,) during dry season over the measurement site.

Conclusions

Variations of total aerosol mass concentration and black carbon aerosol mass concentration over Hyderabad were analysed for the years 2004, 2005 and 2006. BC concentrations were high by a factor of ~2 during morning (6:00 to 9:00hrs) and evening hours (19:00 to 23:00hrs) compared to afternoon hours. The diurnal variation of BC followed the same trend during the years 2003, 2004, 2005and 2006. During early morning hours high values of BC have been attributed to the turbulence set-in by the solar heating which breaks the nighttime stable layer and aerosols in the nocturnal residual layer are mixed up with those near the surface. Low values of BC during afternoon hours have been attributed to the dispersion of aerosols due to increase in boundary layer height in addition to the low traffic density. BC peaks during morning and evening were attributed to the increase in traffic density during these hours. Compared to weekdays significant reduction in BC values were observed during weekends. The observed seasonal changes in BC and total aerosol mass concentration are
associated with synoptic meteorology and long-range transport in addition to local sources as the study area is purely urban and industrialized. The annual mean values during 2003, 2004, 2005 and 2006 were 7.05µg/m³, 7.67µg/m³, 10.15µg/m³ and 18.77µg/m³. The increase in the BC aerosol concentration year by year shows the rapid rate at which the pollution level is increasing in the fast growing urban city of Hyderabad.

References:

-----------------------------------

Lecturer in Physics, Ch. S. D. St. Theresa’s College for Women, Eluru.
FMCGs-PDS (Village Malls) Rural Markets in Andhra Pradesh

K. Kishore Kumar

Abstract:
Marketing is the study and management of exchange relationships. Marketing is the business process of creating relationships with and satisfying customers. With its focus on the customer, marketing is one of the premier components of business management. The term FMCG- Fast moving consumer goods refer to consumer non-durable goods required for daily or frequent use and directly used by the customers. These products cater to necessities, comforts as well as luxuries. They meet the demands of the entire cross sections of population. Price and income elasticity of demand varies across products and consumers. As per ICRA the term FMCG has been defined to include products that are consumed at least once a month, sold under the national brands in consumer packages, sold through a wide spared distribution network and consumed directly by the consumers. Andhra Pradesh total population constitute, 70.4% of rural population with 34,776,389 inhabitants and 29.6% of urban population with 14,610,410 inhabitants. The study is relating to the marketing strategies which were followed in FMCG goods in recent days. Fast Moving Consumer Goods (FMCG) are more in demand and frequently purchased by customers. These goods include all consumable goods (other than pulses and grains) and consumers buy at regular intervals in small quantities. Contribution of FMCG sector in every economy is significant. FMCG industry consists of both a supplier side and a retail side. Retailers tend to have similar strategies. Many studies have focused either on the consumers of FMCG or the strategies of retailers but no focus has been made to study the supplier side. Consequently, there is a need to examine the marketing strategies of these distinguished FMCG manufacturing enterprises. Upmarket stores are set to open in Andhra Pradesh countryside as the government plans to convert the existing 29,000 fair price shops across the state into mini-malls.

Key words: Rural markets, Marketing Strategies, Rural consumers, Fast Moving Consumer goods fair price shops etc.

Introduction:
As mentioned earlier, there is a clear dichotomy in Indian market, i.e. Urban and Rural. The urban markets were first explored by marketers as compared to the rural. Research efforts even on the urban market in India were adapting or using the western paradigms of consumer studies on Indian consumers. However, the urban market in India, leaving apart the comparatively low level of consumptions, has many similarities with the western market because of which the western strategies and paradigms could be applied. But this is not true of the Indian rural market. As per ICRA the term FMCG has been defined to include products that are consumed at least once a month, sold under the national brands in consumer packages, sold through a wide spared distribution network and consumed directly by the consumers.

Products: Products which have a quick turnover, and relatively low cost are known as Fast Moving Consumer Goods (F.M.C.G.). F.M.C.G. Products is those that get
replaced within a year. Example of F.M.C.G. generally include a wide range of frequently purchased consumer products and detergents, as well as other non-durables such as glassware, bulbs, batteries, paper products, and plastic goods.

**Product Characteristics:**

Products belonging to the FMCG segment generally have the following characteristics:

- They are used at least once a month
- They are used directly by the end-consumer
- They are non-durable
- They are sold in packaged

This study focuses on products like Soaps, Detergent, Antiseptic Cooking Medium and Tooth-Powder, Salt and Biscuits. All these are used on a frequent basis. Typically a consumer buys these goods at regular intervals. These are bought for personal consumption and family care.

Objectives of the study

In order to understand the market segmentation’s past experiences and future challenges that the FMCG companies are going to face.

**Objectives:**

1. To understand market segmentation and its implementation in the FMCG companies.
2. To explore how FMCG companies segment markets.
3. To explore different targeting strategies used by leading FMCG companies in India.
4. To study the role of the past segmentation techniques and analyzing their role, in the process of making modern marketing strategies for the competition oriented dynamic market.
5. To study the future challenges in the business environment for FMCG, while segmenting the market.
6. To study how marketing segmentation can help in achieving the organizational objectives

A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging product placement, product promotion or pricing. Innovative marketing of products is about leveraging the marketing mix, namely, the 4P’s which are Product (Design and Packaging), Price, Place and Promotion.

**Public distribution system:**

in 2014 that the Andhra Pradesh government decided to go digital and opted for an electronic solution for its PDS (public distribution system). While the initial model was tested in a few small regions, the final release can handle as many as four million transactions per day during peak time across all the 13 districts in the state—all this powered by Post SQL, the open source database. The Andhra Pradesh (AP) government gave the task of transforming its public
distribution system to a team at the National Informatics Centre (NIC). Led by civil supplies commissioner and state informatics officer (SIO) of Andhra Pradesh, K. Rajasekhar, the NIC team preferred US-based Enterprise DB to build a progressive e PDS (electronic public distribution system) model, in order to improve the transparency, efficiency and effectiveness of the system. The arrival of the e PDS in the region has also set the stage for next-generation solutions, including e SCM (electronic supply chain management) and e POS (electronic point of sale). All these developments have led to hyper-scalability, high-availability, reliability and high-concurrency to the entire process of delivering civil supplies in the state, along with low latency.

e P DS: a mission critical application

The Post database system, which currently holds nearly 38 million records, was deployed right at the beginning of the project. This open source database helped to enable Aadhaar-based biometric authentication in real-time, and offer cashless as well as card less transactions. The latest Postgres release (version 9.6), which has been powering the distribution system, can be scaled to more than 1.5 million transactions per second (TPS). However, the team is working on parallel data processing features to achieve a higher TPS.

Chandranna Village Malls:

Chief Minister N. Chandrababu Naidu remotely launched the Chandranna Village Mall in Guntur and Vijayawada as a pilot project in the State on Tuesday. The existing Fair Price Shops (FPS) will function as Chandranna Village Malls. In the first phase, the government is proposing to develop 6,500 malls across the State. There are about 28,000 FPS outlets in the State. The idea of mall is to take facilities available at the malls in urban areas to the doorstep of villagers.

“The government will supply goods/commodities in lieu of rice being supplied to the poor at the malls. The commodities will be worth equal to the rice being supplied right now,” the Chief Minister said.

When contacted, Civil Supplies Minister Prathipati Pulla Rao said the government would continue to supply rice to ration cardholders. The consumers, however, would be given an option. They can take either rice or commodities worth equal the rice they were entitled to. There would not be any compulsion. Nor would the government do away with supply of rice, he said. This was being thought of as off take of subsidized rice was coming down steadily as not many people seem to be interested in it.

Speaking to shopkeepers and a few villagers through video conference, Mr. Naidu said that the objective of the village malls was to provide branded products at affordable prices to consumers living away from urban areas. The village malls would be accessible online soon, and they can save time and effort with the help of technology. The shopkeepers would have to give
respect to the customers and maintain cleanliness and standard of malls, he said.

The government is proposing selling 500 types of commodities of various brands in these malls at 4% to 35% less than the Maximum Retail Price (MRP). The dealer will get 40% of the discount offered by the companies, while consumer enjoys a benefit of 60% , he said.

All kinds of essential goods are sold at the village malls at lower prices compared to open market, but allowing a small commission to the dealer. The plan is to link suppliers or manufacturers with the Village Malls and enable supply of goods at prices lower than the MRP.

The government chalked out plans to launch the malls in partnership with Reliance Retail and Future Group. The State government would bear 25% of the establishment cost while another 25% would be provided as loan to the dealers under the Centre’s Mudra Yojana. Products manufactured by women self-help groups and Girijan Cooperative Corporation would also be sold at the proposed malls along with the agriculture produce procured directly from farmers.

Fast Moving Consumer Goods (FMCG), are products that are sold quickly at relatively low cost. Though the absolute profit made from FMCG products is relatively small, they generally sell in large quantities, so the cumulative profit on such products can be large. Examples of FMCG generally include a wide range of frequently purchased consumer products.

FMCG sector is a vital contributor to India's Gross Domestic Product. It has been contributing to the demand of lower and middle-income groups in India. Over 73% of FMCG products are sold to middle class households in which over 52% is in rural India. Rural marketing has become the hottest marketing arena for most of the FMCG companies. The rural India market is huge and the opportunities are unlimited. After saturation and cutthroat competition in urban areas, now many FMCG companies are moving towards the rural market and are making new strategies for targeting the rural consumer. The Indian FMCG companies are now busy in formulating new competitive strategies for this untapped potential market. Therefore, a comparative study is made on growth, opportunity, and challenges of FMCG companies in rural market. One of the most attractive reasons for companies to tap rural consumers is that an individual’s income is rising in rural areas and purchasing power of lower and middle income groups is also rising and they are eager to spend money to improve their lifestyle. This research paper provides detailed analysis about the contribution of FMCG industry in growth of Indian rural market and aims to discuss about customer attitude towards better purchasing decision for FMCG products in rural market with growing awareness and brand consciousness among people across various socio-economic classes in rural market.
Challenges Faced by FMCG Sectors for Rural Marketing:

- **Transportation problems**: Marketing activities require transportation facilities. Due to poor transportation facilities, farmers and marketers find it difficult to reach markets. Transportation infrastructure is quite poor in rural India. Nearly 80 percentages of villages in the country are not connected by well constructed roads.

- **Warehousing**: In the rural areas, there are no facilities for public as well as private warehousing. Marketers face the problem of storage of their goods.

- **Packaging**: It is the first important step of product processing. If the packaging cost is high, the total cost of products goes up. It is suggested that the marketers should use cheaper materials in packaging for the rural markets.

- **Media Problems**: Media have lots of problems in rural areas. Television is a good medium to communicate message to the rural people. But due to non-availability of power, as well as television sets, majority of the rural population cannot get the benefits of various media.

- **Seasonal Marketing**: The main problem of rural marketing is seasonal demand in rural areas, because 75% of rural income is also seasonal. For example, the demand for consumer goods will be high during the peak crop harvesting period, because this is the time when the rural people have substantial high cash flow. Rural marketing depends upon the demand of rural people and demand depends upon income and consumer behaviour.

- **Low Per Capita Income**: Per capita income is lower in rural areas compared to those in urban areas. Again, the distribution of rural income is highly skewed, since the land holding pattern, which is the basic asset, is skewed. Thus the rural population presents a highly heterogeneous spread in the villages.

- **Low Level of Literacy Rate**: Literacy rate is low in rural areas compared to urban areas. This again leads to the problem of communication for promotion purpose. Print medium becomes ineffective and to an extent irrelevant in rural areas since its reach is poor.

- **Distribution**: An effective distribution system requires village-level shopkeeper, Mandal/Taluka-level wholesaler or preferred dealer, distributor or stockiest at district level and company-owned depot or consignment distribution at state level. The presence of too many tiers in the distribution system increases the cost of distribution.

- **Career in Rural Market**: While rural marketing offers a challenging career, a rural sales person should require certain qualifications and specialized talent to deal with rural consumers.
Suggestions:

1. Rural consumers are price sensitive nature, they are very much attracted towards that price sensitive, so the FMCG companies should have to consider price sensitive.

2. To retain and gain from rural markets, promotional offers are great influence on buying behaviour.

3. Rural markets look variety in same brand like Colgate, Colgate Salt, Colgate Sensitive, Colgate Total etc. other FMCG companies also follow same strategies.

4. For making popular its products in women respondents, it is suggested the at Company should make its presence more in weekly Haats however presence in Melas is significant but in Haats it is very less.

5. At the micro level, the strategies will have to be designed with regard to the marketing " of the product to improve the organizational performance in the market to the some extent Hindustan River has been following this technique successfully in shampoo and soap segment now there is need to apply in other product segments also.

6. Product Awareness is very important for the marketer to induce a trial. Women respondents visit high congregation areas like haats/fairs etc. where product awareness can be created. Therefore, the right product needs to reach the right person at the right time and place.

7. The women respondents are spread over a large area where reach is expensive and the mass is heterogeneous. The spending power of women respondents fluctuates with the Agri-yield. Hence, demand is not consistent. Besides this, low level of product exposure, poor Standard of living, spurious products with high margins for retailers and lack of Infrastructure leads to low penetration

Conclusion:

Rural markets have seen a lot of activity in the last few years. Since penetration levels are pretty high in most categories, future growth can come only from deeper rural penetration and higher consumption. As rural income increases and distribution network improves (in line with road development projects), the penetration levels are set to increase. Brand building and extensive distribution network is a key factor. A successful brand is a precious asset, which could fetch a price many times the cost of assets required to make the product. A study conducted by A&MORG-MARG reflects that the share of branded goods is high for a number of daily used products, and the share of unbranded products is shrinking, albeit slowly. It is observed in the present study that there is high demand for most of the branded products and the share of traditional products is also handy. Majority of the households across different income.
FMCG products in their daily life. The marketers who understand the rural consumer and fine tune their strategy are sure to reap benefits in the coming years. Definitely there is lot of money in rural India. But there are Hindrances at the same time. The greatest hindrance is that the rural market is still evolving and there is no set format to understand consumer behaviour. Lot of study is still to be conducted in order to understand the rural consumer. Only FMCGs with deeper pockets, unwavering rural commitment and staying power will be able to stay longer on this rural race and hence should venture into this territo

References:
5. Dr.K.Lalitha1 , Dr.A.RamaRao “Exploring marketing strategies of FMCG in Amaravathi region of Andhra Pradesh” International Journal of Innovations in Engineering and Technology (IJJET) http://dx.doi.org/10.21172/ijjiet.102.25.

Research scholar, (PhD) Dept. of. Economics, Acharya Nagarjuna University, Guntur
An Overview of Cement Industry in India

K. Narasimha Swamy

Introduction:

Cement is an essential component of infrastructure development and most important input of construction industry, particularly in the government’s infrastructure and housing programs, which are necessary for the country’s socio-economic growth and development. It is also the second most consumed material on the planet (WBCSD 2002). The Indian cement industry is the second largest producer of cement in the world just behind China, but ahead of the United States and Japan. It is consented to be a core sector accounting for approximately 1.3 per cent of GDP and employing over 0.14 million people. Also the industry is a significant contributor to the revenue collected by both the central and state governments through excise and sales taxes. Cement is required by every industry cement is an important part of industrial infrastructure. It provides direct and indirect employment to a large number of persons and contributes a major part to Gross Domestic Product (GDP). Cement is a key infrastructure industry. However, the performance of the industry and prices of cement are monitored regularly. The constraints faced by the infrastructure coordination committee meetings held in the cabinet secretariat under the chairmanship of secretary (coordination) its performance is also reviewed by the cabinet committee on infrastructure.

History of Cement

It must be interesting to know how cement is made today Vis a Vis the historical background. Ever since civilizations stepping in the earth, people sought a material that would bind stones into a solid, formed mass. The Assyrians and Babylonians used clay for this purpose, and the Egyptians advanced to the discovery of lime and gypsum mortar as a binding agent for building such structures as the pyramids. The Greeks made further improvements and finally the Romans developed cement that produced structures of remarkable durability. The secret of Roman success in making cement was traced to the mixing of slaked lime with pozzolang, a volcanic ash from Mount Vesuvius. This process produced cement capable of hardening under water. During the middle ages this art was lost and it was not until the scientific spirit of inquiry revived that we rediscovered the secret of hydraulic cement that will harden under water. Most of the building foundations in the Roman forum were constructed of a form of concrete, placed in some locations to a depth of 12 feet. The great Roman baths built about 27B.co, the coliseum,
and the huge Basilica of Constantine are examples of early Roman architecture in which cement mortal was used.

**Definition of cement**

Cement can be defined as any substance which can join or unite two or more pieces of some other substance together to form a unit mass; cements, as used in construction industries, is a fine powder which when mixed with water and allowed to set and harden can join different components or members together to give a mechanically strong structure. Thus, cement can be used as a bonding material for bricks or for bonding solid particles of different sizes (rubble masonry) to form a monolith.

**Types of cement:**

The cements coming under the category of Portland cements are also known as "Hydraulic Cements", because they, when mixed with water have the property of setting and hardening under water. Starting with hydraulic lines, which also when mixed with water, set and harden under water, opposed to fat limes which do not harden under water, there are various types of Hydraulic Cements.

A brief description of which is given below:

(i) **Hydraulic Lime:** - Early impure limestone when burnt in ordinary stack kilns and the burnt lime cooled and hydrated or slaked, gives hydraulic lime. The clay matter impurities in the limestone may be as high as 25%, but the clay matter should be very intimately disseminated in the limestone. The silica, alumina and iron-oxide present in the clay combine to some extent with the lime present in the limestone to form silicates and aluminates which impart the hydraulic properties to the product.

(ii) **Natural Cement** :- Natural cement is also made by calcimine impure, limestone, but the burnt material is cooled, ground and packed. There composition is more stringent than hydraulic limes and their manufacture entails better control during the process of manufacture. However use of both hydraulic limes and natural cement is now going down.

(iii) **Portland Cement** :- Portland cement are made by grinding a mixture of limestone and clay matter, burning the mixture at a very high temperature cooling the resultant product, called "clinker", and grinding the same to an impalpable powder. Essential constituents are lime, silica slumina and iron oxide. Some gypsum is added during the final grinding operation. Portland cement types are divided into seven classes, as described later, but the method of manufacture of all the type is practically the same, they very only in chemical composition to impark the desired properties of a particular type.
Capacity and Production of Cement Industry

Cement is a key infrastructure industry. It has been decontrolled from price and distribution on 1st March, 1989 and delicensed on 25th July, 1991 however, the performance of the industry and prices of cement are monitored regularly. The constraints faced by the industry are reviewed in the Infrastructure Coordination committee meetings held in the cabinet secretariat under the chairmanship of Secretary (coordination). Its performance is also reviewed by the Cabinet committee on Infrastructure. The cement industry comprises of 125 large cement plants with an installed capacity of 148.28 million tonnes and more than 300 mini cement plants Corporation of India, which is a Central Public Sector Undertaking, has 10 Units. There are 10 large cement plants owned by various State Governments.

India’s cement industry retrieved in the following financial year, after displaying the poorest show in a decade during 2010-11, at a sales growth rate of less than 5 per cent. According to the business standard newspaper with 330Mt/yr-capacity, industry grew by 6.4 per cent against less than 5.5 per cent in the prior financial years. This was better than the cement maker’s earlier estimates of 6 per cent. However, later in the year when demand revived, Industry officials and sectors analysts turned positive, with projections of 6.5-7.0 per cent, the industry sold 223 Mt of cement, compared with 209.5 Mt, a rise of 6.2 per cent according to the latest report from the working group on the industry for the 12th Five –year plan 2012-17.

India would need overall cement capacity of around 480 Mt/yr. This would mean that the Industry would have to add another 150 Mt/yr. of capacity during the same period. Currently, the top players namely Ultratech cement, ACC Ambuja Cements, Jai Prakash Associates, India Cements and Shree Cement, collectively control more than half of the cement market in the country. There are 40 players in the industry across the country as reported by the business standard (GCM, 2013). To meet the cement demand, a manufacturing unit requires gypsum, fly ash, water and colossal amount of energy. The wet process requires 0.28 tons of coal and 110 kWh of power to manufacture one tonnes of cement, whereas dry process requires 0.18 tons of coal and 100 kWh of power. The manufacturing of cement has expanded at a compound annual growth rate (CAGR) of 9.7 per cent to reach 272 million tonnes (MT) during FY 06–13. The production capacity is expected to grow to 550 MT by FY 20 India’s potential in infrastructure is enormous.

The country is expected to become the world’s third largest construction market by 2025, adding 11.5 million homes a year to become a US$ 1 trillion a year market, according to a study by Global Construction Perspectives and Oxford Economics. Nevertheless its current position as one of the leaders in cement production, India’s riches in the sector remain somewhat untapped.
India is among the best cement markets in Asia; according to Switzerland-based cement major Holcim. The company operates in India through group companies, ACC and Ambuja Cements (Krishna, 2014). The Indian cement sector is expected to witness positive growth in coming years, with demand set to increase at a CAGR of more than 8 per cent during 2013–14 to 2015–16, according to the latest RNCOS report titled, ‘Indian Cement Industry Outlook 2016’. After examining the regional trend of cement consumption, the report further discovered that the Southern region is creating maximum demand, which is expected to expand in future. The cement industry has been expanding on the back of increasing infrastructure activities and demand from the housing sector over the past many years. According to data released by the Department of Industrial Policy and Promotion (DIPP), cement and gypsum products attracted foreign direct investment (FDI) worth Rs 13,370.32 crore (US$ 2.24 billion) between April 2000 and February 2014.

Cement is a cyclical commodity with a high correlation with GDP. The housing sector is the biggest demand driver of cement, accounting for about 67 percent of the total consumption. The other major consumers of cement include infrastructure (13 per cent), commercial construction (11 per cent) and industrial construction (9 per cent). The Indian cement industry grew at a commendable rate in the last decade, registering a compounded growth of about 8 per cent. However, the growth has slowed down in recent years, owing to the sluggishness in the economy.

**Key Drivers of Cement Industry**

- Real Estate Market
- Infrastructure Spending
- Various Governmental programs like National Rural Employment Guarantee
- Low-cost housing in urban and rural areas under schemes like Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Indira AawasYojana
- New Township Development

The economy of India is the tenth largest in the world by nominal GDP and the third largest by Purchasing Power Parity (PPP). The country is one of the G-20 major economies, a member of BRICS and a developing economy that is among the top 20 global traders according to the WTO (WTO, 2013). India was the 19th-largest merchandise and the 6th largest services exporter in the world in 2013. It imported a total of $616.7 billion worth of merchandise and services in 2013, as the 12th-largest merchandise and 7th largest services importer (WTO Press Release, 2014). India's economic growth slowed to 4.7 per cent in 2013–14, in contrast to higher economic growth rates in 2000s. IMF projects India's GDP to grow at 5.4 per cent over 2014-15.
In the Indian economy, Agriculture sector is the largest employer in India's economy but contributes a declining share of GDP 13.7 per cent in 2012-13 (The Economic Times, 2014). The manufacturing industry has held a constant share in economic contribution, while the fastest-growing part of the economy has been its services sector which includes construction, telecom, software and information technologies, infrastructure, tourism, education, health care, travel, trade, banking and others components of its economy (Indian Fiscal Budget 2014).

**Conclusion**

Cement is key factor in economic development. The industry has tremendous potential for development a limestone of excellent quality is found almost throughout the country. The major problem faced by the cement industry in recent years, as indicated already, were inadequate and erratic supply of coal mainly due to poor availability of rail wagons, increase in coal prices following partial deregulation, poor quality of coal and frequent power cuts in major cement producing states like Rajasthan, Andhra Pradesh, Karnataka, Madhya Pradesh Gujarat and Kerala. programmes of the cement industry which include conversion of manufacturing process, energy conservation of measures adoption of latest technologies such as pre-heaters and pre-calcinatory, installation pollution control devices, setting up of captive power units, etc. The Government is also encouraging the setting up of coal washeries and captive power plants to solve the problems of poor quality of coal and power shortage. A very interesting pilot project for transportation of bulk cement is being set up at Kalamboli New Bombay in order to switch over gradually from the traditional movement of cement in bags to modern and efficient mode of transportation and distribution in bulk.

------------------------

**References**


14) Indian Economics by Dr. R.K. Agarwal page no. 274, 321, 333-350
15) Pratiyogita Darpan (Extra Issue)

----------------------------------------
Research scholar, (PhD) Dept. of. Economics Acharya Nagarjuna University, Guntur.
Aquaculture Boom in Andhra Pradesh

Y. Surya Sowjanya

Abstract

Fish is the cheapest and most easily digestible animal protein and was obtained from sources from time immemorial for consumption by human beings. However, due to over exploitation and pollution, the availability of fish in natural waters has declined considerably forcing scientists to adopt various methods to increase its production. Fish farming in controlled or under artificial conditions has become the easier way of increasing the fish production and its availability for consumption. Farmers can easily take up fish culture in village ponds, tanks or any new water body and can improve their financial position substantially. It also creates gainful employment for skilled and unskilled youths. The technology developed for fish culture in which more than one type of compatible fishes is cultured simultaneous is the most advanced and popular in the country. This technology is known as Composite Fish Culture. This technology enables to get maximum fish production from a pond or a tank through utilization of available fish food organisms in all the natural niches, supplemented by artificial feeding. Any perennial fresh water pond/tank retaining water depth of 2 metres can be used for fish culture purpose. However, the minimum level should not fall below one metre. Even seasonal ponds can also be utilized for short duration fish culture.

Key words: Digestible Animal, Time Immemorial, Composite Fish Culture, Seasonal, Natural Niches

Introduction

Aquaculture Booming in India

India is an emerging economic power with a very large pool of human and natural resources. India's global economic engagement in 2006 covering both merchandise and services trade was of the order of $437 billion, up by a record 72% from a level of $253 billion in 2004. By 2008, India had established itself as the world's second-fastest growing major economy. Economists predict that by 2020, India will be among the top five leading economies of the world.

Indian Major Carp

<table>
<thead>
<tr>
<th>Name</th>
<th>Type of Feeding Habit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catla</td>
<td>Zoo plankton feeder</td>
</tr>
<tr>
<td>Rohu</td>
<td>Omnivorous</td>
</tr>
<tr>
<td>Mrigal</td>
<td>Detritivorous</td>
</tr>
</tbody>
</table>

Exotic carps

<table>
<thead>
<tr>
<th>Name</th>
<th>Type of Feeding Habit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silver carp</td>
<td>Phytoplankton feeder</td>
</tr>
<tr>
<td>Grass carp</td>
<td>Herbivorous</td>
</tr>
<tr>
<td>Common carp</td>
<td>Detritivorous/Omnivorous</td>
</tr>
</tbody>
</table>

India is the second largest food producer in the world. Fish and marine merchandise form an important constituent of India’s food production. The Indian sub-continent has a promising
future in producing marine merchandise as it has 8041 km of coastal line, 3 million hectares of reservoirs and 1.2 million hectares of brackish water. India is presently the third largest producer of fish and is playing an important role in global fisheries. The Indian fisheries sector has grown tremendously since 1950s to the present annual production levels of over 7 million tonnes of fish and shellfish from capture fisheries and aquaculture. India currently produces nearly 5% of the world’s total fish production, and about 7% of the total aquaculture production. The potential for growth is immense and the Country is on the threshold of massive development in fisheries and aquaculture.

Seafood exports contribute about 3.32% of India’s export and are the fourth largest contributor of net foreign exchange to the country. Marine products especially seafood business in India is booming. In 2009-10, Indian seafood exports business crossed the $2-billion mark (US$ 2.1 billion) by exporting about 663,603 tonnes of seafood. About 800 seafood exporters operate in India, but the majority of the marine products business is controlled by 100 companies. Japan is the largest importer of India’s seafood with about 22.6% of the exports but quantities to EU, USA and Australia are on the rise. Frozen shrimp and squid, frozen cuttlefish, frozen lobsters, live crabs and lobsters, live shrimp, finfish, and ornamental fish are the main exports.

Unlike the marine fish production which has been stagnating, as elsewhere, the inland aquaculture production in India is surging ahead. Major interests in India in promoting inland aquaculture surround carps, catfishes including Pangasius, freshwater prawns, freshwater pearl culture, coldwater fisheries, ornamental fish culture etc. The estimated potential for ornamental fish export from India is about US$ 30 million. There is also great future for Tilapia, which is being carefully introduced. The marine shrimp sector is well developed with the presence of world’s industry leaders, and the recent introduction of P. Vannamei. A huge untapped potential lies in developing Mari culture including the farming of mussels, edible oysters, marine pearls, seaweeds etc. The potential for open water cage and pen culture in the inland and coastal areas is also immense.

Given the abundance of resources with potential and the national importance attributed, aquaculture in India is poised for great expansion in the near future. At the national level, the govt. of India is planning to develop a road map for enhancing fish production from the present level to 10 million tonnes by 2012; explore avenues to meet domestic demand; and to increase export earning potential in terms of value-added products and ornamental fish trade. The export industry is poised to achieve 5 billion US$ level by 2012 with 75% contribution from value-added products.
India is presently a growing market for the feed industry. Several major feed plants have established recently with overseas assistance and the demand for feed, particularly the extruded feed is on the rise. Alongside there also a huge potential market for aquaculture medicine and husbandry industry.

Prawn culture:

The giant freshwater prawn is suitable for cultivation in tropical and subtropical climates. The most commonly cultured species in India is “Macrobrachium rosenbergii”. It is a hardy species by virtue of its ability to adapt to various types of fresh and brackish-water conditions. It accepts polluted feed and has omnivorous feeding habit. For ensuring availability of quality seed in predictable quantity freshwater prawn hatcheries should be encouraged, technology for which is already developed. Freshwater prawn hatcheries are coming up in many states.

The aquaculture production of giant freshwater prawn, Macrobrachium rosenbergii in India has shown a phenomenal increase in recent years that has increased from less than 500 metric tonne in 1997 to more than 30,000 metric tonne in 2003. The major bottleneck for the further expansion of the prawn culture is the lack of adequate supply of post-larvae (prawn seed) for stocking. The projected seed requirement for the development of at least two lakhs hectare of water area in the coming years is 10,000 million. Indian aquaculture has been evolving from the level of subsistence activity to that of an industry. This transformation has been made possible with the development and standardization of many new productions and associated techniques of input and output subsystems.

In recent years aquaculture has created great enthusiasm and interest among entrepreneurs especially for shrimp farming in coastal areas. Shrimp farming is capital-intensive activity and uncontrolled mushrooming growth of it has led to outbreak of diseases and attributed environmental issues calling for closure of shrimp farms. Although India has vast freshwater resources they are not fully exploited except for carp culture in limited scale. Fresh water fish culture employing composite fish culture technology has become popular for use in large number of tanks and ponds in the country. To meet the raw material required by the processing units for export demand there is urgent need to expand our production base. In addition it is always stressed that there is a need to utilise our natural resources productively to ensure the much needed food security.

**Scampi production through aquaculture in India**

<table>
<thead>
<tr>
<th>Year</th>
<th>Live Weight (MT)</th>
<th>Product Weight(MT)</th>
<th>Estimated Value (Rs. Crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003-04</td>
<td>35870</td>
<td>17935</td>
<td>700</td>
</tr>
<tr>
<td>2004-05</td>
<td>38720</td>
<td>19360</td>
<td>767</td>
</tr>
<tr>
<td>% increase</td>
<td>7.95</td>
<td>7.95</td>
<td>9.57</td>
</tr>
</tbody>
</table>

(Source: Marine Products Export Development Authority, 2005)
State wise production details of scampi farming in India

<table>
<thead>
<tr>
<th>NO</th>
<th>State</th>
<th>Area (Ha)</th>
<th>Production (MT)</th>
<th>Productivity (MT/Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Andhra Pradesh</td>
<td>28096</td>
<td>34541</td>
<td>1.23</td>
</tr>
</tbody>
</table>

(Source: Marine Products Export Development Authority, 2005)

Site Selection for Hatcheries and Nurseries

The site requirements for hatcheries and nurseries, which are normally associated with each other, are similar.

Availability of Quality Water

The hatchery and nursery should be located inland where there is ample supply of good freshwater. Saline water required for larval development can be transported and mixed with freshwater to attain the desired salinity. The quality of intake water. Special care is needed in hatcheries that are situated in or near areas where the use of pesticides, herbicides, and fertilizers is intensive. Ideally, freshwater should be obtained from underground sources. The brackish water for use in *M. rosenbergii* hatcheries should be 12-16 ppt, should have a pH of 7.0 to 8.5, and contain a minimum dissolved oxygen level of 5 ppm. High levels of heavy metals, such as mercury (Hg), lead (Pb) and zinc (Zn), should also be avoided, since these are most likely to be caused by industrial pollution.

Soil Characteristics

The ideal soil for freshwater prawn culture should be clay-silt mixture or sandy loam comprising of 60% sand and 40% silt with good water retention capacity. There must be enough soil available for pond construction, whether the ponds are to be excavated or pond banks are to be erected above ground. Although supplemental food is given to freshwater prawns reared in earthen ponds, a considerable amount of their food intake is from natural sources. Pervious soils, which are very sandy or consist of a mixture of gravel and sand, are unsuitable unless the water table is high and surrounding areas are always waterlogged. Soils, which consist of silt or clay, or a mixture of these with a small proportion of sand, normally have good water retention characteristics.

Climate

The meteorological records such as temperature, the amount and seasonality of rainfall, evaporation, sunlight, wind speed and direction, and relative humidity should be studied for site selection. Avoid highly unstable meteorological regions. Strong storms and winds increase the risks of flood and erosion damage, and may lead to problems with transport access and power supply.
Temperature is a key factor. Seasonal production is possible in semi-tropical zones where the monthly average air temperature remains above 20°C for at least seven months of the year. The optimum temperature range for year-round production is between 25 and 31°C, with the best results achievable if the water temperature is between 28 and 31°C. The temperature of the rearing water is governed not only by the air and ground temperature but also by solar warming and the cooling effects of wind and evaporation. The rate by which pond water is exchanged and the temperature of the incoming water are also important considerations.

Rainfall, evaporation rates, relative air humidity and wind speed and direction also need to be investigated. Ideally, evaporation losses should be equal to or slightly lower than rainfall input, to maintain an approximate water balance. Mild winds are useful to promote gas exchange (oxygenation) between water and the atmosphere. However, strong winds can increase water losses by evaporation and may also generate wave action, causing erosion of the pond banks. Avoid areas where it is constantly cloudy because this makes it hard to maintain a steady water temperature, as it interferes with solar penetration. Periods of cloud cover of several days' duration may also cause algal blooms to crash, which in turn lead to oxygen depletion.

**Feeding:**

The types of feed used in freshwater prawn farming vary widely and include individual animal or vegetable raw materials and feed mixtures prepared at the pond bank; both of these are generally referred to as ‘farm-made feeds'. In addition, commercial feeds designed for freshwater prawns are available. Freshwater prawns are omnivores and, so far as is known at present, their nutritional requirements are not very demanding. Some farmers utilize commercial feeds designed for marine shrimp in freshwater prawn nurseries or during the first few weeks of the grow-out phase when prawns. Where necessary, 25 kg/ha/month of triple superphosphate will keep the water green. Benthic fauna are very important features in the ecosystem of freshwater prawn ponds, forming part of the food chain for prawns. Fertilization to encourage the development of benthic fauna is therefore recommended. Animal manures have been used for this purpose (e.g. 1000-3000 kg/ha of cattle manure).

**Health, Predation and Disease**

Continuous exchange of a small proportion of the water is the normal way of maintaining good water quality. However, some farmers change water more suddenly every two weeks, and in much larger proportions, because this tends to make the prawns moult. The more that moult (and are therefore soft-shelled) at the same time, the less potential losses there may be due to cannibalism. Low dissolved oxygen should be suspected if prawns begin to crawl out of the
ponds or congregate at the edges of the pond in daylight. If this problem occurs, flush the pond. Very high pH levels in freshwater prawn ponds can cause prawn mortalities, both because of the direct effect of the pH itself and because of the greater solubility of waste ammonia at high pH. High pH is often caused by dense phytoplankton blooms.

Major problems that may arise during culture are mortality of the stock due to low dissolved oxygen in the pond water. Heavy plankton bloom, very low water level and lack of water exchange leads to low dissolved oxygen levels. Continuous rainy/cloudy days precipitate this problem. Immediate water exchange or aeration of ponds during night hours prevents this problem. Development of bottom algae due to high transparency of water is another problem during monoculture of prawns.

To avoid this problem always maintain transparency in 30-40 cm range by frequent fertilization. Predation is one of the greatest problems for any aquaculture enterprise, including freshwater prawn farming. Predation is caused mainly by other aquatic species, birds, snakes and humans. Normally, insects (mainly dragonfly nymphs), carnivorous fish and birds are the most serious predators in freshwater prawn farming.

Marketing

Marketing prawns alive will usually generate a better price but, it also increases handling costs. Marketing them successfully in this way depends on the ability to keep them alive during transport and display, and to present undamaged, healthy prawns in an attractive way.

Marketing your freshwater prawns fresh or frozen

Prawns can be sold fresh (chilled) if they are going to be consumed within 5 (preferably 3) days. Prawns, which are not expected to be sold within 3 days, should immediately be frozen. Freezing should take place when they are fresh, not after they have been on ice for several days. Frozen tails have a longer shelf life than whole prawns. Whole frozen freshwater prawns will turn ‘mushy' if they are frozen and held above -20°C, or if they are thawed and refrozen. It is recommended that prawns to be stored for long periods be held at -30 to -35°C. Tails which are frozen in ice blocks may be stored for over a year and still be very satisfactory, although a maximum of six months is recommended. Glazing or vacuum packing significantly prolongs the useful life of frozen prawns. While vacuum packing requires elaborate processing facilities, not available to small farms, glazing is quite simple: a very thin mixture of syrup and water prevents oxidation.

Economics

The detailed economic analysis of larvae culture and farming of freshwater prawn *Macrobrachium rosenbergi* in India is given in below.
### Economics of grow-out production of prawn

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Item</th>
<th>Amount (in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td><strong>Expenditure</strong></td>
<td></td>
</tr>
<tr>
<td>A.</td>
<td>Variable Cost</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Pond lease value</td>
<td>10,000</td>
</tr>
<tr>
<td>2.</td>
<td>Prawn seed @ 60,000/ha @ Rs. 600 /1000 Nos. including transportation cost</td>
<td>36,000</td>
</tr>
<tr>
<td>3.</td>
<td>Fertilizers and lime</td>
<td>6,000</td>
</tr>
<tr>
<td>4.</td>
<td>Supplementary feed (pellet form @ 3 t/crop @ Rs. 20/kg)</td>
<td>60,000</td>
</tr>
<tr>
<td>5.</td>
<td>Wages (One @ Rs. 2000/month for 9 months)</td>
<td>18,000</td>
</tr>
<tr>
<td>6.</td>
<td>Electricity and fuel</td>
<td>3,000</td>
</tr>
<tr>
<td>7.</td>
<td>Harvesting charges</td>
<td>5,000</td>
</tr>
<tr>
<td>8.</td>
<td>Miscellaneous expenditure</td>
<td>3,000</td>
</tr>
<tr>
<td></td>
<td><strong>Sub-total</strong></td>
<td><strong>1,41,000</strong></td>
</tr>
<tr>
<td>B.</td>
<td><strong>Total Cost</strong></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Variable cost</td>
<td>1,41,000</td>
</tr>
<tr>
<td>2.</td>
<td>Interest on variable cost (@ 15% per annum for 6 months)</td>
<td>10,725</td>
</tr>
<tr>
<td></td>
<td><strong>Grand total</strong></td>
<td><strong>1,51,725</strong></td>
</tr>
<tr>
<td>II.</td>
<td><strong>Gross Income</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sale of big size prawn (@ Rs. 175/kg for 1000 kg)</td>
<td>1,75,000</td>
</tr>
<tr>
<td></td>
<td>Sale of small size prawn (@ Rs. 70/- kg for 500 kg)</td>
<td>35,000</td>
</tr>
<tr>
<td></td>
<td><strong>Grand total</strong></td>
<td><strong>2,10,000</strong></td>
</tr>
<tr>
<td>III.</td>
<td><strong>Net Income (Gross income – Total cost)</strong></td>
<td><strong>58,275</strong></td>
</tr>
</tbody>
</table>

(Source: Central Institute of Freshwater Aquaculture)

**Aquaculture Boom in Andhra Pradesh in Recent Years:**

The government of India’s Andhra Pradesh state is looking into investments in aquaculture as an economic growth engine. The state, located on India’s east coast, has been the top state in fish production in the country, accounting for 45 percent of India’s total seafood exports. During the 2016-17 fiscal year, its seafood exports reached INR 170 billion (USD 2.60 billion, EUR 2.12 billion) in value, out of the total INR 378 billion (USD 5.81 billion, EUR 4.73 billion) earned from seafood exports by the country as a whole.

Andhra Pradesh Agriculture Minister Somireddy Chandramohan Reddy, in presenting his department’s budget for the 2018-19 fiscal year, said the state is on track to achieve its production goals this year. Through December 2017, which marks the end of the first three months of the fiscal year, the state produced 2.7 million metric tons of fish and shrimp with a market value of INR 340 billion (USD 5.21 billion, EUR 4.26 billion). The three-month figures ending 31 March, 2018, have yet to be added into the state’s figures, the minister said in a statement.
While Andhra Pradesh has more than 970 kilometers of coastline, Chandramohan Reddy said the state government is currently focused on aquaculture as a means of growing its seafood production. Aquaculture currently contributes around 6.5 percent of the state’s gross domestic product, but the minister said in his address that with increased investment, he expects it to become an even bigger part of the state’s economy.

During the 2018-19 financial year, the state government has increased investment in the sector to INR 3.86 billion (USD 59 million, EUR 48 million), as compared to INR 3.66 billion (USD 56 million, EUR 45 million) last year. Apart from investing funds in the sector, the state government is also developing infrastructure that includes fishing harbors and fish landing centers. During 2017-18 fiscal year, the ministry has set a target of 3.38 million tons from fish and shrimps productions that accounts for a market value of INR 421 billion (USD 6.46 billion, EUR 5.25 billion), Chandramohan Reddy’s statement added.

**Analysis and Interpretation of Data**

This Chapter deals with the socio-economic profile of the respondents. Socio-economic profile has an importance on the living conditions of the respondents. A sample size of 556 respondents at random selected from west Godavari district of three Revenue Mandals were interviewed using pre-tested questionnaire. The villages selected for the study are aquaculture cultivation areas. The socio-economic characteristics of the sample respondents include age, caste, religion, education, occupation, residential accommodation, landholding pattern, investment, production, expenditure, profits, loses, market prices etc. have been discussed in detail in the present Chapter.

**Table 1.1 Chi square tests for type of farming with gender:**

H0: There is no association between respondents and type of farming.

H1: There is an association between respondents and type of farming.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>313</td>
<td>84</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>(X^2)- value</th>
<th>df</th>
<th>Cal p-val e</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>5.77</td>
<td>2</td>
<td>0.749</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that the males and female respondents are not associated.
Table 1.2 Chi square tests for type of farming with respondent occupation:
H0: There is no association between respondents of occupation and type of farming.
H1: There is an association between respondents of occupation and type of farming.

<table>
<thead>
<tr>
<th>Occupation &amp; Type Of Farming</th>
<th>Type Of Farming</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
<td>Both</td>
<td></td>
</tr>
<tr>
<td>Cultivation</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Agriculture Labour</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Artisan</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Employed In Government Or Private Company</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>House Keeping</td>
<td>302</td>
<td>83</td>
<td>148</td>
<td>533</td>
</tr>
<tr>
<td>Student</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
<td>156</td>
<td>556</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>X²-value</th>
<th>df</th>
<th>Cal p-vale</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>6.688</td>
<td>10</td>
<td>0.755</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that the respondents are not associated.

Table 1.6 Chi square tests for fish farming with fish culture practice in back or fresh water:
H0: most of respondents not practicing with fish farming in fresh or back water.
H1: most of respondents practicing with fish farming in fresh or back water.

<table>
<thead>
<tr>
<th>Are you practicing fish culture in fresh water or back * Type of farming</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>Fresh water</td>
<td>314</td>
<td>83</td>
</tr>
<tr>
<td>Brackish water</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>X²-value</th>
<th>df</th>
<th>Cal p-vale</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>6.344</td>
<td>2</td>
<td>0.042</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is less than p-value so we reject the null hypothesis. So we conclude that most of respondents practicing with fish farming in fresh or back water.

Table 1.8 Chi square tests for type of farming with fish found:
H0: there is no association with investment in type of farming.
H1: there is an association with investment in type of farming.
Investment required to purchase Fingerlings per kg.

<table>
<thead>
<tr>
<th>Investment required to purchase Fingerlings per kg.</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>10000 to 20000</td>
<td>83</td>
<td>27</td>
</tr>
<tr>
<td>20000 to 40000</td>
<td>197</td>
<td>49</td>
</tr>
<tr>
<td>40000 to 60000</td>
<td>35</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>20.5</td>
<td>20</td>
<td>0.43</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that there is no association with investment in type of farming.

Table 1.9 Chi square tests for fish fingerlings types:

H0: there is no association between fish fingerlings types.
H1: there is an association between fish fingerlings types.

Which variety of fish fingerlings are on high demand

<table>
<thead>
<tr>
<th>Which variety of fish fingerlings are on high demand</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>Rohu</td>
<td>312</td>
<td>85</td>
</tr>
<tr>
<td>Katla</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Bochee</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>2.9</td>
<td>4</td>
<td>0.574</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is less than p-value so we accept the null hypothesis. So we conclude that there is no association between fish fingerlings types.

Table 1.10 Chi square tests for fish farming rates:

H0: there is no same rate of fish farming throughout year.
H1: there is same rate of fish farming throughout year.

<table>
<thead>
<tr>
<th>Fish Farming’s</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>None</td>
<td>298</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>9.37</td>
<td>4</td>
<td>0.0574</td>
</tr>
</tbody>
</table>
From the above table calculated p-value is less than p-value so we reject the null hypothesis. So we conclude that there is no same rate of fish farming throughout year.

Table 1.13 Chi square tests for traditional chemical fertilizers:
H0: more than 35 kilos traditional chemical fertilizers required for farming.
H1: less than 35 kilos traditional chemical fertilizers required for farming.

<table>
<thead>
<tr>
<th>How many kilos of traditional chemical fertilizers</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>10.00</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>15.00</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>20.00</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td>24.00</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>25.00</td>
<td>45</td>
<td>17</td>
</tr>
<tr>
<td>27.00</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30.00</td>
<td>45</td>
<td>7</td>
</tr>
<tr>
<td>35.00</td>
<td>99</td>
<td>33</td>
</tr>
<tr>
<td>40.00</td>
<td>39</td>
<td>4</td>
</tr>
<tr>
<td>42.00</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>45.00</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>50.00</td>
<td>36</td>
<td>5</td>
</tr>
<tr>
<td>55.00</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>60.00</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>7.99</td>
<td>6</td>
<td>0.082</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that more than 35 kilos traditional chemical fertilizers required for farming.

Table 1.14 Chi square tests for cost of traditional chemical fertilizers:
H0: more than 35000 are required for traditional chemical fertilizers for farming.
H1: Less than 35000 are required for traditional chemical fertilizers for farming.

<table>
<thead>
<tr>
<th>How many kilos of traditional chemical fertilizers, Q29</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>10000 to 25000</td>
<td>61</td>
<td>20</td>
</tr>
<tr>
<td>25000 to 35000</td>
<td>144</td>
<td>40</td>
</tr>
<tr>
<td>35000 to 45000</td>
<td>72</td>
<td>18</td>
</tr>
<tr>
<td>45000 and above</td>
<td>38</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>7.997</td>
<td>6</td>
<td>0.238</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis.
So we conclude that more than 35000 are required for traditional chemical fertilizers for farming.

**Table 1.15 Chi square tests for investment for antibiotics for farming:**

H0: more than 10000 investments are required for antibiotics for farming.

H1: 10000 investments are required for antibiotics for farming.

<table>
<thead>
<tr>
<th>How much investment is required per acre for antibiotics</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>10000</td>
<td>183</td>
<td>44</td>
</tr>
<tr>
<td>10000 to 20000</td>
<td>101</td>
<td>23</td>
</tr>
<tr>
<td>20000 to 30000</td>
<td>31</td>
<td>18</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>X²-value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>12.36</td>
<td>4</td>
<td>0.015</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is less than p-value so we reject the null hypothesis. So we conclude that 10000 investments are required for antibiotics for farming.

**Table 1.16 Chi square tests for fish pond production:**

H0: more than 5 productions for fish pond.

H1: less than 5 productions for fish pond.

<table>
<thead>
<tr>
<th>In each fish pond how is the fish production</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>1 to 2.5</td>
<td>48</td>
<td>13</td>
</tr>
<tr>
<td>2.5 to 5</td>
<td>173</td>
<td>58</td>
</tr>
<tr>
<td>5 to 7.5</td>
<td>65</td>
<td>14</td>
</tr>
<tr>
<td>7.5 to 15 or 7.5 and above</td>
<td>29</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>X²-value</th>
<th>df</th>
<th>Cal p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>16.39</td>
<td>6</td>
<td>0.012</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is less than p-value so we reject the null hypothesis. So we conclude that more than 5 productions for fish pond.

**Table 1.18 Chi square tests for fertilizers changed growth of farming:**

H0: one fertilizer is changed the growth of farming.

H1: Two fertilizers is changed the growth of farming.

<table>
<thead>
<tr>
<th>How many times are fertilizers changed for growth of fishes</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>1.00</td>
<td>287</td>
<td>76</td>
</tr>
<tr>
<td>2.00</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>
From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that one fertilizer is changed the growth of farming.

**Table 1.19 Chi square tests for previous fertilizers are useful for farming:**

H0: there is no use of previous fertilizers for farming.

H1: there is use of previous fertilizers for farming.

<table>
<thead>
<tr>
<th>Does the previous fertilizers used for fishes</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>Yes</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>No</td>
<td>295</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-vale</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>0.242</td>
<td>2</td>
<td>0.887</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that one fertilizer is changed the growth of farming.

**Table 1.20 Chi square tests for kgs of fertilizers growth for farming:**

H0: less than 40000 kgs of fertilizers growth for farming.

H1: more than 40000 kgs of fertilizers growth for farming.

<table>
<thead>
<tr>
<th>How many kgs of fertilizers are required for growth of fish</th>
<th>Type of farming</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fish</td>
<td>Prawn</td>
</tr>
<tr>
<td>10000 to 20000</td>
<td>39</td>
<td>6</td>
</tr>
<tr>
<td>20000 to 30000</td>
<td>96</td>
<td>19</td>
</tr>
<tr>
<td>30000 to 40000</td>
<td>62</td>
<td>16</td>
</tr>
<tr>
<td>40000 and above</td>
<td>118</td>
<td>44</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>p-value</th>
<th>$X^2$- value</th>
<th>df</th>
<th>Cal p-vale</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>9.944</td>
<td>6</td>
<td>0.127</td>
</tr>
</tbody>
</table>

From the above table calculated p-value is greater than p-value so we accept the null hypothesis. So we conclude that more than 40000 kgs of fertilizers growth for farming.
Conclusion:

In India, major water resources are owned by village communities and the revenue department, the water resources are neither leased to farmers nor utilized by the concerned department reasons. The majority of farmers in rural areas do not own ponds and over 67% of freshwater fish farming in certain areas of the country is undertaken in leased out ponds. Due to the short leasing policy, farmers are reluctant to make investments, resulting in ponds remaining underutilized and unutilized for fish production. In community aquaculture management, social, cultural, economic, political and environmental conditions of the community members are considered for sustainable, profitable, stable, equitable and comparable development of rural aquaculture.

---------------------

References:


6. M. B. Dastagiri and Mruthyunjaya (NACP2003) Analysis of Fish Supply and Demand in India A Profile of People, Technologies and Policies in Fisheries Sector in India. India Published March 2003

7. Pradeep K. Katiha, J.K. Jena and N. K. Barik (NACP 2003) Profile of Key Inland Freshwater Aquacultural Technologies in India. A Profile of People, Technologies and Policies in Fisheries Sector in India. India Published March 2003 Published by Dr Mruthyunjaya


9. Ramachandra Bhatta (NCAP 2003) Socio-economic Issues in Fisheries Sector in India. A Profile of People, Technologies and Policies in Fisheries Sector in India. March 2003 Published by Dr Mruthyunjaya Director, NCAP


Research Scholar, (PhD) Department of Economics, Acharya Nagarjuna University, Guntur

We must plant the sea and herd its animals ... using the sea as farmers instead of hunters. That is what civilization is all about - farming replacing hunting - Jacques - Yves Cousteau
Abstract

Thorough environmental hygiene is important for the prevention of transmission of infectious diseases within healthcare settings. Environmental hygiene encompasses effective cleaning of surfaces. Good personal hygiene is the first step to good health. It not only protects from poor health, but also shields from suffering illness that arise from poor personal habits. Habits such as washing hands, bathing, brushing, flossing, may look monotonous and boring, but they all come under important environmental hygiene. They make feel good and keep free of bacteria, viruses and illness. To identify the sanitation facilities among the households of the notified slums, the habits of local people, to create awareness on personal hygiene, to identify present problems related to environmental sanitation among slum dwellers. This project was undertaken with the advice of authorities of Eluru municipal corporation under the Swachh Survekshan programme as a part of ranking of smart cities.

Keywords: Hygiene, Transmission, Infectious Diseases, Monotonous, Environmental Sanitation, Swachh Survekshan

Introduction

The Government of India has defined slum areas as those areas where buildings are unit for human habitation (slum area act, 1956). Physically, slums consist of clusters of hutment comprising several rooms constructed with building materials where each room is inhabited by a family sharing a common latrine without arrangement for water supply, drains, disposal of solid waste and garbage within the slum boundaries. A part from degrading environmental conditions slums in the urban settlements are also characterized by almost total absence of community and recreational facilities. Slums are the settlement of urban poor. As the demographic pressure on towns and cities grows, the needs of urban infrastructures and services also increase. This very problem is further compounded by increasing concentration of poor in the towns and cities. The carrying capacity of the urban local bodies in respect of urban amenities and services thus decline. As a result, some areas of town and cities are being deprived of basic civic amenities and these overcrowded under serviced areas of urban conglomeration, thus turned into slum. These settlements that are slum pockets lay their very nature need minimum basic services like adequate water supply, hygienic sanitation,
scientific drains, electricity, housing etc. In order to improve the environmental conditions of the town/city as a whole. Urban poverty also contributes to the lack of adequate water and sanitation in poor households.

**Review of Literature**

The quantity of MSW generated depends on a number of factors such as food habits, standard of living, degree of commercial activities and seasons. Data on quantity variation and generation are useful in planning for collection and disposal systems. Many categories of MSW are found such as food waste, rubbish, commercial waste. Institutional waste, street sweeping waste, industrial waste, construction and demolition waste and sanitation waste. MSW contains compostable organic matter (fruit and vegetable peels, food waste), recyclables (paper, plastic, glass metals, etc.) toxic substances paints, pesticides, used batteries, medicines) and solid waste blood stained cotton, sanitary napkins, disposable syringes (reddy 1998). In India most of the urban areas are lacking in MSW storage at the source, significantly for both decomposable and non decomposable waste common bins are used to collect the waste without any segregation and disposed off at a community disposal centre.

Two types of storage bins are used movable bins and fixed bins. The fixed bins are more durable but their positions cannot be changed once they have been constructed, while the movable bins are flexible in transportation but lacking in durability. In low income states MSW collection and disposal services are very poor. The waste collection efficiency even in high income cities (i.e Delhi) is rather low. Often a substantial amount of waste is left to rot on the streets and/or is dumped into low lying areas, canals, rivers etc. Several factors are responsible for such low collection efficiency lack of appropriate collection systems, lack of and/or inadequate collection facilities such as waste disposal bins, collection vehicles etc. lack of funds, lack of and enforcement of appropriate regulations etc. Traditional forecasting methods for solid waste generation frequently count on the demographic and socio economic factors on a per capita basis. The per-capita co-efficient was taken as fixed over time (or) they may be projected to change with time.

**Toilet facility:**

Some 70 percent of households in India don’t have access to toilets, whether in rural areas (or) urban slums. Roughly 60 percent of the country’s 1.2 billion people still defecate in the open. And the consequences for women are huge. India’s Prime Minister Narendra Modi promised to take on the crisis of lack of access to clean and safe bathrooms when he was elected two years ago. Since then, more than 1 million toilets have been planned (or) built.
But even where they have been built, studies have shown that the vast majority are not being used, especially in rural areas. In some cases, it’s because the toilets still are not connected to clean water and sewers. But more importantly, there’s been no widespread education effort to clean and change the country’s culture of open defecation and lack of sanitation. But without a deeper and broader cultural change in India, the effort will only result in millions of dollars wasted in building toilets that no one uses.

**Environmental Hygiene:**

The environment compasses not only the natural surroundings – the air, the water, the plants and animals used for food-but also shelter, modes of transportation and all other products of technology, including pollutants and waste materials all of which interact to affect health. Environmental considerations become increasingly important during these times of changing emphasis in the fields of energy, Economics and technology Environmental hygiene can be looked at from two aspects, viz hygiene at house hold level and hygiene at the community level.

**Hygiene at household:**

Good quality housing is a key element for ensuring a healthy community poor housing can lead to many health problems, and is associated with infectious, diseases such as tuberculosis stress and depression. Everyone should therefore have access to good quality housing and a pleasant home environment that takes them happy and content specific aspects of housing quality include ventilation, lighting, general cleanliness of homes, overcrowding in homes etc.

**Hygiene at the community level:**

According to the world health organization (WHO), good health is not merely the absence of disease. It is also a reflection of the social and mental well being of people in a community.

**Cleaning standards:**

The standard contains information on various topics such as infectious disease transmission, cleaning chemicals, equipment and techniques, a cleaning schedule, an environmental hygiene program and audit system. Man cannot live and survive amidst waste. A clean environment that includes clean air, water, land and energy is essential for human existence, conducting business and creating wealth. These components must be sustained through conservation and proper management. Additionally by products of human activity should be separated from man at the sanitary level the cleaning process provides.
Environmental Cleanliness:

In the age of environmental concern individuals are outwardly interested in the healthy state of their surroundings. As populations increase and we become more connected with our environment and each other through global communication, commerce and transportation, that interest also increases. Our desire for a clean environment represents a powerful sense of destiny and hope for the future.

Water supply system:

Traditionally water supply in India was limited to the major cities within the spread of the process of urbanization. Declining health standards in the rural areas urged the post independence drinking water. Tap water is drinking water supplied through indoor plumbing for home use. Drinking water, also known as potable water (or) improved drinking water is water that is safe to drink or to use for food preparation, without risk of health problems. Globally in 2015, 91% of people had access to water suitable for drinking. Nearly 4.2 billion people still use an unsafe drinking water source which may be contaminated by feces. This can result in infectious diarrhea such as cholera and typhoid among others.

Drinking Water:

Water covers some 70% of the earth’s surface. Approximately 97.2% of it is saline, just 2.8% fresh. Portable water is available in almost all populated areas of the earth, although it may be expensive and the supply of may not always is sustainable. Source where water may be obtained include ground sources such as ground water, springs, hypothetic zone and aquifers. Precipitation which includes rain, hail, snow, fog etc., Surface water such as rivers, streams, glaciers biological sources such as plants. Desalinated seawater, Water supply network, Atmospheric water generator. Springs are often used as sources for bottled waters tap waters, delivered by domestic water systems in developed nations, refer to water piped to homes and delivered to a tap. For these water source to be consumed safely they must receive adequate treatment and meet drinking water regulations.

Drainage System:

Drainage is important to the successful function of a project site. Drainage helps guide water flow (from rain or irrigation) in order to remove it from the ground surface. Drainage that is not guided can begin to infiltrate the soil until it becomes saturated. After soil saturation, the water can pool at the soils surface.

Poor drainage:

Poor drainage results in the pooling of water on impervious surface and poor plant health. Poor drainage can cause hydro planting, if water begins to full ruts in a roadway. Poor drainage can cause foundation damage to a building or home. Poor drainage can also lead to,
moss, mildew and additional wild life if not handled properly.

**Types of drainage canals:**

Channel drainage, which intercepts water along the entire run of the channel. Channel drainage is typically manufactured from concrete, steel, polymer (or) composites. The interception rate of channel drainage is greater than point drainage and the excavation required is usually much less deep. The surface opening of channel drainage usually comes in the form of gratings (polymer, plastic, steel or iron) or a single slot (slot drain) that runs along the ground surface (typically manufactured from steel or iron). Point drainage, which intercepts water at gullies (points) gullies connect to drainage pipes beneath the ground surface and deep excavation is required to facilitate this system. Support for deep trenches is required in the shape of planking, strutting or shoring.

**Existing drainage lines:**

There are a number of natural streams, chief among them are kovvada kalva, Yerra kalva, Gunderu, Tammileru, Ramileru and Budameru. Practically, there would not be much of drainage problem in the command areas as the country has adequate slope along the cross section of the main canal, which will facilitate free flow of drainage water.

**Farm drainages:**

There are no definite courses for collecting the farm drainage. The drainage, flows from field and enters into minor streams which drains off ultimately into major ones.

**Methodology**

**Study Area:** Eluru is the district head quarters for West Godavari in the Indian state of A.P it is one of the 14 municipal corporation in the state. The city is situated on the banks of Tammileru. The sea wage system is of open type is selected slums liquefied waste and solid waste disposed together without any treatment which results in spread of diseases.

13 slums were selected among so slums of Eluru for ranking by the municipal authorities. Arundhalipeta (ward1), Uppara gudem (ward 15), Kobbari thota (ward 19), Meheswari colony (ward 20), Gollaigudem (ward 21), Sunnapubatti area (ward 29), pamuladibba area (ward 35), Raninagar (ward 38), Gunbazar (ward 47), Ambedker nagar (ward 50), Kabaddi colony (ward 50), Kummari revu (ward 29).

The study was conducted in 13 selected slums of Eluru Municipal Corporation. The information for the present study has been collected from primary source in sequential stages. Along with data collection, awareness on environmental hygiene, communicable diseases, usage of toilets etc. to the residents at two sites for each slum. The results were tabulated.
Results: Tables.1,2,3,4,5.
Discussion: Sanitation has a close and direct link with the environment water supply, health, hygiene. Eluru Municipal Corporation is the sole authority for sanitation as well as collection and disposal of garbage in all slum areas. The sub indicators used in the present analysis to check reliability of sanitation facilities are household toilet facility, well served drainage facility for home, collection of garbage regularly, frequency of garbage collection and waste water issue.

Table 1: Study areas
In all study sites, individual toilet facility is sufficient where as public toilets need to be under taken. In some slums, individual tap connections should be provided. In very few slum areas permanent dustbins are provided and in the rest of the slum areas waste disposable is on open areas, so garbage management and drainage systems are totally unsatisfactory.

Table 2: In Pamula dibba area, Ambedkar nagar, Gollaigudem slums, requirement of individual taps is more pronounced.

Table 4: It is observed that individual toilets and their sanitation facilities are poor in Gollaigudem, Pamula dibba, Gunbazar, Ambedkar nagar, Kabadi colony. Individual taps and sanitation facilities are poor in Arundhati pet, Ambedkar nagar. Awareness on habit of washing hands and usage of toilets is poor. Public responded positively to the awareness created in all slum areas.

Table 5: Roads and drainages, individual and public taps are under construction by the municipal corporation. Proper waste disposal is maintained in many areas. Due to improper sanitary conditions and poor maintenance of drainage system, mosquito and pig population is very high leading to healthy problems like malaria, typhoid, filarial.

Conclusion
The purpose of this study was to analyze the availability of domestic water and sanitation in slum areas. The survey of these slum areas shows that people live in unhygienic conditions. The lack of environmental sanitation and safe water has significant negative health impact on people. Due to unsafe water, inadequate and unhygienic sanitation, people suffer from allergies and diseases. Unsafe drinking water, poor environmental sanitation, unsanitary food preparation, improper disposal of waste and unclean household environment constitute a major burden on health and leading to ill health in children. People in study region are not educated, which result into low income and low standard of living, lack of awareness in public about environmental sanitation and its importance. Comprehensive knowledge about these issues are highly effective programmes that will meaningfully reduce the burden of transmission diseases among the people living in slums.
### Table 1: Study Areas

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of the slum area</th>
<th>Ward number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Arundhati pet</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Uppara gudem</td>
<td>15</td>
</tr>
<tr>
<td>3</td>
<td>Kobbari thota</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>Maheswari colony</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Gollai gudem</td>
<td>21</td>
</tr>
<tr>
<td>6</td>
<td>Sunnapubatti area</td>
<td>29</td>
</tr>
<tr>
<td>7</td>
<td>Titus nagar</td>
<td>29</td>
</tr>
<tr>
<td>8</td>
<td>Pamuladibba area</td>
<td>35</td>
</tr>
<tr>
<td>9</td>
<td>Rani nagar</td>
<td>38</td>
</tr>
<tr>
<td>10</td>
<td>Gun bajar</td>
<td>47</td>
</tr>
<tr>
<td>11</td>
<td>Ambethkar nagar</td>
<td>50</td>
</tr>
<tr>
<td>12</td>
<td>Kabaddi colony</td>
<td>50</td>
</tr>
<tr>
<td>13</td>
<td>Kummari revu</td>
<td>29</td>
</tr>
</tbody>
</table>

### Table 2: No. of Facilities employed for the maintenance of Environmental hygiene in the sample sites

<table>
<thead>
<tr>
<th>Slum</th>
<th>Sample Site no.</th>
<th>No. of people involved</th>
<th>Individual Toilets No.</th>
<th>Public Toilets No.</th>
<th>No. of public taps</th>
<th>No. of individual taps</th>
<th>No. of Bore wells</th>
<th>No. of Dump sites</th>
<th>No. of Dust bins</th>
<th>No. of own houses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arundhati pet</td>
<td>1</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>-</td>
<td>4</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12</td>
<td>10</td>
<td>-</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Uppara gudem</td>
<td>1</td>
<td>26</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>26</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Kobbari thota</td>
<td>1</td>
<td>30</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>29</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>13</td>
<td>13</td>
<td>-</td>
<td>-</td>
<td>13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Maheswari colony</td>
<td>1</td>
<td>25</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>20</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>32</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>27</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gollai gudem</td>
<td>1</td>
<td>45</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>35</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Sunnapubatti area</td>
<td>1</td>
<td>12</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>8</td>
<td>-</td>
<td>Yes</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>14</td>
<td>-</td>
<td>yes</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Titus nagar</td>
<td>1</td>
<td>24</td>
<td>24</td>
<td>-</td>
<td>-</td>
<td>18</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>24</td>
</tr>
<tr>
<td>Pamuladibba area</td>
<td>1</td>
<td>12</td>
<td>4</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Rani nagar</td>
<td>1</td>
<td>25</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>40</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>Gun bajar</td>
<td>1</td>
<td>12</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>14</td>
<td>14</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Ambethkar nagar</td>
<td>1</td>
<td>8</td>
<td>4</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>35</td>
<td>28</td>
<td>-</td>
<td>-</td>
<td>24</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Kabaddi colony</td>
<td>1</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Kummari revu</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 3: Requirement of facilities to be employed for the maintenance of Environmental hygiene in the sample sites

<table>
<thead>
<tr>
<th>Slum</th>
<th>Sample Site no.</th>
<th>No. of people involved</th>
<th>Individual Toilets No. Required</th>
<th>Public Toilets No. Required</th>
<th>No. of public taps required</th>
<th>No. of individual taps required</th>
<th>No. of Bore wells required</th>
<th>No. of Dump sites required</th>
<th>No. of Dust bins required</th>
<th>No. of Houses required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arundhati pet</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Uppara gudem</td>
<td>1</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Kobbari thota</td>
<td>1</td>
<td>30</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>13</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maheswari colony</td>
<td>1</td>
<td>25</td>
<td>5</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>32</td>
<td>6</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Gollai gudem</td>
<td>1</td>
<td>45</td>
<td>5</td>
<td>-</td>
<td>15</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>3</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sunnapubatti area</td>
<td>1</td>
<td>12</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>3</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titus nagar</td>
<td>1</td>
<td>24</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pamuladibba area</td>
<td>1</td>
<td>12</td>
<td>8</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rani nagar</td>
<td>1</td>
<td>25</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>40</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun bajar</td>
<td>1</td>
<td>12</td>
<td>7</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>14</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambethkar nagar</td>
<td>1</td>
<td>8</td>
<td>4</td>
<td>-</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>35</td>
<td>25</td>
<td>-</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kabaddi colony</td>
<td>1</td>
<td>10</td>
<td>4</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kummani revu</td>
<td>1</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Environmental Sanitary condition in the sample sites

<table>
<thead>
<tr>
<th>Slum</th>
<th>Sample Site no.</th>
<th>No. of people involved</th>
<th>Individual Toilets Sanitation</th>
<th>Public Toilets sanitation</th>
<th>Individual taps sanitary conditions</th>
<th>Public taps sanitati on</th>
<th>Bore wells sanitation</th>
<th>Dump sites sanitatio n</th>
<th>Dust bins surroundin g area sanitation</th>
<th>Drainage system sanitary condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arundhati pet</td>
<td>1</td>
<td>8</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Uppara gudem</td>
<td>1</td>
<td>26</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>26</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Kobbari thota</td>
<td>1</td>
<td>30</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>13</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Maheswari colony</td>
<td>1</td>
<td>25</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>12</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Gollai gudem</td>
<td>1</td>
<td>45</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>10</td>
<td>Poor</td>
<td>good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Sunnapubatti area</td>
<td>1</td>
<td>12</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Titus nagar</td>
<td>1</td>
<td>24</td>
<td>Good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>6</td>
<td>good</td>
<td>Good</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Pamuladib</td>
<td>1</td>
<td>12</td>
<td>Poor</td>
<td>Good</td>
<td>Poor/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>13</td>
<td>Poor</td>
<td>Good</td>
<td>Poor/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
<td>Good/ Poor</td>
</tr>
<tr>
<td>Slum</td>
<td>Corporation constructions</td>
<td>Water facility</td>
<td>Waste disposal</td>
<td>Pig populatio n</td>
<td>Mosquito populatio n</td>
<td>Health problems</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------</td>
<td>----------------</td>
<td>---------------</td>
<td>-----------------</td>
<td>----------------------</td>
<td>-----------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roads</td>
<td>Toilets</td>
<td>Drainage</td>
<td>Individual Taps</td>
<td>Public taps</td>
<td>Dust bins</td>
<td>Waste collection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arundhati pet</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
<td>6</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td>Malaria, typhoid</td>
<td></td>
</tr>
<tr>
<td>Uppara gudem</td>
<td>yes</td>
<td>yes</td>
<td>2</td>
<td>2</td>
<td>yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Filaria</td>
<td></td>
</tr>
<tr>
<td>Kobbari thota</td>
<td>yes</td>
<td>yes</td>
<td>10</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
<td>-</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maheswari colony</td>
<td>yes</td>
<td>yes</td>
<td>1</td>
<td>2</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gollai gudem</td>
<td>yes</td>
<td>yes</td>
<td>5</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td>Malaria</td>
<td></td>
</tr>
<tr>
<td>Sunnapubatt i area</td>
<td>yes</td>
<td>yes</td>
<td>3</td>
<td>3</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Titus nagar</td>
<td>yes</td>
<td>yes</td>
<td>5</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pamuladibba area</td>
<td>yes</td>
<td>yes</td>
<td>4</td>
<td>6</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>Malaria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rani nagar</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gun bajar</td>
<td>yes</td>
<td>yes</td>
<td>3</td>
<td>2</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambethkar nagar</td>
<td>yes</td>
<td>yes</td>
<td>2</td>
<td>1</td>
<td>yes</td>
<td>yes</td>
<td>-</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kabaddi colony</td>
<td>yes</td>
<td>yes</td>
<td>6</td>
<td>7</td>
<td>yes</td>
<td>-</td>
<td>-</td>
<td>yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5: Provisions renewing after the project completion

---

References

cooperation in national research in Demography (CICRED): 2007


----------------------------
Faculty, Department of Zoology, Ch. S. D. St. Theresa’s Autonomous College, Eluru
1.rokkalaindira@gmail.com, 2.madhaviranksvks@gmail.com, 3.lakshminivas24@gmail.com, 4.budithisuneetharaju@gmail.com
Contact No.: 1. 8331904407, 2.9441781192, 3.9010097637, 4. 8309028020
Diabetes on a rising trend in India

Dr. V. Shobha M.B.B.S., D.G.O.

Abstract

India with its young population amounting to 47.9%, shows the highest rate of incidence and rate of diagnosis of cases of diabetes. The rate is very high in urban population in comparison with the rural. The rate of incidence has grown from 4.7% in 1970s to around 12% in the year 2017. These figures continue to grow with time. More than half the cases diagnosed are of Type 2 diabetes or adult onset diabetes mellitus as it is medically referred to. There are as many undiagnosed cases as those diagnosed. This is in view of limited and restricted access to medical facilities, lack of proper monitoring facilities, lack of patient compliance and fluctuant existence of prediabetes state in individuals. Diabetic patients: Kerala tops list of Indian states. Kerala has the largest number of diabetes patients followed by Tamil Nadu and Punjab, according to endocrinologists and diabetologists in the state. While 19.4% people have diabetes in Kerala, the corresponding figures in Chandigarh and Tamil Nadu are 13.6% and 10% respectively. In the age group of 45 to 69 years nearly two third (67.7%) had either diabetes or pre-diabetes.

Keywords: Diabetes, Diabetes Mellitus, Proper Monitoring, Patient Compliance, Fluctuant, Pre-Diabetes.

Introduction

Diabetes and Genetic Predisposition

Asian Indians had been having genetic predisposition to prediabetes state for ages. But the physical activity and dietary habits of population at large alleviated the condition to a large extent. The rise in income levels, better life style, lowered physical activity and increased dependence on fast foods are the main factors for the prediabetes states to precipitate to overt diabetes on a large scale, thus leading to exponential growth of incidence of diabetes in Indian population.

Diet and Diabetes

There is a radical shift in urban diet in the past few decades. Cereal foods are partly replaced by processed foods in an average Urban person’s diet. Such dietary change is much more in youth. Also, physical activity in general, in schools and colleges is very less. Obesity and incidence of diabetes are both on rising trend in accordance with these life style changes. Also, cardiovascular, neurological, eye, psychological and endocrinological effects are expected to be on rise as an offset of this exponential rise in diabetes.
Diabetes and Physical Activity

Much emphasis should be laid on encouraging sports and other kinds of physical activity, on making radical changes to the nature of diet, grossly decreasing the consumption of processed foods and increasing intake of whole cereals, fibre rich balanced diet. Consumption of whole cereals helps in slower digestion, absorption, and release of glucose in the bloodstream. Thus insulin is also secreted on par with the glucose levels. The burden on insulin secreting islets will be reduced due to delayed release. The physical activity helps in reducing insulin resistance in peripheral tissues making them more and more responsive to the hormone. It also improves blood circulation, helps in burning of stubborn fat and recirculation of fat in the cells.

Antidiabetic Drugs and Ongoing Research

Much research is going on diabetes mellitus. There are currently many drug trials being conducted on various new Antidiabetic drugs. The studies are in various phases and many showed positive results but still need to be approved. Despite availability of a range of Antidiabetic drugs, insulin is still required in some cases of type 2 diabetes mellitus and inadvertently is the only treatment in type 1 diabetes mellitus.

Monitoring of Diabetes:

More than half the cases of diabetes mellitus still remain undiagnosed despite better availability of lab facilities in urban areas. The lab facilities or medical access is mostly centralized in towns and cities while the peripheral rural areas still do not have sufficient medical, laboratory access on timely and periodic basis. In such a scenario, the glycosylated hemoglobin test serves a great purpose in identifying how blood glucose levels were regulated in a person in the previous 3 months. It is highly suggestive and almost diagnostic. Any abnormal levels can be followed up with thorough analyses such as fasting, postprandial or random blood glucose testing along with urinary analysis. If needed, glucose tolerance test or even an extended glucose tolerance may be performed to detect early diabetic states.

Pregnancy and Diabetes

In some cases, diabetes appears for the first time during pregnancy. Such a condition can get back to normal nondiabetic state after delivery or may continue. In case, the condition exists only during pregnancy but reverts back to normal after delivery of the baby, it is called gestational diabetes. This is a condition where babies do not grow normally and tend to suffer from improper lung maturity. In a case of pregnancy associated with nongestational diabetes mellitus, wherein the condition does not tend to disappear after delivery of baby, the baby tends to grow heavier with high baby birth weight, foetal lungs mature late thereby leading to
respiratory distress in some neonates. The amniotic fluid tends to be more with resultant premature labour and delivery. The woman needs insulin and close monitoring of glucose levels to prevent both hyper and hypoglycemia with associated complications. Carefully managed institutional deliveries can be significantly lower the incidence of complications thereby leading to better outcome of pregnancy.

**Conclusion**

Catastrophically increased incidence of Diabetes mellitus will be of prime importance in elucidating the morbidity and mortality ratios henceforth. More so, prevention plays a huge role in the society for the future generations with altered life style and dietary habits. Regular and daily physical activity such as exercises, yoga, sports, walking or jogging should be strictly adhered to. Sedentary life style owing to the nature of job or otherwise is a predominant causative factor. Avoidance of junk foods, fried foods, processed and high cholesterol, high fat diets, and foods with preservatives is essential. Instead fresh fibre rich, non refined sugar diet mostly made from whole grain is best suited. Prolonged starvation, overacting, eating sugary foods etc should be limited. Then comes the importance of screening for and early diagnosis of prediabetes as well as diabetes mellitus in Indian population. Early diagnosis of prediabetes state aids in taking necessary precautions to prevent onset of full blown or overt diabetes mellitus. It can thus keep diabetes mellitus at bay to some extent in several cases thereby reducing the incidence of gross national morbidity and mortality.

-------------

M.B.B.S. D.G.O. Gynecologist and Obstetrician, Child psychology – University of Miami, USA 2013, Private Practitioner in Obstetrics and gynecology for the past 26 years. Member of FOGSI Provides medical tele consultation and online medical consultation as well, Written several medical articles for blogs on diabetes mellitus, smoking in pregnancy, infertility and other topics.
Consumer Awareness on Saris and Dress Materials

Dr. Kanikicherla Rani

Abstract
India is the motherland for saris and infinite variety of dress materials Indian women are identified around the world with this wonderful comfortable dress. Sari is a garment of five to nine yards that gives a graceful look to women of all ages. Mostly, sari consists of three parts namely field, border and the end part known as pallu. Sari varies in structure, weave, material, texture, style, color and length based on the tradition, place, community traditional wear and culture. There are different varieties of saris like, synthetic, georgette, chiffon, crepe, linen, silk, khadi and the like. Handloom as well as other refined material saris and dress materials are considered to be the pride of Indian women of all age groups. They depict the culture and heritage of our pride India. It takes hardly two to three days to make a dress materials because of using high scientific technology and digital designs. The design and pattern of each handloom and other texture produce is unique. In early days, all fabrics were handmade but due to industrialization, mill-made clothes slowly entered into the market with low price compared to handloom clothes. This is the major reason for the decline of handloom industry. In nature, sari and descent dressing tells about the status of women in the society. Now-a-days women enter into all fields of employability and they prefer dress according to their nature of work. Though there are varieties of dresses, sari is considered to be the perfect and beautiful comfort and dignified dress for women. So, there is always a craze for sari among Indian women. It is a garment which suits women of all age in spite of their appearance. Awareness on clothes before purchasing helps to make a better choice. Though there are varieties of clothing choices available to working women, sari is ranked first. It can be worn for long hours as it is airy and comfortable.

Keywords: Community Traditional Wear, Culture and Heritage, Scientific Technology, Digital Designs, Descent Dressing.

************

1. Introduction

According to the American Heritage Science Dictionary (2002), www.thesaurus.Com consumer is who purchases goods for personal use. Consumers, who buy and use merchandise, are the primary influence on marketing. It is therefore necessary that awareness be generated among the consumers. Consumer awareness relates to an individual’s ability to be aware of the product and services being launched in the market with effective media publicity and promotion may be one of the solutions to it. It is in a consumer’s best interest to have a high awareness of the products when she buys.

Women as consumers are powerful catalyst as individuals and in groups in creating a healthier attitude for themselves, their families, their communities and nations. Women are ‘double consumers’—they make decisions not just for themselves but for their families as well.
A women’s experience as a consumer is the basis for her further involvement in consumerism. Women play a key role as consumers. They need to be concerned with the quality of goods, rising prices, purchase, short measures and services.

Clothing refers to any tangible or material object connected to the human body says Usha and Radha (2007). Everyone has to wear clothes. Clothes are an important part of our lives (Frings, 2005). Good grooming with appropriate clothing not only enhances natural beauty but also compensates for its lack. One feels happy, cheerful and confident when she is properly dressed up. Clothing becomes a means of expressing personality. The declaration that clothes say something about their wearer is perhaps undisputable. Moreover, judgments of personality and even intelligence are often made about an individual on the basis of their clothing alone feel Bansal (2008).

Changing life styles, technological development in textiles and international trade have brought about changes in the clothing preferences of the present day consumers. Consumers with the same needs may want different clothes depending upon their cultural background, age, socio-economic status and personality (Sumathi, 2005). The main source of clothing is by outright purchase includes readymade apparels, materials for home, dressmaking and professional tailoring services. Good clothing practice includes the knowledge of wise selection of clothing, possession of an adequate wardrobe suited to various activities which in turn helps proper dressing habit. All these aspects being to the fore front need to educate the consumer on several aspects related to apparel and home textiles.

1.1 Need for the study

Textiles and clothing offers a vast array of goods which are different in kind and quality. This is an area for which a consumer is constantly exposed to make a selection. As wide ranges of fabrics are available in the market and hundreds of new products are added every day, a consumer is totally confused in making the right selection for the end use. Even literate consumers are facing similar problem. They also face problems in identification of fibers, care of apparel and home textiles. Hence education in this field is imperative. Moreover, it is a topic of prime importance especially in developing countries like India.

2. Methodology

To know about consumer awareness on saris and dress materials survey was conducted using an in-depth structured interview schedule. Eluru city belonging to West Godavari district of Andhra Pradesh was selected for this study. Thousand women consumers were interviewed to draw data from all parts of the selected areas using the prepared interview schedule. Survey
was conducted by using closed end questions. First part of the schedule was framed to gain information about socio-economic profile of the consumers and second part contained purchasing habits of the consumers. Face- to face in- home survey method was used to elicit information from the selected home makers for this study.

Results and Discussion

Socio-economic profile of the selected respondents

From the survey it was clearly evident that 52 per cent of the 1000 selected subjects were housewives and living in as nuclear family by 74 per cent. Size of the family was 2-4 members by seventy per cent. Ninety four per cent were above 18 years of age and 35 per cent of them are first child in their families. Thirty nine per cent of them were postgraduates or professional degree holders but 59 per cent were unemployed. Fifty per cent of the respondent’s economic status was high income group and are involved in moderate work by 56 per cent.

Selection Criteria Considered In Purchasing Of Saris

<table>
<thead>
<tr>
<th>S. No</th>
<th>Selection criteria of saris</th>
<th>(N=1000) Rank Order of priority (%) *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>One</td>
</tr>
<tr>
<td>1</td>
<td>Appearance</td>
<td>44</td>
</tr>
<tr>
<td>2</td>
<td>Texture</td>
<td>31</td>
</tr>
<tr>
<td>3</td>
<td>Cost</td>
<td>46</td>
</tr>
<tr>
<td>4</td>
<td>Type of print</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>Finishes used</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>Care</td>
<td>7</td>
</tr>
<tr>
<td>7</td>
<td>Colour</td>
<td>20</td>
</tr>
<tr>
<td>8</td>
<td>Durability</td>
<td>27</td>
</tr>
<tr>
<td>9</td>
<td>Label information</td>
<td>0</td>
</tr>
</tbody>
</table>

- Multiple responses

Multiple responses

Multiple responses
### Criteria Considered for Colour Fastness of the Fabric

<table>
<thead>
<tr>
<th>S.No</th>
<th>Criteria considered for colour fastness</th>
<th>(N=1000) Order of priority (in percent) *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>One</td>
</tr>
<tr>
<td>1</td>
<td>Only appearance is considered</td>
<td>30</td>
</tr>
<tr>
<td>2</td>
<td>By rubbing against the hand</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>Certain odour</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Through Observation</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>By instinct</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>With Experience</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>Somebody’s help</td>
<td>14</td>
</tr>
</tbody>
</table>

### Awareness of Fabric Names

<table>
<thead>
<tr>
<th>S.No</th>
<th>Awareness of the term (N-1000)</th>
<th>Awareness of the term (in percent) *</th>
<th>Identification of the material During purchase (in percent) *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>1</td>
<td>Cambric</td>
<td>15</td>
<td>85</td>
</tr>
<tr>
<td>2</td>
<td>Casement</td>
<td>62</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>Lawn</td>
<td>18</td>
<td>82</td>
</tr>
<tr>
<td>4</td>
<td>Mull</td>
<td>21</td>
<td>79</td>
</tr>
<tr>
<td>5</td>
<td>Poplin</td>
<td>88</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>Two by two</td>
<td>94</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Two by one</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>8</td>
<td>Voil</td>
<td>85</td>
<td>15</td>
</tr>
</tbody>
</table>
### Awareness of Finishes
(Yes - 75%; No - 25%)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Awareness of the name</th>
<th>(N=1000) In per cent *</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anti microbial</td>
<td></td>
<td>26</td>
<td>74</td>
</tr>
<tr>
<td>2</td>
<td>Anti pilling</td>
<td></td>
<td>3</td>
<td>97</td>
</tr>
<tr>
<td>3</td>
<td>Bleached</td>
<td></td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>4</td>
<td>Crease set</td>
<td></td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>5</td>
<td>Crease resistance</td>
<td></td>
<td>6</td>
<td>94</td>
</tr>
<tr>
<td>6</td>
<td>Durable press</td>
<td></td>
<td>7</td>
<td>93</td>
</tr>
<tr>
<td>7</td>
<td>Embossed</td>
<td></td>
<td>26</td>
<td>74</td>
</tr>
<tr>
<td>8</td>
<td>Enzyme washed</td>
<td></td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>9</td>
<td>Flame proof</td>
<td></td>
<td>23</td>
<td>73</td>
</tr>
<tr>
<td>10</td>
<td>Heat set</td>
<td></td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>11</td>
<td>Mercerized</td>
<td></td>
<td>21</td>
<td>79</td>
</tr>
<tr>
<td>12</td>
<td>Napped</td>
<td></td>
<td>6</td>
<td>94</td>
</tr>
<tr>
<td>13</td>
<td>Optical brighteners</td>
<td></td>
<td>7</td>
<td>93</td>
</tr>
<tr>
<td>14</td>
<td>Pre-shrunk</td>
<td></td>
<td>22</td>
<td>78</td>
</tr>
<tr>
<td>15</td>
<td>Sized</td>
<td></td>
<td>5</td>
<td>95</td>
</tr>
<tr>
<td>16</td>
<td>Soil repellent</td>
<td></td>
<td>5</td>
<td>95</td>
</tr>
<tr>
<td>17</td>
<td>Soil resistant</td>
<td></td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td>18</td>
<td>Stain guard</td>
<td></td>
<td>7</td>
<td>93</td>
</tr>
<tr>
<td>19</td>
<td>Stone wash</td>
<td></td>
<td>43</td>
<td>57</td>
</tr>
<tr>
<td>20</td>
<td>Stain guard</td>
<td></td>
<td>7</td>
<td>93</td>
</tr>
<tr>
<td>21</td>
<td>Wash and wear</td>
<td></td>
<td>34</td>
<td>66</td>
</tr>
<tr>
<td>22</td>
<td>Water repellent</td>
<td></td>
<td>22</td>
<td>88</td>
</tr>
</tbody>
</table>

### Awareness of Label Information

<table>
<thead>
<tr>
<th>S.No</th>
<th>Label information</th>
<th>(N=1000) In percent*</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Manufacturer’s name</td>
<td></td>
<td>56</td>
<td>44</td>
</tr>
<tr>
<td>ii</td>
<td>Quality of fabric</td>
<td></td>
<td>54</td>
<td>44</td>
</tr>
<tr>
<td>iii</td>
<td>Geometric details</td>
<td></td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>iv</td>
<td>Yarn count</td>
<td></td>
<td>11</td>
<td>89</td>
</tr>
<tr>
<td>v</td>
<td>Information of finishes</td>
<td></td>
<td>19</td>
<td>81</td>
</tr>
<tr>
<td>vi</td>
<td>Care particulars</td>
<td></td>
<td>59</td>
<td>41</td>
</tr>
<tr>
<td>vii</td>
<td>Ex-factory rate</td>
<td></td>
<td>6</td>
<td>94</td>
</tr>
<tr>
<td>viii</td>
<td>Trade name</td>
<td></td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>ix</td>
<td>Care symbols</td>
<td></td>
<td>3</td>
<td>97</td>
</tr>
</tbody>
</table>

### Selection Criteria of Printed Material

<table>
<thead>
<tr>
<th>S.No</th>
<th>Selection criteria of printed material</th>
<th>(N=1000) Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Type of prints</td>
<td>86</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>Evenness of design</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>3</td>
<td>Misprints</td>
<td>11</td>
<td>89</td>
</tr>
<tr>
<td>4</td>
<td>Outline of the print</td>
<td>45</td>
<td>55</td>
</tr>
<tr>
<td>5</td>
<td>Appearance</td>
<td>72</td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td>Clarity</td>
<td>82</td>
<td>18</td>
</tr>
<tr>
<td>7</td>
<td>New fashion</td>
<td>20</td>
<td>80</td>
</tr>
</tbody>
</table>
3. Findings

- While purchasing saris respondents give first priority to cost (46%) and appearance (44%).
- Colour fastness of saris was judged only by appearance with 30 percent.
- Awareness of the fabric names shows respondents were aware of two by two, poplin and voil by 95, 88 and 85 per cent respectively and they were able to identify them during purchase.
- Eighty six per cent of the consumers were buying saris by observing the type of print.
- While purchasing saris respondents ask for care particulars by 59 percent. Respondents do not know about care symbols and ex-factory rate by 97 and 94 per cent respectively.
- Most of the respondents (51%) know only about bleaching and other listed finishes were not known to the consumers.
- Eighty seven per cent of respondents can identify zari by observing appearance.

4. Conclusion

While purchasing saris cost and type of print is considered, colour fastness was judged by experience. Consumers were buying saris by observing the type of print. Most of the finishes were not known to the consumers. Respondents can identify zari by observing appearance.

---

<table>
<thead>
<tr>
<th>S.No</th>
<th>Identification of techniques</th>
<th>In percent*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>i</td>
<td>By touching</td>
<td>30</td>
</tr>
<tr>
<td>ii</td>
<td>By rubbing</td>
<td>21</td>
</tr>
<tr>
<td>iii</td>
<td>By smelling</td>
<td>2</td>
</tr>
<tr>
<td>iv</td>
<td>By appearance</td>
<td>44</td>
</tr>
<tr>
<td>v</td>
<td>Luster</td>
<td>3</td>
</tr>
</tbody>
</table>

Zari Identification Techniques

Multiple responses

(Yes - 44%; No - 56%)

By rubbing 21%
By smelling 2%
By touching 30%
By appearance 44%
Luster 3%
Reference


Associate Prof. Department of Home Science, Ch. S. D. St. Theresa’s College for Women, Eluru, West Godavari Dist. A.P.
Agricultural Biodiversity and Sustainable Food Systems

Dr. M. Padmaja

Abstract
Agricultural biodiversity is a source of nutritious foods which are culturally acceptable and often adapted to local and low-cost primitive input agricultural systems. It is also a source of important traits for breeding resilient, nutritious crops and animal breeds. Agricultural biodiversity is already a key component of farming systems and breeding systems worldwide. The agricultural system that produces the world’s food today is failing its nutritional needs. At present, one in three people in the world suffers from micronutrient deficiencies when they lack vitamins and minerals that are essential for growth and development and almost 2 billion people are overweight or obese. These forms of malnutrition often co-exist. Agricultural biodiversity the diversity of crops and their wild relatives, trees, livestock and landscapes is a source of nutritious foods, which are culturally acceptable and often adapted to local and low-input agricultural systems. It is also a source of important traits for breeding stress-tolerant, nutritious crops and animal breeds. Agricultural biodiversity is already a key component of farming systems and breeding systems worldwide. Increasing knowledge about it can help countries to leverage their existing resources for joint nutrition and environment outcomes.

While agricultural biodiversity is by no means the only component needed in a sustainable food system, a sustainable food system cannot exist without agricultural biodiversity. Mainstreaming biodiversity in food systems contributes to making food systems sustainable and enables policymakers to make progress toward their commitments to the Sustainable Development Goals and the Convention on Biological Diversity. Governments make a difference through the food and agricultural policies they adopt. Given the right policy environment, together with management actions and information, from the same starting point, different results are possible.

Keywords: Agricultural Biodiversity, Breeding Resilient, Micronutrient Deficiencies, Stress-Tolerant, Sustainable Development.

Introduction
Food systems need to be reformed if they are to nourish people with high quality diets and at the same time protect the environment. The agricultural system that produces the world’s food today is failing its nutritional needs. At present, one in three people in the world suffers from micronutrient deficiencies – when they lack vitamins and minerals that are essential for growth and development – and almost 2 billion people are overweight or obese \(^1\). These forms of malnutrition often co-exist. At the same time, the agricultural system that produces the world’s food is driving environmental harm. Agriculture contributes around 24% of global greenhouse gas emissions \(^2\) and is the single largest user of fresh water on the planet \(^3\). Sixty-two percent (5,407) of IUCN globally threatened species are affected by agriculture \(^4\). In turn, environmental harm is threatening the agricultural system. The International Panel on Climate
Change predicts that climate change will reduce agricultural production by 2%, while demand will increase by 14% every decade until 2050 (5).

Both diets and agricultural systems have been greatly simplified over the past century. While the diversity on offer on a country-by-country basis has never been higher, the global diet as a whole is becoming more homogenized with a declining intake of health-giving pulses, fruits and vegetables, and a predominance of starches, such as rice, wheat and maize, along with meat and dairy (6). The production of fruit and vegetables, nuts and seeds falls about 22% short of population need according to nutrition recommendations (7).

The Sustainable Development Goals (SDGs), signed by all 193 countries in 2015, compel a new approach if we are to transform our world by 2030. Sustainability means recognizing that economic, environmental and social concerns are all fundamentally connected. Addressing them in a disconnected way will lead to long-term failure: we cannot nourish the world population and alleviate poverty, if the price is a degraded environment that cannot sustain the next generation. We cannot protect the environment for future generations at the expense of people who need nutritious foods today.

Two major reports issued in 2016 highlight what is needed. The Global Panel on Agriculture and Food Systems for Nutrition lists poor diets as the world’s number one health risk (27%) (10). It calls for governments to build sustainability into each country’s agricultural system while producing diets that are high quality from a nutritional perspective. The International Panel of Experts on Sustainable Food Systems identifies the shift needed for that to be possible – from uniformity to diversity of diets and agricultural systems (11). Agricultural biodiversity – the diversity of crops and their wild relatives, trees, livestock and landscapes – is a source of nutritious foods, which are culturally acceptable and often adapted to local and low-input agricultural systems. It is also a source of important traits for breeding stress-tolerant, nutritious crops and animal breeds. Agricultural biodiversity is already a key component of farming systems and breeding systems worldwide. Increasing knowledge about it can help countries to leverage their existing resources for joint nutrition and environment outcomes.

Mainstreaming biodiversity in food systems contributes to making food systems sustainable and enables policymakers to make progress toward their commitments to the Sustainable Development Goals and the Convention on Biological Diversity Aichi Targets. Governments make a difference through the food and agricultural policies they adopt. Given the right policy environment, together with management actions and information, from the same starting point, different results are possible. For example, analysis of two distinct agricultural systems in the same region in Brazil noted that decisions and policies made from
household to global scale resulted in one with a monoculture of soybean and both low food security and low biodiversity; the other with a vibrant patchwork of land use types, and higher food security and biodiversity (12).

Over 38% of the world’s land is used for agriculture, with 11% planted with annual crops. With the human population projected to reach up to 11 billion by 2100, and with changing consumption patterns that include more meat and dairy products, there are growing calls to produce greater quantities of food. Much of the land suitable for agriculture has already been cleared, so there is an increasingly urgent emphasis on growing more foods more intensively on land that is already used for agriculture – agricultural intensification.

Agricultural intensification, combined with the growing homogenization of the global food system, has led to a range of negative impacts, including biodiversity loss and environmental degradation decreased dietary and nutritional diversity and social impacts such as increased gender inequalities (8). The simplification of the world’s farming and food systems leaves farmers with a decreasing range of resources to draw on to manage threats such as the risks of crop failure due to pests and diseases, declining soil fertility, or the impacts associated with increasing climatic variability. In order to address these and many other issues, sustainable practices are needed, and agricultural biodiversity is a key component of this.

Agricultural biodiversity is a source of interacting elements of different species, varieties of species and different land uses in mosaic landscapes (fields, forest patches, waterways, etc.). These interactions, if managed using agro ecological approaches and principles (e.g. intercropping, natural pest control), can lead to food grown both more intensively and more sustainably on the available land. The goal is to meet current food and nutrition needs while maintaining healthy ecosystems that can also provide food for generations to come. Besides reducing negative impacts on the environment, using agricultural biodiversity for sustainable intensification can also lead to virtuous cycles of positive impacts upon the environment and the generation of multiple services and functions. Areas in which agricultural biodiversity can contribute to the growing push for sustainable intensification include: increasing productivity, yield, stability, pollination, pest and disease control, various aspects of soil function, wild biodiversity conservation and climate resilience. It can also substitute for many external inputs such as inorganic fertilizers and synthetic pesticides (9).

Agricultural biodiversity in farming systems contributes in an integrated way to several global goals and targets at once, including Sustainable Development Goals 2 (Zero hunger), 12 (Responsible production and consumption) and 15 (Life on land), and Aichi Biodiversity Targets 7 (Sustainable agriculture), 13 (Genetic diversity maintained) and 14 (Ecosystems and essential services safeguarded). Reshaping current food and agriculture policies and
investments – which often focus on maximizing productivity with little consideration of how to improve food and diet quality – through diversification of biodiversity in production systems and markets will require multiple actions at multiple scales. Greater investment in agricultural research is key to make a wider diversity of fruits, vegetables, pulses, nuts and seeds and other healthy foods available and more affordable to consumers.

Conclusion

Brazil has recently adapted several of its policies to include promotion of local and indigenous biodiversity for food and nutrition, which can provide examples to other countries. Actions taken include promoting diverse, healthy native foods in dietary guidelines, supporting production of food biodiversity through public procurement strategies (e.g. for foods in schools), and prioritizing food biodiversity in relevant national strategies/action plans and agriculture and nutrition policies. Finally, the various facets of producing and consuming food biodiversity can be integrated into the curricula of schools, universities and other educational institutions for broader action and uptake.

Bibliography


Assistant Prof. Department of Home Science, Ch .S.D. St. Theresa’s Autonomous College, Eluru.

- John Locke "He who appropriates land to himself by his labor, does not lessen but increases the common stock of mankind. For the provisions serving to the support of human life, produced by one acre of in closed and cultivated land, are ... ten times more than those which are yielded by an acre of land, of an equal richness lying waste in common. And therefore he that in closes land and has a greater plenty of the conveniences of life from ten acres than he could have from a hundred left to nature, may truly be said to give ninety acres to mankind. "

"The farmer is the only man in our economy who buys everything at retail, sells everything at wholesale, and pays the freight both ways."

John F. Kennedy
Essential oil composition of *Ocimum Sanctum* (Green) in different seasons

1 Dr. M. Rama, 2 Prof. B. Syama Sundar

Abstract:
The present study deals with the extraction of total essential oil from dried leaves of *Ocimum Sanctum* (Green) in four different seasons of 2010 calendar year. Extraction of total essential oils from the plant material was carried out by Soxhuleet extraction where as extraction of volatile oils by steam distillation using Clevenger type apparatus. Total essential oil content and volatile oil contents were more in winter season (Present study in the month of November) Where as very less quantity in Summer season ( in the month of May). Eugenol is the major constituent present in the plant. The percentage composition of Eugenol in four seasons was found from GC analysis.

**Key words:** Ocimumsanctum (Green), Soxhuleet Extraction, Steam distillation, Eugenol- GC

Introduction:

Essential oils are volatile natural complex secondary metabolites characterized by a strong odour and have a generally lower density than that of water\(^{[1-2]}\). The fragrant mixture of liquids obtained through distillation of aromatic plant materials is known as an essential oil\(^{[3]}\).

The Lamiaceae family (Labiatae) is one of the largest and most distinctive families of flowering plants, with about 220 genera and almost 7000 species worldwide\(^{[4]}\). *Ocimum sanctum* also known as *Ocimumtenuiflorum* commonly known as Tulsior holy basil or “The Incomparable One” in India. The plant grows wild in India but is also widely cultivated in home and temple gardens and is used for household remediation\(^{[5]}\). The *holy basil* with milder white (white or green variety) has medium green leaves with very light green, almost white stems known as *Sri Tuls*\(^{[6]}\)

*Holy basil* has a strong anise like, slightly musky and lemony taste with a camphoraceous aroma. The dominant aroma component in *holy basil* is eugenol. The stem and leaves of holy basil contain a variety of constituents that may have biological activity, including saponins, flavonoids, triterpenoids, and tannins\(^{[7]}\). Eugenol, a monoterpen, has been identified as the dominant volatile constituent of leaf oil of *Ocimumsanctum*(g)\(^{[8-11]}\). Different parts of *Tulsi* plant have been used, by traditional medical practitioners, as expectorant, analgesic, anticancer, anti-asthmatic, anti-emetic, diaphoretic, anti-diabetic, anti-fertility, hepato - protective, hypo-sensitive, anti-stress, analgesic, anti-hyper lipidemic, antioxidant potentials in experimental animals\(^{[12-17]}\). The therapeutic potential of the essential oils extracted from fresh leaves of *Ocimum sanctum L.* has been found to be largely due to eugenol\(^{[12,18]}\).
Collection and Identification of Plant Material:

*Ocimum sanctum*(g) was grown in the spacious domestic home garden at Gavaravaram village, Eluru Mandal in West Godavari district of Andhra Pradesh is situated between 16.7° North18.1° East, elevation 22mts 72 feet. Collections were made, Vouchers of specimens were deposited at the Botany department. Each specimen was labeled, numbered, annotated with the date of collection.

In the present study the specimen numbers are F1, M1, A1 and N1 .The specimen was subjected for identification at plant systematic laboratory, Kakatiya University, Warangal, Andhra Pradesh, India. 1Kg of leaves of the sample in each season was collected , dried under shade, finely powdered in an electric blender(80 mesh) and stored in air tight containers at room temperature in the dark until used.

**Soxhulet extraction :**
Extraction of total essential oil content of plant materials was carried out by soxhulet extraction method [19]. 5gm of dry powder was subjected to soxhulet extraction with 250 ml methanol as solvent, extraction was carried out for 3hrs, 10cycles and temperature was maintained at 650C.

**Steam distillation:**
Extraction of volatile oils from the plant materials was carried out by steam distillation using Clevenger type apparatus[20]. 100 gm of powdered sample was water distilled by using a Clevenger oil arm fitted with condensers through which cooled water was circulated to prevent low volatiles from escaping. The temperature was maintained at 60°C. The volatile oil was collected and dried over anhydrous Sodium Sulphate and stored at -40C . 1mg of volatile extract was dissolved in 1ml of methanol, from that solution 10μl was taken and made up to 100μl with methanol. This solution was used for GC analysis. (same procedure followed for the preparation of standard eugenol.)

**Gas chromatography analysis:**
The essential oils were analyzed using a Shimadzu gas chromatograph model 17A Japan(2014), equipped with flame ionization detector (FID) and DB-Wax capillary column (30mx0.32mm , film thickness 0.5μm). Injector and detector temperatures were set at 240 and 250° C, respectively. Column oven temperature was programmed from 40°C to 220°C at the rate of 8°C min-1; initial and final temperatures were held for 3 and 10 minutes, respectively. Helium was used as a carrier gas with a flow of 1.5 ml min-1. A sample of 0.1 μL was injected using slit mode (split ratio1:20). Quantification was completed by built-in data-handling software supplied by the manufacturer (spin chrome CFR) of the gas chromatograph. The
results (composition) were reported as a relative percentage of the total peak area.

The chromatogram is observed as a series of peaks where each peak represents a chemical compound. The X-axis represents the time scale and the time at which the peak is recorded is called the retention time (Rt). The peak height and peak area is an indication of the quantity of the compound in the mixture. The peak area is integrated as a percentage of the total.

3. Results and Discussion

Table-1 Total essential content and Percentage composition of eugenol in *Ocimum Sanctum* (g)

<table>
<thead>
<tr>
<th>Month and Year</th>
<th>Specimen Numbers</th>
<th>Wet weight in gms</th>
<th>Dry weight in gms</th>
<th>Moisture content in gms</th>
<th>% composition of essential oil</th>
<th>% composition of eugenol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb.2010</td>
<td>F1</td>
<td>1000</td>
<td>186.5</td>
<td>813.5</td>
<td>1.64</td>
<td>49.845</td>
</tr>
<tr>
<td>May2010</td>
<td>M1</td>
<td>1000</td>
<td>277</td>
<td>723</td>
<td>1.28</td>
<td>24.081</td>
</tr>
<tr>
<td>Aug.2010</td>
<td>A1</td>
<td>1000</td>
<td>185</td>
<td>815</td>
<td>1.53</td>
<td>42.262</td>
</tr>
<tr>
<td>Nov.2010</td>
<td>N1</td>
<td>1000</td>
<td>145.5</td>
<td>854.5</td>
<td>1.8</td>
<td>52.434</td>
</tr>
</tbody>
</table>

Standard Eugenol- Chromatogram.
Table 1 shows the yield of total essential oil and percentage composition of eugenol in *Ocimum sanctum*(g) in four different seasons of 2010 calendar year. It shows that the yield was affected by seasonal changes. The highest amount of the oil in these plants was found in winter i.e in November and very low in summer i.e in May. In *Ocimum sanctum*(g) the percentage composition of essential oil is high in November (1.8%) and low in May (1.28%). In India the temperature is very high in summer ranging 35-42°C. Low essential oil yield in summer might be attributed to the high temperature and partial evaporation of some constituents of oil can be expected.

From the table it was found that the dry weight of a plant is inversely proportional to the total essential oil content of that plant. For example in the month of November the dry weight of the plant material is low, and the total essential oil content for the plant is high. From Table it was found that the percentage composition of Eugenol in *Ocimum sanctum*(g) was high in the month of November (52.434%) and very low in the month of May (24.081%)

Several constituents have been identified in oil from the leaves of *Ocimum sanctum*(g). The leaves of *Ocimum sanctum* contain 0.7% volatile oil comprising about 71% eugenol and 20% methyl eugenol and the oil also contains carvacrol and sesquiterpene hydrocarbon caryophyllene\(^{[21]}\). Eugenol a monoterpene has been identified as the dominant volatile constituent\(^{[8-11]}\). Asha and co-workers\(^{[22]}\) reported that the oil of *ocimum sanctum* posses Eugenol (53.10%) as the main compound.

*Ocimum Sanctum*(g).-Chromatograms.
<table>
<thead>
<tr>
<th>Reten. Time [min]</th>
<th>Area [mV.s]</th>
<th>Height [mV]</th>
<th>Area [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.317</td>
<td>20.971</td>
<td>14.091</td>
</tr>
<tr>
<td>2</td>
<td>2.977</td>
<td>12.476</td>
<td>8.980</td>
</tr>
<tr>
<td>3</td>
<td>6.267</td>
<td>0.079</td>
<td>0.038</td>
</tr>
<tr>
<td>4</td>
<td>7.113</td>
<td>0.240</td>
<td>0.110</td>
</tr>
<tr>
<td>5</td>
<td>7.823</td>
<td>11.634</td>
<td>5.556</td>
</tr>
<tr>
<td>6</td>
<td>11.227</td>
<td>2.433</td>
<td>1.113</td>
</tr>
<tr>
<td>7</td>
<td>12.130</td>
<td>0.479</td>
<td>0.200</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>48.313</td>
<td>30.089</td>
</tr>
</tbody>
</table>

Sample info:
- Sample ID: NOVEMBER
- Sample: Ocimum sanctum [g]
- Inj. Volume [ml]: 0.0001
- Amount: 0
- ISTD Amount: 0
- Dilution: 1

---

<table>
<thead>
<tr>
<th>Reten. Time [min]</th>
<th>Area [mV.s]</th>
<th>Height [mV]</th>
<th>Area [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.257</td>
<td>0.668</td>
<td>0.327</td>
</tr>
<tr>
<td>2</td>
<td>6.853</td>
<td>0.415</td>
<td>0.198</td>
</tr>
<tr>
<td>3</td>
<td>7.103</td>
<td>2.743</td>
<td>1.202</td>
</tr>
<tr>
<td>4</td>
<td>7.517</td>
<td>0.164</td>
<td>0.080</td>
</tr>
<tr>
<td>5</td>
<td>7.643</td>
<td>0.309</td>
<td>0.122</td>
</tr>
<tr>
<td>6</td>
<td>7.867</td>
<td>156.163</td>
<td>47.660</td>
</tr>
<tr>
<td>7</td>
<td>8.470</td>
<td>0.405</td>
<td>0.121</td>
</tr>
<tr>
<td>8</td>
<td>8.947</td>
<td>1.203</td>
<td>0.559</td>
</tr>
<tr>
<td>9</td>
<td>9.337</td>
<td>0.221</td>
<td>0.089</td>
</tr>
<tr>
<td>10</td>
<td>9.547</td>
<td>0.436</td>
<td>0.115</td>
</tr>
<tr>
<td>11</td>
<td>10.470</td>
<td>1.538</td>
<td>0.269</td>
</tr>
<tr>
<td>12</td>
<td>11.297</td>
<td>103.454</td>
<td>25.940</td>
</tr>
<tr>
<td>13</td>
<td>11.497</td>
<td>1.724</td>
<td>0.680</td>
</tr>
<tr>
<td>14</td>
<td>12.140</td>
<td>27.710</td>
<td>10.326</td>
</tr>
<tr>
<td>15</td>
<td>12.593</td>
<td>0.670</td>
<td>0.272</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>297.825</td>
<td>87.960</td>
</tr>
</tbody>
</table>
Conclusions:
Thus the plant materials have to be collected from November to February in order to have high yield of essential oils and eugenol. From the above data it was concluded that in Ocimumsanctum(g) eugenol was the major chemical constituent. Eugenol, (1-hydroxy-2-methoxy-4-allylbenzene), is a phenolic compound having large number of applications chemically and biologically. The clove buds are rich sources of eugenol containing about 70–85%. Although this plant source is rich in eugenol but because of it’s higher prices the commercial extraction of eugenol from that plant is costly. In contrast to these sources Ocimumsanctum(g), is the cheaper sources for commercial extraction of eugenol. The aerial parts (leaves, flowers and stem) of the plant contain essential oils with good percentage of eugenol. Thus it is of the opinion that Ocimumsanctum(g) is quite useful and commercially viable to extract the costly chemical constituents like eugenol.

References

--------------------
1. Dept. of Chemistry, Ch. S. D. St Theresa’s College for Women(A), Eluru, WG, mobile No: 991107611
2. Former VC , Yogi Vemana University, Former Principal, Former HOD of Chemistry, Acharya Nagarjuna University, Guntur-522510.
Professional Ethics to inculcate the culture of Personal and Social Responsibility

1Dr C A Jyothirmayee & 2Dr K Sreelatha

Abstract

Professional ethics encompass the personal, organizational, and corporate standards of behavior expected by professionals. Codes of professional ethics are often established by professional organizations to help guide members in performing their job functions according to sound and consistent ethical principles. Every organization knows that a professional reputation is the difference between success and failure and they seek to keep their most professional staff. Organizations follow golden rules for being Professional in service. Professionalism is highly valued by every organization today and professionals are hardly out of work. As Professionals we have to set good examples. The future of any society depends upon the character and competence of its young. In order to develop character and competence, young people need guidance to provide them with direction and a sense of purpose. Many of the conditions for the people often encounter inattention, low expectations, cynicism, or community conflict. . . . All of these conditions must be changed if we are to create a society where youngsters can attain their full potential. Being professional is about living an exemplary life within and without the organization.

Key words: Professionals, Ethics, Codes of Professional Ethics, Character and Competence.

Introduction

Professional ethics

Professional ethics encompass the personal, organizational, and corporate standards of behavior expected by professionals. Professionals and those working in acknowledged professions exercise specialist knowledge and skill. How the use of this knowledge should be governed when providing a service to the public can be considered a moral issue and is termed professional ethics. Professionals are capable of making judgments, applying their skills, and reaching informed decisions in situations that the general public cannot because they have not attained the necessary knowledge and skills.

One of the earliest examples of professional ethics is the Hippocratic oath to which medical doctors still adhere to this day. Some professional organizations may define their ethical approach in terms of a number of discrete components. Typically these include: Honesty, Integrity, Transparency, Accountability, Confidentiality, Objectivity, Respect, Obedience to the law, Loyalty.

Professionally accepted standards of personal and business behavior, values and guiding principles. Codes of professional ethics are often established by professional organizations to help guide members in performing their job functions according to sound and consistent ethical principles. Professionalism is the conduct, aims or qualities that characterize or mark a
profession or professional person; it implies quality of workmanship or service. Every organization knows that a professional reputation is the difference between success and failure and they seek to keep their most professional staff. Professionalism is all about success and influence; having a reputation for excellence and being thought of as someone who exhibits professionalism under any circumstances can open doors for you either in the workplace or in your personal ambition.

Following are ten golden rules to being professional in service to any organization:

- Always strive for excellence: This is the first rule to achieving greatness in whatever endeavor we undertake which is the quality that makes us and our work stand-out. Excellence is a quality of service which is unusually good and so surpasses ordinary standards, it should be made a habit for it to make a good impression on our bosses and colleagues.

- Be trustworthy: In today’s society trust is an issue and any employee who exhibits trustworthiness is on a fast track to professionalism. Trustworthiness is about fulfilling an assigned task and as an extension- not letting down expectations, it is been dependable, and reliable when called upon to deliver a service. In order to earn the trust of our bosses and colleagues, worth and integrity must be proven over time.

- Be accountable: To be accountable is to stand tall and be counted for what actions we have undertaken. This is the blameworthiness and responsibility for our actions and its consequences-good or bad.

- Be courteous and respectful: Courteousness is being friendly, polite and well mannered with a gracious consideration towards others. It makes social interactions in the workplace run smoothly, avoid conflicts and earn respect. Respect is a positive feeling of esteem or deference for a person or organization; it is built over time and can be lost with one stupid or inconsiderate action. Continued courteous interactions are required to maintain or increase the original respect gained.

- Be honest, open and transparent: Honesty is a facet of moral character that connotes positive and virtuous attributes such as truthfulness, straightforwardness of conduct, loyalty, fairness, sincerity, openness in communication and generally operating in a way for others to see what actions are being performed. This is a virtue highly prized by employers and colleagues, for it builds trust and increases our personal value to all.

- Be competent and improve continually: Competence is the ability of an individual to do a job properly, it is a combination of knowledge, skills and behavior used to improve performance. Competency grows through experience and to the extent one is willing to learn and adapt. Continuous self development is a pre-requisite in offering professional service at all times.

- Always be ethical: Ethical behavior is acting within certain moral codes in accordance with
the generally accepted code of conduct or rules. It is always safe for an employee to “play by the rules”. This is always the best policy and in instances the rule book is inadequate, acting with a clear moral conscience is the right way to go. This may cause friction in some organizations but ethical organizations will always stand by the right moral decisions and actions of their employees.

- Always be honorable and act with integrity: Honorable action is behaving in a way that portrays “nobility of soul, magnanimity, and a scorn of meanness” which is derived from virtuous conduct and personal integrity. This is a concept of “wholeness or completeness” of character in line with certain values, believes, and principles with consistency in action and outcome.

- Be respectful of confidentiality: Confidentiality is respecting the set of rules or promise that restricts us from further and unauthorized dissemination of information. Over the course of our career, information will be passed on to us in confidence – either from the organization or from colleagues- and it is important to be true to such confidences. We gain trust and respect of those confiding in us and increase our influence within the organization.

- Set good examples: Applying the foregoing rules helps us improve our professionalism within our organization but it is not complete until we impact knowledge on those around and below us.

We must show and lead by good example. Being a professional is about living an exemplary life within and without the organization.

Professionalism is highly valued by every organization today and professionals are hardly out of work. By applying the ten golden rules of professionalism we can enjoy a wonderful, professional and prosperous career.

**Personal and social responsibility:**

The future of any society depends upon the character and competence of its young. In order to develop character and competence, young people need guidance to provide them with direction and a sense of purpose. They need relationships that embody and communicate high standards.

They need to experience activities that are challenging, inspiring, and educative. Many of the conditions for the development of character and competence in the young have deteriorated in recent years. Young people often encounter inattention, low expectations, cynicism, or community conflict. All of these conditions must be changed if we are to create a society where youngsters can attain their full potential.

Of course, it is one thing to articulate such aims or to say that we in higher education commit ourselves to purposefully enriching our teaching and curricula to achieve them. It is quite another thing to actually measure students' moral and ethical development or their acquisition of
personal and social responsibility. Thus far, most assessment efforts have been focused primarily on the cognitive dimensions. In this case, however, the life of the mind is hardly sufficient.

**Conclusion:**

If education for personal and social responsibility is to occur in college other than by chance, then such an agenda must pervade the institutional culture, and the entire faculty and administration must be committed to it. If we were simply to add a required course in ethics, or to designate a number of courses from which students might choose in order to fulfill the personal and social responsibility component of liberal education, we would almost certainly fail. Educating for personal and social responsibility will take nothing less than a pervasive cultural shift within the academy. Faculty are the key to real change, and we must help them integrate responsibility into all courses. This is entirely compatible with teaching in the social sciences, in the humanities, and in the sciences too. Moreover, student life outside the classroom is rich with opportunities for integration.

**References**


1Reader in Chemistry, 2Lecturer in Physics, Ch. S. D. St. Theresa's Autonomous College for Women, Eluru
Prospects & Problems of Rural Marketing In Andhra Pradesh

Dr. Mrs. I. Annapurna

Abstract

Rural markets in India have caught the attention of many Large Scale Multi National Corporations, Companies and Advertisers. According to a recent survey conducted by the National Council for Applied Economic Research (NCAER), the purchasing power of the rural people has increased due to increase in cultivated agro-based productivity and better price commanded by the agricultural products. By and large this rise in purchasing power remains unexploited and with the growing reach of the Agricultural Programmes telecasting in Social Media, it is now quite easy accessibility for the marketers to capture these markets.

The state of Andhra Pradesh is primarily agriculture based economy as the resource base is favourable to agriculture and for the majority of the people agriculture is the main source of livelihood. However over a period of time non-agriculture sector has also been expanding.

Rural marketing has become the present trend of most corporate Companies like Hindustan Lever, Colgate Palmolive, Britannia and even Multinational Companies (MNCs) like Pepsi, Coca Cola, L.G. etc. started concentrating on rural markets to capture the large Indian market. Rural Marketing extensively involves reaching the rural customer, understanding their needs and wants, supply of goods and services to meet their requirements, carrying out after sales service that leads to customer satisfaction and continue their purchase/sales. Earlier, the general impression was that the rural markets have potential only for agricultural inputs like seed, fertilizers, pesticides, cattle feed and agricultural inputs and machinery. But at present there is a growing market for consumer goods as well.

The non-agricultural sub sector comprises agricultural and allied economic activities such as Crop Cultivation, Animal Husbandry, Dairying, Fisheries, Poultry and Forestry (Floriculture) etc. The non-agricultural sub sector consists of economic activities relating to Industry, Business and Services. Industry have refers to cottage and village industries, Khadi, handloom, handicraft, etc. refers to trading of consumption goods, small grocery shops, petty traders etc., whereas services refers to Transportation, Communications, Banking, Postal, Education etc. The size and potential market of the rural sector could be measured in terms of the rural population, the population of livestock, the extent of land, forest and other natural resources. According to the population census of 1991, India’s rural population was in the year 2018 with Rural Population 1,354,051,854, in 2017 with Rural Population 1,339,180,127, during 2016 with Rural Population 1,324,171,354 as compared to 2015 with Rural Population was 1,309,053,980 which accounted for 74.3 percent of the country’s total population. The total population of Andhra Pradesh constitute, 70.4% of rural population with 34,776,389 inhabitants.

Key Words: Rural Marketing, Price Commanded, Purchasing Power, Unexploited, Potential.

Introduction

The focus of marketers in India till recently was mainly given importance to the urban consumer and by large number specific efforts was made to reach the rural markets. In recent situation the present Governments and Corporate sectors felt that with the rapid pace of development accelerating in rural India, joined with increase in purchasing power, because of Advanced technical and scientific agriculture, the changing life style and consumption pattern of rural population with increase in Literacy Rate, Social Mobility, improved means of Transportations and Communication and other penetrations of Social - Mass Media such as
television and its various satellite channels have exposed Rural India to the International World and hence their outlook to life has dynamic change. Because of all these factors, Rural India in this new era successfully is attracting more and more marketers. Increase in competition, saturated urban markets, and Innovative new products demanding Urban Customers, made the Companies to look out for new potential markets. The employment situation in Andhra Pradesh indicates that still more than half the total workforce of the state depends on agriculture for their livelihood. Industry facilitates employment for only one-fifth of the total workforce in the state. Moreover, the development pattern in Andhra Pradesh indicates that since its formation regional disparities persists in its development path.

The MNCs systematically prepare advertisements and bombarded them on the brains of the common people through all types of Media, very specific Television, Smart phones/Mobiles is the next gadgets to advertisers of mesmerizing the brains of the consumers regarding Air – Conditioners, Air – Coolers, Washing Machines, Television sets of all brands etc. Food Drinks, Soft Drinks, in the name of Mineral Water and Soda the Companies like Beverages the Liquor Companies popularizing their brands. In reality practically our rural conditions doesn’t need these products.

**Definition of Rural Market**

Rural Marketing India is a land of diversity and about 70% of the Indian population lives in villages. These villages contribute in the economic development of the nation through the Cultivation and production of Food Grains, Commercial Crops, Oil seeds, Vegetables, Fruits, etc. Export of these agricultural commodities result in the generation of capital and earnings of foreign exchange. Indian Rural Market has a vast size and demand base.

The Census defines Urban India as - "All the places that fall within the administrative limits of a municipal corporation, municipality, cantonment board etc or have a population of at least 5,000 and have at least 75 per cent male working population in outside the primary sector and have a population density of at least 400 per square kilometer.

Rural India, on the other hand, comprises all places that are not urban!" The government of India only defines a non-urban market. An urban market is the one which has a population density of 400 people per sq/km. 7% of its population has to be involved in non-agricultural activities and there is a municipal body. If we go by statistics, roughly around 70% of the Indian population lives in the rural areas. That’s almost 12% of the World population.

To expand the market by tapping the countryside, more and more MNCs are pillage into India’s Rural Markets. Among those that have already started marketing are Hindustan Lever, Coca-Cola, LG Electronics, Britannia, Standard Life, Philips, Colgate Palmolive, All Branded Mobile Companies and the Foreign-Invested Telecom Companies.
In this regard the plan of action may have to control and minimise the Migration of Rural Surpluses, Local Capital, Rural Talent and Skills to urban growth centres. The potentiality of local resources and talent is to be properly harnessed and utilized at the local level. Also encourage employment potential enterprises to set up their units in rural districts of the state while utilizing local resources, capital, investment and talent of the people and ultimately to arrest the migration of capital and people to urban growth centres. Before getting into the constraints in developing rural industry and thereby creating non-migratory jobs in rural areas and the policy issues related to the problem, it is important to touch upon the cases of negative and positive externalities of urban and rural industries.

Making Farming Remunerative for farmers (2014) done by National Institution for Transforming India (NITI) Aayog, Government of India concentrates on a select but important set of policy issues confronting Indian Agro Industries to come up with recommendations that would help bring about a second Green Revolution in India and sustain robust growth in agriculture. Five such issues have been chosen: measures necessary to raise productivity, policies ensuring remunerative prices for farmers, reforms necessary in the area of land leasing and titles, a mechanism to bring quick relief to farmers hit by natural disasters, and initiatives necessary to spread Green Revolution to eastern states.

The Rural India finance position is not sound to spend for unnecessary goods but the consumer goods manufacturers in collaboration with Banks and Finance Companies providing loans for their products even up to 100% and to repay on installments saying that there is no processing costs, and they are charging ‘0’ interest. But, if we go into practical details no financier or businessmen or banks cannot give advances without interest as the money they are circulating is the investment of depositors that is the Manufacturing companies and the Finance companies cheating he consumers with the hidden costs and making them debt trapped by losing their scarce personal income making the rural life unbearable.

Because of these unnecessary investments Indian farmer not able to make proper investment on agricultural production sector, that can only improve the nutritional value of the total population. This trend dangerously effect food standards of 130 crore Indian population already our food consumption is too behind developed nations. The food is a prime important of human being to live healthy (food, shelter and clothing).Our economy is not developed to that extent spending on filthy products. Consumption of fuel and energy became unbearable burden on Indian economy. The import bill of petroleum products pulling down our foreign exchange reserves and depriving India not able to spend on essential things of research, machines and mechanized tools scarce commodities and defence.
Rural Marketing

Rural marketing involves the process of developing, pricing, promoting, distributing rural specific product and a service leading to exchange between rural and urban market which satisfies consumer demand and also attain organizational objectives. It is a two-way marketing process wherein the transactions can be:

1. Urban to Rural:
   It involves both the selling of products and services by urban marketers in rural areas. These include: Pesticides, FMCG Products, Consumer durables, etc.

2. Rural to Urban:
   At present a rural producer (involved in agriculture) sells his produce in urban market. This may not be direct. There generally are marketing through middlemen, agencies, government co-operatives, etc who sell fruits, vegetables, food grains, pulses and others.

3. Rural to Rural:
   These include selling of agricultural tools, cattle, carts and others to another village in its proximity.

Features of Rural Markets in India and Andhra Pradesh:

Large, Diverse and Scattered Market:
Rural market in India is large, and scattered into a number of regions. There may be less number of shops available to market products.

Major Income of Rural consumers is from Agriculture and allied agricultural sectors:
Rural Prosperity is tied with agriculture and allied agricultural sectors prosperity. In the event of a crop failure, the income of the rural masses is directly affected.

Standard of Living and rising disposable income of the rural customers:
It is known fact that majority of the rural population lives Below Poverty Line and has Low Literacy Rate, Low Per Capital Income, Societal Backwardness, Low Savings, etc. But the New Tax Structure GST, Good Monsoon, Government Regulation on pricing has created disposable incomes. Now the rural customers spends money to get value and is aware of the happening around them.

Traditional Outlook:
Rural Villages develop at slow pace and have a traditional outlook. Change is a continuous process and rural natives accept change gradually. This is gradually changing due to literacy especially in the youth who have begun to change the outlook in their villages by the provision of Startup India, Micro Finance, Small Scale and Medium Scale Industries, Cooperative Farming etc. The increase in farm income definitely stimulates the demand for wide variety of consumer goods which can be produced by the rural industry. Moreover a growing agriculture demands the production inputs which can be produced by the rural...
industry. Conversely the agriculture supplies the raw-material/ inputs for the agro-based/agro-processing industries. The most important advantage in the development of rural industry is that it creates non-migratory jobs within the rural area.

**Increase in Literacy Rates:**

It is documented in the Government Official Reports that approximately 45% of rural Indians are literate. Hence awareness has increases and the farmers are well-informed about the new scientific methods usage in other Agrarian Countries in the Rest of the World. They are also educating themselves on the new technology and aspiring for a better lifestyle.

**Diverse Socioeconomic background:**

Due to dispersion of geographical areas and uneven land fertility, Maximum percentage of rural population in Andhra Pradesh especially in remote rural villages which are still not having Road connectivity still have disparate socioeconomic background, which ultimately affects the rural market.

**Infrastructure Facilities:**

The infrastructure facilities like Cemented Roads, Warehouses, Communication System, and Financial Facilities are inadequate in rural areas. Hence physical distribution is a challenge to marketers who have found innovative ways to market their products. As part of planned economic development, the Andhra Pradesh, Government is making continuous efforts towards rural development. In this age of Liberalization, Privatization and Globalization, rural market offers a big attraction to the marketers to explore markets that are untapped.

**Importance of Rural Marketing in Andhra Pradesh**

In Andhra Pradesh Rural market is getting importance because the marketers are looking for extending their product categories to an unexplored market i.e. the rural market. According to the Nelson's survey the rural market for FMCG (Rs. 65,000 crores), durables (Rs. 5,000 crores) and clothing and footwear (Rs. 35,000 crores) was as large as Rs. 1, 05,000 crores in 2008. Certainly the size is much bigger now. According to Nielson by 2025, the rural FMCG sale is estimated to be $ 100 billion from the current $ 12 billion. This has also led to the CSR activities being done by the corporate to help the poor people attain some wealth to spend on their product categories. Here, we can think of HLL initiatives in the rural India. One of such product is project Shakti, which is not only helping their company attain some revenue but also helping the poor women of the village to attain some wealth which is surely going to increase their purchasing power.

Rural Andhra Pradesh offers sustainable sales and profit for growth. Growth of rural market is possible due to green revolution and white revolution, which results into substantial wealth generation in rural area. In recent years, rural markets have acquired significance in the
country like China and India as the overall growth of the economy has resulted into substantial increase purchasing power of rural communities. Due to green revolution in India, consumption pattern of rural people are changed. There are several roadblocks that make it difficult to progress in the rural market. Marketers encounter a number of problems like dealing with physical distribution, logistics, proper and effective deployment of sales force and effective marketing communication when they enter rural markets. The major problems are listed below.

1. Standard of living
2. Low literacy levels
3. Low per capita income
4. Transportation and warehousing
5. Ineffective distribution channels
6. Many languages and diversity in culture
7. Lack of communication system
8. Spurious brands
9. Seasonal demand and
10. Dispersed markets

In Government of Andhra Pradesh before bifurcation keeping in view the above major problems in order to improve the Economic Status of Rural Agricultural Farmers, The Rythu Bazaars were established in the year 1999. The concept of Rythu Bazaar was developed to facilitate direct marketing between consumers and farmers. 96 Rythu Bazaars are functioning in the State with temporary/ semi-permanent structures. No service charges and no market fee is levied in Rythu Bazaars. Vegetable growers/farmers committee fix the selling price in Rythu Bazaars. Joint Collector is the Coordinating officer of Rythu Bazaars in the District. Chief Executive Officer, Rythu Bazaars will supervise, control and coordinate at State level.

- The main objective of Rythu Bazaar is to ensure remunerative price to farmers and provide quality and fresh vegetables to consumers at reasonable rates. Rythu Bazaars provide direct interface between farmers and consumers eliminating intermediaries in trade.

- Each Rythu Bazaar has an Estate Officer with supporting staff. Supervisors/Security Guards. Joint Collector is provided with a sum of Rs.5.00 lakhs as revolving fund under the market intervention scheme to control the prices. The Price Fixation of vegetables in Rythu Bazaars shall be through a committee of farmers and the Estate Officer.

- The prices generally will be 25% above the wholesale rates and 25% less than the local retail prices. Estate Officers have been instructed to implement prices on the display
Boards. Field officers have been instructed to pursue with the respective Depot Managers of APSRTC to provide buses to Rythu Bazaars.

**Direct Marketing – Farmers’ Markets**

Direct marketing by farmers is being encouraged as an innovative channel. Some examples of these channels are Apni Mandi, Rythu Bazaars, and Uzhavar Sandies. These channels are mostly adopted in sales transactions of agricultural commodities like fruits, vegetables and flowers, which are highly perishable. In this channel, the produce moves quickly from farmers to consumers due to lack of middlemen. If farmers directly sell their produce to the consumers, it not only saves losses but also increases farmers’ share in the price paid by the consumer. Farmers’ Markets were introduced with a view to eliminate the middlemen and arrange facilities for the farmers to sell their produce directly to the consumers at reasonable rates fixed every day. On account of the scheme, both the farmers and the consumers are benefited.

Rythu Bazaars in Andhra Pradesh Government of Andhra Pradesh initiated the Rythu Bazaars on January 26, 1999. Rythu Bazaars are located on government lands identified by the District Collectors. The locations are decided in such a way as are convenient to both farmers and consumers. The criteria for opening of new Rythu Bazaars are the availability of at least one acre of land in strategic location, and identification of 250 vegetable growing farmers including 10 groups. The price fixation in Rythu Bazaars is through a committee of farmers and the Estate Officer. Adequate care is taken to fix the prices realistically. If the prices in Rythu Bazaars are higher than the local market rate, there is no incentive to consumers. And if the prices fixed are lower than the wholesale market rates, there are no incentives to farmers. The prices in Rythu Bazaars are generally 25 percent above the wholesale rates and 25 percent less than the local retail price. The maintenance expenditure of Rythu bazaars is being met from the financial sources of Agricultural Produce Market Committees. The Rythu bazaars are trespassed and occupied by unfortunately the large scale of illegitimate brokers.

**Self Help Groups in Andhra Pradesh – A Case Study**

1. The success story of women empowerment in Andhra Pradesh, through Self Help Groups (SHGs) and MACTCS (Mutually Aided Co-operative Thrift and Credit Societies), has been widely appreciated across India.
2. Over 5.4 million women have organized themselves in 380 thousand groups.
3. Farmers’ Groups have also been formed in the state to facilitate implementation of participatory projects at grass-roots level.
4. These village level organizations of the farmers and farm families have grown to a level of self-sustainability where they are now demanding more and more access to Information.
They are demanding Information on public sector schemes, market prices, weather etc.

5. They market their products collectively to obtain more bargaining power.

6. Under Mission Mode NATP Empowerment of women in agriculture, 540 farm women were grouped into 36 SHGs for starting different enterprises based on the needs and preference of farm women, resources available and marketing potential in the area.

7. Trainings were organized for capacity building of farm women of the SHGs in the enterprises.

8. The members of SHGs were also trained to handle different equipments.

9. Empowerment of women SHGs have been made by skill training and orientation to project management aspects.

10. All the members of SHGs started enterprises as per their interest. The women have started generating income from enterprises.

Transitions in Andhra Pradesh Regulated marketing Though the state regulated markets moved in tandem with the country-wide policy since early the 19th century, the small farmers continued to depend on traders and commission agents for getting credit and for selling their products in an exploitative and interlocked market. After independence, Andhra Pradesh government enacted the legislation named Andhra Pradesh (Agricultural Produce and Livestock) Market Act, 1966 that brought together the laws that were in force from time to time in erstwhile Andhra and Telangana areas. The Act empowered regulated markets for commodities to be administered by elected marketing committees consisting of representatives of legal bodies, traders, commission agents and the farmers with the intention of eliminating exploitative practices.

A marketing committee (MC) was established in every notified area. Due representation was given to farmers, especially the small farmers, operating with crops and livestock. The so called backward caste farmers, women farmers and licensed traders and members nominated by the government were included in the MC. According to Section of 7 of the Act, ‘no person in the area could set up any place for sale, storage, weighment, curing, processing etc.’ of any ‘notified’ agricultural produce, making the regulated market (RM) a compulsory place for disposing agricultural products.

The fees raised by the MC would make up a fund that was supposed to be allocated for the construction and development of market yards, creation of facilities for buyers and sellers and other ancillary activities. The MC also would organize training classes for the farmers. Both secret tender and open auctions were methods of price determination. Problems of the Regular system The nomination of MC members by the government on political considerations rather than growers’ interest was a major disquiet reported by respondents of our surveys. Moreover, it is strongly felt that the members collude with the traders. Lack of access to
institutional credit further intensifies the dependence of a larger majority of small farmers on commission agents who are also lenders.

The Central Government in 2003 advised that the State government amends the existing APMC Act 1966. A model Act was circulated that allows for variations in marketing channels. However, marketing (agricultural) has been displaying innovative features in the state even before agricultural liberalization started to take shape in India. Co-operative marketing societies not only for credit but also for marketing were established before 1984. The NAFED, established in 1993, was active in the state of Andhra Pradesh promoting marketing of oilseeds and coarse cereals. A cooperatives structure comprising of 6000 primary marketing societies of which 3500 are special commodity marketing societies existed at the state level. In 1998 the government of India permitted resumption of futures trading that was suspended since 1966.

The National Commodity and Derivative Exchange (NCDEX) launched several projects in some states for enlightening the farmers with market information and Andhra Pradesh was one such state. Even in the Market rules issued in October 1969, there was a proposal to start private marketing and contract farming. Nevertheless, after carefully studying the issue the government, came to the conclusion that there is a need to amend certain sections of the existing Andhra Pradesh APMC Act 1966 to make it compatible with the order of the day. The Governor of Andhra Pradesh promulgated the Andhra Pradesh marketing (APM) Amendments ordinance (No. 4, 2005 and No. 11, 2005). Under the Act any person who desires to establish a private market should make an application for license. New market reforms and relaxed regulations enabled the greater involvement of private sector in agricultural marketing and thereby promote Contract Farming (CF) and Cooperative Farming (COPF). Private sector involvement in both wholesale trading and distribution was allowed along with the development of specialized markets.

Suggestions for Expansion of Agricultural and Rural Marketing in Andhra Pradesh:

- Policy of Minimum Support Prices for various farm commodities adjusted from time to time is the moral responsibility of Government.
- Adequate arrangement of agricultural produce on support price if the price falls below the level.
- Regulated Infrastructure of Markets and Warehouses, which ensure Fair Prices.
- Rural roads must be integrate with railways, nearest waterways (port), airports if possible.
- The efficient marketing is predominantly influenced by efficient Public Distribution System it means products such ultimate consumer in the quickest time possible at minimum cost.
- The development of Advanced Communication Systems appropriate to Rural Market may cost up to six times as much as reaching an Urban Market though established Social Media, need Rural Communication Facilities.
The Andhra Pradesh State Marketing Board or Federation or Market Committees also the producers, traders and sellers have necessarily to be consulted as they have the Business ethics towards its use.

The large scale arrivals of various products such as Food grains, Vegetables, Dairy Products, Pulses, Flowers etc. need advanced speed transport facilities.

Public Weighing Machines one in each Rural Market to ensure correct weighment both for farm and nonfarm arrivals. Storage godowns and an Government Market office also needed.

For storage facilities the Government should not depend on Private Agencies to store food grains (National commission on Agriculture recommended).

Rural markets need more number of Warehouse, Godowns and Ancillary Platforms for Packaging Places, Market Office cum Information Cell, Bank and Post Office.

Rural marketing is the nerve center of a rural economy, rural markets are the channels for the movements of goods and services as well as to promote cultural integration.

Agricultural technology must reach all over the country, irrespective of size of land holding.

The existing marketing staff must be increased and adequate training must be given.

Extending of financial support for modernization of the agro-processing units is also needed.

The proper packaging technology must be improved.

Funding for rural and urban development of our nation became scarce. The government of India becoming handicapped to make indigenously produced agricultural products into better markets and not able to provide marketing facilities, cold storages, ware house, best facilitator market yards, stock homes for farmers, for reinvestment on agriculture not to stoop to sell their products immediately at farms. If the farmers finances are healthy they can keep their products/outputs up to balanced marketing and they can easily avoid too many middlemen. The middlemen became the menace to the rural agricultural marketing as they are using their huge profits and funds financing unhealthy political systems.

**Conclusion**

Considering the emerging issues and challenges, government support is necessary for the development of marketing of agricultural produce. The government may adjust suitable budget allocations to rural infrastructure plans, and proper supervision for effective plan implementation. The core areas like transport, communication, roads, credit institutions, crop insurance for better utilization of land and water at appropriate level. The rural people and markets will definitely develop rural income and reduce poverty at State level, on the whole countries economy will increase at an expected level. Manage an extension of Government institutions and facilitating Training programmes specially for Educated Younger Generation.
and Rural Women Folk may provide extension services to rural people in Crop Information, Price Information, Insurance and Credit and Government Financial Support Information by using Information Technology, Digital Technology and Social Media. Responsible expertise in rural areas may recommend / advice to central and state governments on suitable infrastructure development, current problems in rural markets and problem solving techniques.

Government should encourage the farmers unions systematically into farm market commendable institutions with professional standard training. The government should maintain balanced marketing management system i.e to maintain perfect consumer needs and production statistics and government should alert the farmers to produce the exact necessary quantities so that the market balance will be maintained and they save transport and godowning is very important all these activities should be under the co-coordinator controls of farmers union and government.

References:
Associate Prof. P.G. Department of Economics, Ch. S. D. St. Theresa's College for Women, Eluru, West Godavari Dist. Andhra Pradesh.

- M. S. Swaminathan "We need a new vision for agriculture
... to spread happiness among farm and rural families.
Bio-happiness through the conversion of our bio-resources into wealth meaningful to our rural families should be the goal of our national policy for farmers."
**STC Scholars Vision**

Annual Journal of multidisciplinary/interdisciplinary studies and research from CH. S. D. St. Theresa’s College, Eluru.

Research articles, Scientific papers, General articles, Case studies, Review articles, etc. are invited. Contributors may kindly follow the “Guidelines to Authors” given on the previous page.

All editorial correspondences are to be sent to:
Sr. Sunila Rani,
Executive Editor,
STC Scholars Vision, Research Wing,
Ch. S. D. St.Theresa’s College for women,
Eluru-534003,
West Godavari (Dt.), A.P.
Phone: Office- 08812-251210,
Mobile: 9441751205
Subscription Rate: Single Issue:Rs.200.00
All subscriptions are to be prepaid through cheque/D.D in favour of the Principal, St.Theresa’s college and payable at Eluru.

Any correspondence regarding subscriptions is to be addressed to:

**Sr. Sunila Rani, Executive Editor,**
**Publication Division, Research Wing,**
Ch. S. D. St.Theresa’s (A) College for Women,
Eluru, West Godavari Dist.
Andhra Pradesh, Pin – 534003
Website: [www.chsd-theresacollege.net](http://www.chsd-theresacollege.net)
Email: scholarsstc@gmail.com
Name of the Journal: STC Scholars Vision

Period of Subscription: ________________________________

Name of the subscriber: ________________________________

Institution: ___________________________________________

Complete Postal Address: ________________________________

_____________________________________________________

_________________________ Pin: ________________

E-mail: _____________________________________________

Signature: __________________ Date: __________ Seal: ________________

Cheque/D.D should be drawn in favour of the Principal, St. Theresa’s college and payable at Eluru.

_____________________________________________________

For Office use only

Cheque/DD No. __________________ Date: __________________

Bank: ____________________________ Amount: __________________

Receipt No. and Date: ________________________________

Subscription starts from __________ expires on ________________

Renewal reminder sent: ________________________________

Date: __________
Archers & Elevators Publishing
House No. 131, AGB Layout, 6th Cross, Hesharagatta Main Road, Bengaluru - 560090 Karnataka, India.